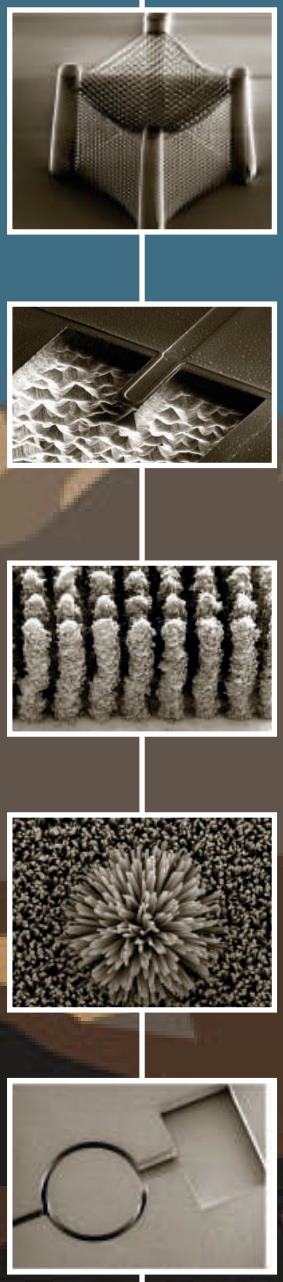
MNE 2021 GUIDE FOR PARTICIPANTS

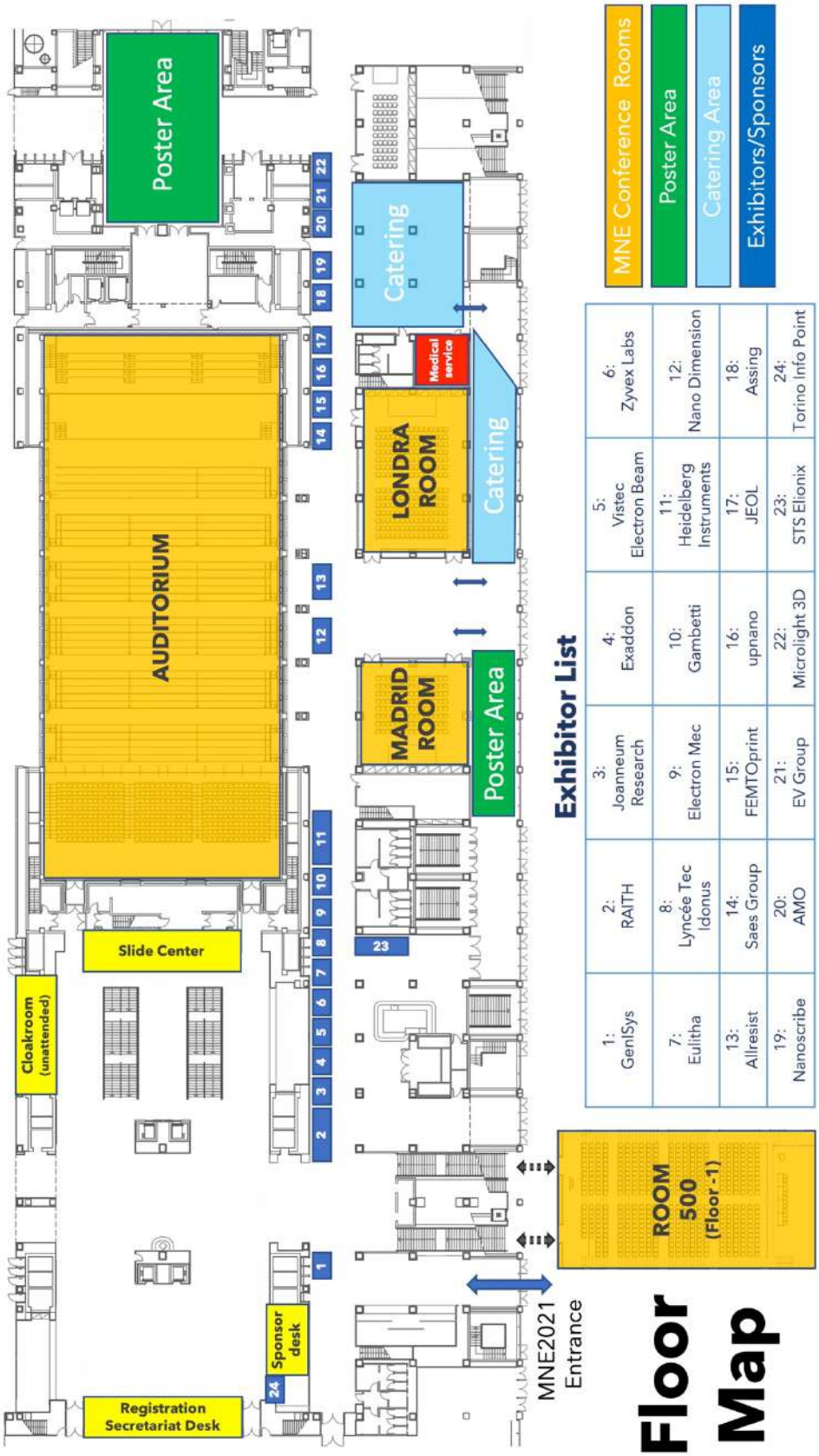


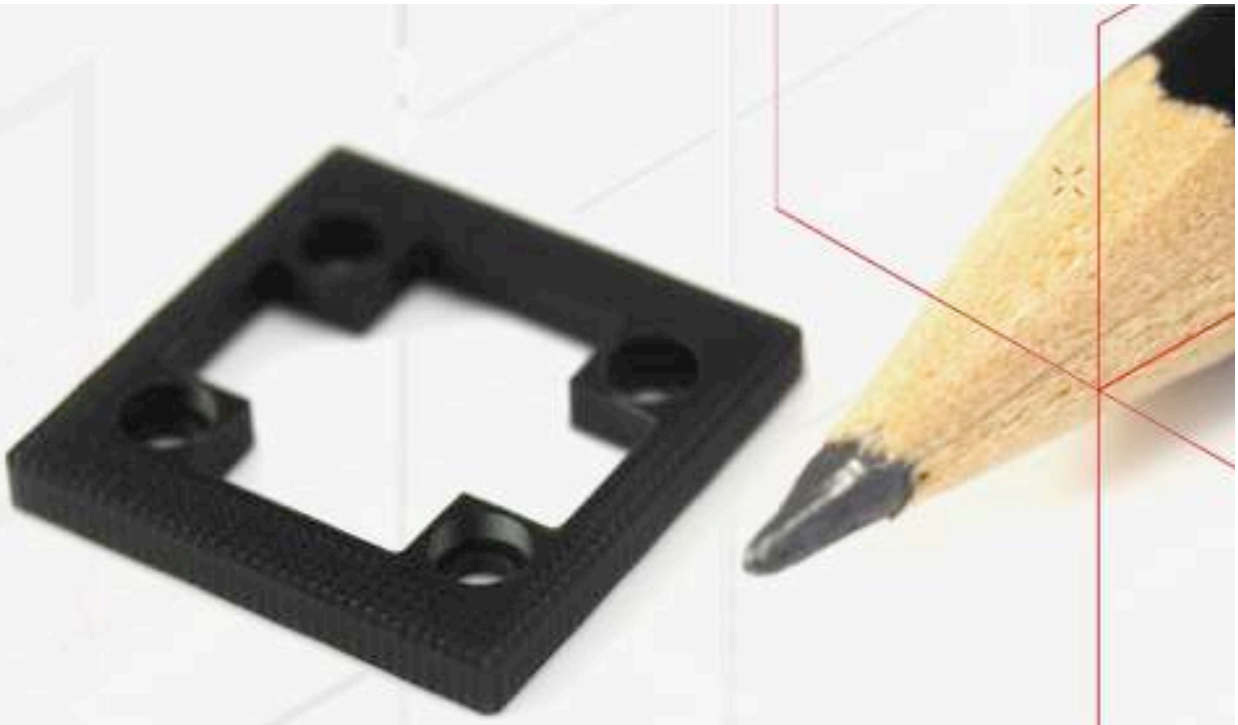
Micro and Nano Engineering Conference
Turin, Italy | September 20th - 23rd, 2021

Welcome Address

Welcome to the 47th International Conference on Micro- and Nano-Engineering, the flagship conference of the international Micro and Nano Engineering society (iMNEs).
Putting in place an in-presence edition in these times of covid pandemic has been very challenging, but we saw it as the first opportunity to be again together as a community, after the cancellation of the 2020 edition in Leuven. We wanted to offer again to scientists, technologists and companies the opportunity to meet and talk in person, to discuss, exchange ideas, find solutions for producing original technologies and devices.
Travelling, however, is still not possible or safe for everyone and the hybrid format of 2021 will also give the chance to attendees who cannot join the event in person to participate online at MNE2021. MNE2021 will be therefore quite different from previous editions, but at the same time will be one of the first big conferences in Europe and worldwide to be organised also in presence. This has required to setup both live presentations and recording/streaming for oral presentations, a hybrid poster session with online and in-presence presenters and both physical and virtual booths and exhibitors.
We hope that this will be an additional step towards the return to normality and that the next editions will be in the standard only in-presence format, which would be a very positive sign for the entire humanity.
The in-presence 2021 edition of MNE comes back to Italy after the 1999 and 2010 editions in Rome and Genova respectively, and it will be hosted in Torino, a city which will surprise and charm you with its extraordinary beauties and its prestigious history.
380 abstracts, not including invited and plenary presentations, will be presented from 42 countries and 5 continents (23 from Europe, 12 from Asia, 3 from America 2 from Oceania and 2 from Africa). This is a very good result in these times, proving that Micro and Nano Engineering is firmly recognised as a not to be missed event for its scientific community and well established to roadmap its bright future.
The review process, thanks to invaluable help of the International Technical Program Committee (ITPC), resulted in a program containing 101 oral talks (of which 6 plenary and 19 invited talks) and 279 poster contributions.
Such an outstanding technical program is the result of the hard work of a big team, made up of many individuals. We wish to express our sincere gratitude to authors, co-authors, research supervisors and professors, session chairs and attendees. Many of you are part of the ITPC and took part in the abstract selection process. As MNE2021 organisers, we really appreciate your valuable time and effort. You all are also invited to serve as reviewers for the manuscripts, that will be published in a special issue of the Elsevier Journal Micro and Nano Engineering (Elsevier - MNE). A further acknowledgement also goes to the members of the iMNEs board and of the International Steering Committee for their useful advice and continuous encouragement.
MNE keeps on carrying the tradition of a Technical Exhibition. This year we are proud to host about 25 companies, willing to be part of and contribute to the best success of our Conference, together with Conference Partners who also provided a relevant support together with a financial contribution.
The MNE international school has been scheduled on Monday 20 September, before the opening of MNE, with fantastic lectures from outstanding scientists.
The participation to MNE2021 of more than 430 people, with about 300 in presence and 130 online, represents a very encouraging result for the future.
As Organizing Committee of MNE2021, we wish you a very productive and interesting conference.
Enjoy MNE2021!
Massimo De Vittorio and Fabrizio Pirri – MNE2021 Conference Chairs
Matteo Cocuzza, Andrea Lamberti and Ferruccio Pisanello – MNE2021 Program Co-Chairs
Lucrezia D'Ettorre and Rosaria Petrolo – CCI – MNE2021 Conference Secretariat

FLOOR MAP


Floor Map
MNE2021 Entrance
ROOM 500 (Floor -1)
Registration Secretariat Desk
Sponsor desk
Cloakroom (unattended)
Slide Center
AUDITORIUM
Poster Area
MADRID ROOM
LONDRA ROOM
Medical service
Catering
Catering
Catering
Poster Area
MNE Conference Rooms
Poster Area
Catering Area
Exhibitors/Sponsors
Exhibitor List
1: GenISys
2: RAITH
3: Joanneum Research
4: Exaddon
5: Vistec Electron Beam
6: Zyvex Labs
7: Eulitha
8: Lyncée Tec Idonus
9: Electron Mec
10: Gambetti
11: Heidelberg Instruments
12: Nano Dimension
13: Allresist
14: Saes Group
15: FEMTOprint
16: upnano
17: JEOL
18: Assing
19: Nanoscribe
20: AMO
21: EV Group
22: Microlight 3D
23: STS Elionix
24: Torino Info Point



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Join the international Micro and Nano Engineering society iMNEs

This year, each attendee of the MNE2021 can opt for a free one-year membership of iMNEs to support the goals of the society and to be part of its community. In future, iMNEs members receive a discount on their MNE registration fee. iMNEs is a not-for-profit organisation. It mandates every year members from a different European country to form a local organizing committee for hosting a future MNE conference.
With your membership you distinguish yourself as a player in the field of Micro and Nano Engineering and you support iMNEs in:

- organizing the MNE conference
- promoting Micro and Nano Engineering
- recognizing individuals for their life time achievements (MNE Fellow Award) or boosting the career of young researchers (Young Investigator Award and Lectureship)
- guaranteeing free of charge publication of your MNE-related work in special issues of a peer reviewed journal
- shaping our community with the help of your ideas brought forward at the annual iMNEs assembly

See also the website of iMNEs (https://www.imnes.org).
We encourage you to join iMNEs now.

Committees

GENERAL CHAIR

Massimo De Vittorio (IIT & Università del Salento)

CO-CHAIR:

Fabrizio Pirri (Politecnico di Torino & IIT)

HONORARY CHAIR:

Massimo Gentili (Past Chair MNE Steering Comm.)

PROGRAM CO-CHAIRS:

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Andrea Lamberti (Politecnico di Torino)
Ferruccio Pisanello (IIT)

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Mario Caironi, IIT – Italy
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Cecilia Pederzolli, FBK – Italy
Pasqualantonio Pingue SNS – Italy
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Konstantinos Giannakopoulos, Greece
Evangelos Gogolides, Greece
Markus Graf, Switzerland
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Cornelis Hagen, The Netherlands
Anpan Han, Denmark
Michael Haslinger, Austria
Harry Heinzelmann, Switzerland
Yoshihiko Hirai, Japan
Klas Hjort, Sweden
Robert Ilic, USA
Toshiro Itani, Japan
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Choi Jin-Woo, USA
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Songphol Kanjanachuchai, Thailand
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Armin Knoll, Switzerland
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Dimitris Tsoukalas, Greece
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Christophe Vieu, Frence
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Remco Wiegerink, The Netherlands
Sandra Wolff, Germany
Chun Zhao, China
Cui Zheng, China
Cezar Zota, Switzerland
Ioannis Zuburtikudis, Greece

Conference Information

MNE 2021 is organized around 4 main topics: Topic A (Advanced Nanopatterning), Topic B (Nanofabrication and Manufacturing for Functional Structures / Surfaces), Topic C (Micro-Nano Devices and Systems for physical applications, electronics, photonics and energy) and Topic D (Micro & Nano Devices and Systems for Life Sciences, Chemistry, and Agrofood Sectors).

MNE 2021 has attracted approximately 400 participants. The MNE Committees encourage authors to submit papers (regular, accelerated publications, reviews or news and opinions) to 4 open thematically focused issues of Micro and Nano Engineering Journal (MNE by Elsevier) related to the conference topics. MNE also sponsors the annual Young Investigator Award, which will be presented at the conference. MNE has two related conferences in the USA (EIPBN), and in Japan (MNC).

STRUCTURE

The MNE scientific program begins on Tuesday, September 21th, and ends in the afternoon of September 23rd. Prior to the Scientific Program, on Monday, September 20th, there will be the MNE International School for those registered, followed by the Welcome Reception and Opening of the Conference and Exhibition. The Program features 3 parallel sessions, plenary talks, invited presentations, oral and poster presentations (evaluated by the International Program Committee), and a commercial exhibition. MNE poster and oral presentations have equal scientific significance. Two Poster sessions (I, II) will be held respectively on the 21st and the 22nd of September. MNE2021 is an hybrid conference, and welcomes both online and in presence attendees and presenting authors.

CONFERENCE VENUE

Lingotto Convention Center, Via Nizza, 280, 10126 Torino booking@centrocongressilingotto.it

REGISTRATION & HOSPITALITY DESK - OPENING HOURS

Monday September 20th	16:30 – 20:00
Tuesday September 21st	08:00 – 18:00
Wednesday September 22nd	08:00 – 18:00
Thursday September 23rd	08:00 – 18:00

COVID SAFETY AND RELATED REGULATIONS

Covid-19 Governmental Restrictions in Effect

Torino and its region, Piemonte, as of today September 13th, are inserted among the low COVID risk zones (white region). Before entering Italy, passengers are required to complete a specific digital Passenger Locator Form (dPLF). Please visit https://app.euplf.eu/#/ and https://reopen.europa.eu/en/ for more information.

NATIONWIDE MEASURES - ALL ITALIAN ZONES/REGIONS

EU Digital Covid Certificate (Green Pass)

The Digital Covid Certificate is required:

- to eat in bars/restaurants indoors;
- to attend theatre, shows, concerts, sporting events (preassigned seating only and social distancing of 1 meter, even if outdoor);
- to enter museums, exhibitions, other cultural sites;
- to enter swimming pools, gyms, team sports, wellness centers indoors;
- to attend fairs, trade shows, conferences;
- to enter thermal centers, theme parks;
- to enter cultural centers, social and recreation centers (indoors), except for pre-education centers, summer camps;
- to enter casinos, bingo halls, games halls;
- to enter public exam centers.

You will need a Covid-19 Digital Certificate (Green Pass), or an equivalent certificate:

- to board aircraft for national flights;
- to board interregional ships and ferries;
- to travel on Intercity and High Speed trains;
- to travel on inter-regional buses and charter buses.

Mask wearing (any type of mask)

- Masks required outdoors as long as social distancing of at least 1 meter cannot be maintained.
- In certain outdoor contexts masks are still required, e.g. at the market, while in a queue, all outdoor spaces of hospitals and health clinics.
- Masks are required in all indoor places other than your home, including public transport, public offices, shops, museums, galleries etc.
- In restaurants, bars, and cafés you may remove your mask only when seated, indoors and outdoors.
- If you have guests in your home, wearing a mask is recommended.
- Exceptions: when practicing sport, for under 6s, for those suffering from particular pathologies or disabilities that are incompatible with wearing a mask.

Social distancing

- Maintain a distance of 1 meter.

Hand washing / sanitizing

- Washing hands regularly with soap and water or use a hand sanitizer is recommended.

For more information:
https://www.salute.gov.it/portale/nuovocoronavirus/homeNuovoCoronavirus.jsp (Italian/English language)
https://www.governo.it/it/articolo/domande-frequenti-sulle-misure-adottate-dal-governo/15638#zone (only Italian language)

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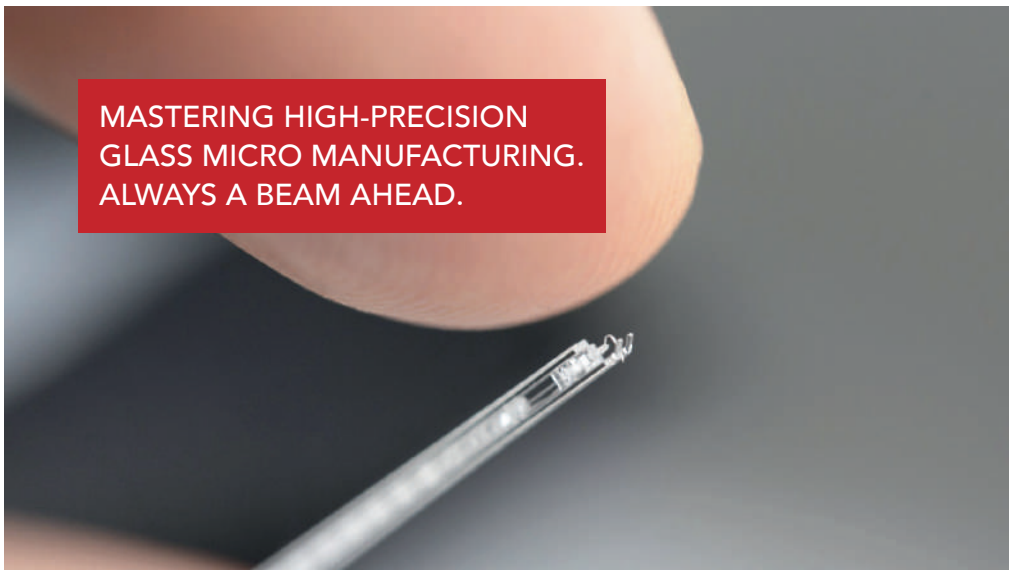
MNE 2021



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REGISTRATION FEES

REGISTRATION TYPES	Until August 6th, 2021	From August 7th, 2021	On site registration
Standard Attendee (in presence)	€ 680	€ 830	€ 870
Student Attendee (in presence)	€ 390	€ 470	€ 520
Standard Attendee (on line)	€ 400	€ 450	
Student Attendee (on line)	€ 200	€ 250	
MNE International School	€ 120	€ 150	€ 180
Accompanying Persons	€ 230	€ 270	€ 280

Please consider that registration fees for attendees **in presence** include all the social events scheduled for the conference, lunches and coffee breaks.

Cancellations Policy:
Pre-registered participants who are unable to attend the conference will have their paid fees reimbursed as follows. Written notice of non-attendance has to be sent to the conference secretariat. All refunds will be processed after the conference.
Before August 20th, 2021: 50% will be charged as a processing fee
From August 21st, 2021: no refund
Please note that, due to the COVID 19 emergency, it will be possible to modify your registration from in presence fee to online fee at any time.
The cost difference will be reimbursed except for an administrative handling cost of 20€.

EXHIBITION AND INDUSTRIAL SESSION

The MNE2021 Commercial Exhibition will start on Monday, September 20th, and will be open throughout all Conference days. Exhibitors will have both physical and virtual booths. The list of companies with physical booth and their position inside the conference venue can be found in the map on page 3 and in the MNE2021 mobile guide
To access the virtual exhibition booths please log in and visit the Expo Area section on the live.mne2021.org platform.
The list of exhibitors and sponsors and detailed information about the companies can be found on the mne2021 conference website www.mne2021.org, in the section "SPONSOR AND EXHIBITION" by clicking on the logo of each company.
An industrial session of oral presentations will be held on Thursday 21st September, in the Londra Room:

15:30-15:40	RAITH	16:45-16:50	Boston Micro Fabrication
15:40-15:50	STS Elionix (SemtechSolutions)	16:50-16:55	FEMTOPrint
15:50-16:00	Allresist	17:00-17:05	GenISys
16:00-16:10	Heidelberg Instruments	17:05-17:10	Vistec Electron Beam
16:10-16:20	Nano Dimension - DragonFly AME	17:10-17:15	JEOL
16:20-16:30	Nano Dimension - Fabrica	17:15-17:20	Micro resist technology
16:30-16:35	AMO	17:20-17:25	upnano
16:35-16:40	Assing	17:25-17:30	Gambetti
16:40-16:45	Zyvex Labs		

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MNE2021 MOBILE APP GUIDE

To view the MNE 2021 guide on your mobile device, you'll need to do the following:

1. Download the Ex Ordo app on your phone from either the App Store (iOS) or the Google Play Store (Android)
2. The installation process will take a few minutes. Once the app is installed, click the Ex Ordo icon that now appears on your phone screen.
3. You can now search for the guide. To find the guide type in **MNE 2021** into the search box.
4. If you would like to receive notifications from the conference organisers and interact with other users of the guide you will have to register and log in. Here is an article that explains the process - Check in and Connect

NOTE: You have to create a new account for logging into the guide. The credentials used to submit abstracts or presentations will not be recognised in the mobile app when you try to log in.

MICROGRAPH CONTEST

A micrograph contest is organized by the MNE Organizing Committee. Winners will be awarded during the gala dinner. Participants are kindly asked to submit their micrographs until Monday September 13th at the following web page https://www.zyvexlabs.com/contests/2021-3/. You can vote for the best micrograph using the mobile application: use the heart button in each picture to like your preferred entries in the "Micrograph Contest" tab. You will need to login to vote.

POSTER PRESENTATIONS

There are two poster sessions on Tuesday 21st and Wednesday 22nd.

Each poster will be displayed during the whole conference from Tuesday 21st until morning of Thursday 23rd. The posters are grouped according to the thematic areas A, B, C, and D in the program. Each poster board will have a poster identification number. Please leave them on display and do not block them in order to provide a means for orientation for visitors of the poster session. Online posters have a smaller printed format and a QR code, that you can scan to interact with the presenting author remotely.

Posters will be placed on the panels with double sided tape to be supplied by the Congress Secretariat.

It is the Presenter's obligation to put up and also remove the poster from the panel. Posters left after the end of the congress will be destroyed. The Congress Secretariat bares no responsibility for posters left behind.

POSTER SESSION I ODD Numbers

Please be at your Poster area or online, ready for a presentation on Tuesday, September 21st, 15:30-18:00

POSTER SESSION II EVEN Numbers

Please be at your Poster area or online, ready for a presentation on Wednesday, September 22nd, 15:30-18:00

BEST POSTER AWARDS

The MNE conference gives much weight and importance to the poster session. Contributions selected for poster presentation do not have less scientific quality than contributions selected for oral presentations, but their contents are expected to be more suitable for communication in poster form. To highlight the importance of the poster session, awards are given to the best posters.

The posters will be evaluated per topic and four Best Poster Awards will be given out, one for each topic:

- Advanced Nanopatterning
- Nanofabrication and Manufacturing for Functional Structures/Surfaces
- Micro-Nano Devices and Systems for physical applications, electronics, photonics and energy
- Micro & Nano Devices and Systems for Life Sciences, Chemistry, and Agrofood Sectors.

The evaluation will be based on the assessment of the abstract reviewers and by the poster examination from the jury during the conference.

Winner announcement: The Best Poster Award Winners will be announced during the conference dinner on September 22nd. Poster Awards are sponsored by RAITH.

MNE 2021 SPECIAL ISSUES – CALL FOR PAPERS SUBMISSION

The MNE2021 Organizing Committee invites MNE2021 participants to submit papers to four (4) OPEN to all and THEMATICALLY FOCUSED special issues of *Micro and Nano Engineering Journal (a new dynamic open access journal affiliated with iMNES)* entitled:

- NanoPattern 2021
- NanoFabrication 2021
- Devices-MEMS 2021
- Lab-on-Chip 2021

Please refer to the specific special issue to see the thematic areas and select the issue appropriate for you. Each special issue call is an 'open call'. This means that, while including selected papers presented at MNE2021, it is also open to other authors of the related scientific community.

Manuscript submission deadline: October 31st, 2021

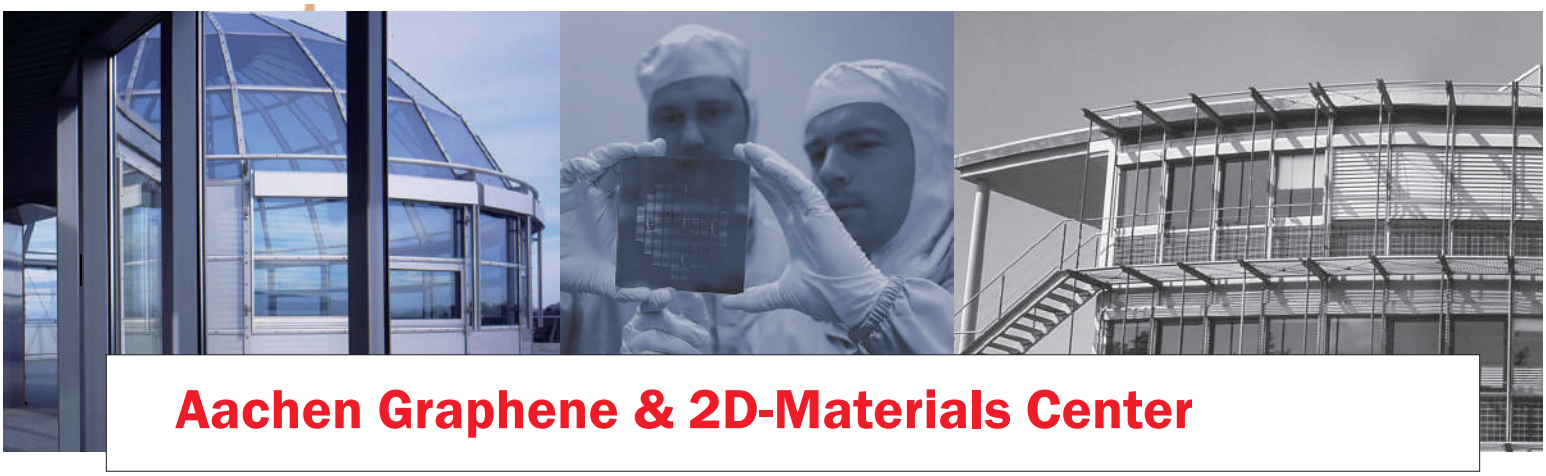
Your paper and associated supplementary information should comprise a complete, novel and full description of your work. Manuscripts of the special issue will be submitted and reviewed via the online Elsevier Editorial Manager Operating System.

Accepted papers will be freely available on ScienceDirect as OPEN ACCESS papers WITHOUT any article processing charges. This is a SPECIAL agreement between MNE2021 conference and MNE journal.

Instructions for authors

- The standard submitted manuscripts are regular articles of MNE journals (4-6 pages).
- **Review papers (7-10 pages) are encouraged from invited/plenary speakers and leading members of the community.** If you are not an MNE invited speaker and you **wish to submit a review, please contact** Evangelos Gogolides (e.gogolides@inn.demokritos.gr, Editor-in-Chief, of MEE, MNE journals) or Matteo Cocuzza (matteo.cocuzza@infm.polito.it, MNE 2021 Program Co-Chair) with a proposal and outline.
- **News and opinions** papers are also welcome from plenary/invited speakers. Again, please contact the Editor-in-Chief or the MNE 2021 Program Co-Chair with a proposal.
- **Highly novel work that deserves rapid dissemination** can be submitted as an ***accelerated*** **publication** (up to 4 pages) and will be given high priority. In that case please declare that in your cover letter and explain the reasons.
- For all publications, we encourage you to supply additional information, audios/videos, etc. as on-line supplementary material to appear on the web, but not in the printed version. Your supplementary material will be available directly from ScienceDirect or Scopus.
- For general enquiries, please contact Matteo Cocuzza (MNE 2021 Program Co-Chair).
- Please submit papers directly using the MNE journal Submission web page https://www.editorialmanager.com/mne/default.aspx . Select the appropriate special issue and the correct file type (regular paper, review paper, etc.). **The submission opens on September 1st, 2021 and closes after the submission deadline.**

Please note that the special issue papers undergo the same high-standard review process as any other MNE paper. At least two reviews need to be in agreement per paper before decision, and the typical rejection rate is 50-60%. **Therefore, please make sure that both the technical content of your paper and your presentation style and language are of high quality**, and that the content is novel, unpublished, and not being considered for publication elsewhere. ***Do NOT submit work that is not complete yet, or has partially been published before, even if that work is presented in the conference.*** **Please also note that on-line software is used to check plagiarism and duplicate publications.** Please check the author guidelines at https://www.elsevier.com/journals/micro-and-nano-engineering/2590-0072/guide-for-authors.



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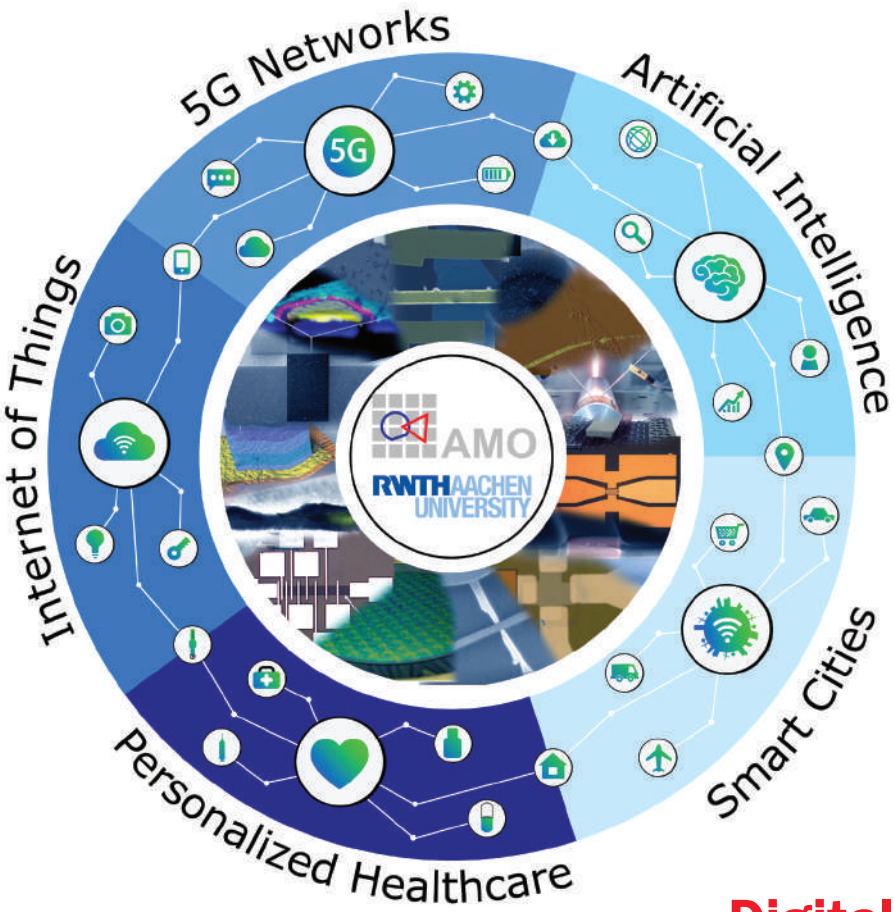

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SOCIAL EVENTS

WELCOME RECEPTION

The Conference Welcome Reception will take place on Monday, September 20th, from 16:30 to 20:00 at the Conference Venue (Lingotto Congress center).

GALA DINNER

The Conference Official Gala Dinner will be hosted at the Royal Palace **Palazzina da Caccia di Stupinigi**, September 22nd, at 19:30. Transfer from the conference venue will start at about 19:00. A tour of the Royal Palace will preceed the gala dinner. During the dinner the winners of best poster awards and of the micrograph contest will be announced. For online attendees the award ceremony can be followed at the link reported on the MNE website https://www.mne2021.org/socialprogram/.
Dress Code: informal

CLOSING CONCERT

On September 23rd, at 5 pm, the MNE2021 conference will be closed by a concert by l'Astrèe, Turin baroque ensemble. The Four Seasons by Antonio Vivaldi will be played by the ensemble, performed by Francesco D'Orazio.

OFFICIAL LANGUAGE

English will be the official language of the Conference and no simultaneous translation will be provided.

CERTIFICATE OF ATTENDANCE

Certificates will be provided after the completion of the Scientific Program.

CONFERENCE BADGE

Please wear your personal badge at all times. Entrance to the Conference area will only be permitted to guests wearing their name badge. The Congress Center Personnel will allow the entrance of persons with a valid COVID pass (see section **"COVID SAFETY AND RELATED REGULATIONS")**

CURRENCY

Italy's monetary unit is the Euro. No other currency is accepted and it is best to exchange dollars or other currency at a bank.

INSURANCE

We cannot accept responsibility for any personal loss, accidents or damages to participants and/or accompanying persons. Participants are strongly advised to obtain personal insurance to cover any eventuality that may occur during the Congress.

VISA

All foreigners intending to enter Italy must provide the documentation required to justify the reasons and duration of their stay as well as, in some prescribed cases, the availability of adequate economic means and lodging.
In some cases you need a visa, application for which can be made at the Italian Diplomatic and Consular Representations in your country of residence.

TRANSPORTATION

Owing to its position, Torino – easily reached by car, train or plane – is the natural connection point between the surrounding Alpine valleys and is where the major national and international communication routes converge.
Discover traffic information in real time: updates on traffic and road conditions in Piedmont www.muoversinpiemonte.it

BY BUS

There are many links connecting the main cities in Italy and abroad with Torino.
For information on routes, prices and timetables: www.busradar.it www.comparabus.it
Autostazione EXTRA.TO: Corso Bolzano/Via Grattoni-Torino – www.extrato.it
Autostazione Terminal Bus: Corso Vittorio Emanuele II 131h – www.autostazionetorino.it

In Torino trains, buses, taxis and car hire are available for everyone, from those in wheelchairs to mums with buggies.
www.turismabile.it

BY CAR
Five motorways come to the city via the ring road that runs along the north, west and south sides of the town:
– **A4 Trieste-Venezia-Milano-Torino** – www.autostrade.it
– **T1/T2-A5 Tunnel Monte Bianco-Aosta-Torino** – www.ativa.it – www.tunnelmb.com
– **A6 Savona-Torino** – www.autostrade.it
– **A21 Piacenza-Torino** – www.autostrade.it
– **T4-A32 Tunnel Fréjus-Torino** – www.sitaf.it – www.tunneldufrejus.com
There are a number of slip roads off the A55 ring road for the areas just outside the city (airport, Lingotto, Juventus Stadium, Rivoli, Venaria Reale, Stupinigi included); for the town centre, the main exits are Corso Regina Margherita (North) and Corso Allamano (South).
An extensive road network connects Torino with the province and, from there, to the main national and trans-European roads:
SS 10 Monselice (Pd)-Torino **SS 11** Venezia-Torino **SS 20** Ventimiglia-Col di Tenda (Cn)-Torino **SS 23** France-Sestriere-Torino **SS 24** France-Cesana Torinese-Torino **SS 25** France-Colle del Moncenisio-Torino **SS 26** France/Switzerland-Aosta-Torino

BY TRAIN
Torino is a very important railway junction, especially for fast connections throughout Italy and part of Europe on the Lyon-Paris line with the trains Frecciarossa, Frecciabianca, Italo and TGV.
There are five stations in town, two of them international (Porta Nuova and Porta Susa) while three are mainly for local transport and the metropolitan rail service (SFM):
Porta Nuova – Corso Vittorio Emanuele II 53
Porta Susa – Corso Bolzano
Lingotto – Via Pannunzio 1
Stura – Corso Romania 501
Rebaudengo Fossata – Via Fossata
The trains to/from the airport (and then going on to the Valli di Lanzo) and to Alto Canavese are provided by GTT-Gruppo Torinese Trasporti departing from the stations: **Dora** – Via Giachino; **Porta Susa** – Corso Bolzano
For information and timetables of trains:
Trenitalia – www.trenitalia.com NTV – Italo – www.italotreno.it
GTT – SFM – www.sfmtorino.it SNCF – TGV – www.tgv-europe.com/it

FROM THE AIRPORT
In the airport complex, on the "Arrivals" floor, taxis and hire car firms can easily be found; Torino can also be reached by train and bus.
BY TRAIN
The SFMA railway line connects the airport with the Dora GTT in 19 minutes, from where it is possible to reach Porta Susa, the underground and the city centre. Once the "Integrated Ticket B", costing €3.00, has been stamped, it is usable for 120 minutes on SFMA, the underground, and the GTT urban and suburban network. All tickets can be bought at the ticket office in the Arrivals hall, the Airport and Dora GTT stations, and at bars and tobacconists showing the GTT sign.
GTT – SFM – www.sfmtorino.it
The new DORA EXPRESS service
From 11th September 2017, a new bus route connects the Dora and Porta Susa stations, allowing commuters and tourists to reach the Airport or the city centre quickly and easily.

BY BUS
The journey time for the bus service between the airport and Torino centre is about 45 minutes, stopping at Porta Susa and Porta Nuova. Tickets cost €7.00 and on board the bus with a supplement of €1.00.
SADEM – www.sadem.it

BY TAXI

Taxis are available outside the Arrivals hall and reach the centre of Torino in about 30 minutes, for a cost of approximately €36.
TAXI TORINO – www.taxi-torino.it

CAR HIRE
The main car hire companies can be found at the airport: their offices are located in the Arrivals hall and inside the tunnel of the multi-storey car park.
A transport service is available for the disabled between the airport and city: the vehicles are found on the Arrivals floor in an easily accessible reserved area. Passengers wishing to use this service should contact the free-phone number shown at least 48 hours in advance (9am-1pm / 2pm-3pm).
800.514999 – www.aeroportoditorino.it

The city of Torino also has direct daily bus services to the Intercontinental Airport "Malpensa 2000" (about 100km) and Bergamo Orio al Serio (about 190km).
SADEM – www.sadem.it

Instructions for presenters and session chairs

OPENING TIMES OF THE SLIDES CENTER

Monday September 20th	17:00 – 20:00
Tuesday September 21st	09:00 – 18:00
Wednesday September 22nd	09:00 – 18:00
Thursday September 23rd	09:00 – 18:00

IF YOU ARE A CHAIR PERSON

Please locate your session room in due time. Please be at your session room at least 15 minutes prior to the start of the session.

We may remind you that speakers need to strictly observe the time schedule. Before the session starts, please check that all presenters are present. Before each presentation, please introduce the presenter by stating his/her name and affiliation.

Online talks should be streamed with the pre-recorded presentation, and presenting authors will be online for the questions and answers session. Online questions will be allowed by the online platform.

ORAL PRESENTATIONS

For all the MNE Conference oral contributions, a pre-recorded presentation is required. This is valid for both the online and in presence participants;

In presence participants will have a live presentation and the pre-recorded video will be employed only in case of technical issues. Please go to the Slides Center to upload your presentation at most three hours before your presentation.

For online participants the pre-recorded presentation will be employed as default, but authors must guarantee their live participation to the corresponding event slot to answer questions and to animate the scientific debate; the pre-recorded contributed presentations must last 12 minutes. The preferred mode comprises slides and speaker (webcam view) displaying.

Please make sure to include an introductory slide including the authors' list (with your name underlined), affiliations and talk title.

POSTER PRESENTATIONS

Please prepare your Poster (for the upload to the MNE online platform, https://authors.mne2021.org/) in PDF format.

Poster presentation in presence

You can hung your printed poster (A0 format, portrait orientation) on the dedicated board in the poster area and interact as usual with the MNE participants;

We will also offer an interactive networking tool (chat) in the corresponding section on the MNE online platform at live.mne2021.org for the MNE remote participants interaction. Further information and details will follow closer to the date of the event.

Poster presentation online

The presenting poster author should be available for questions during the corresponding poster session. To this aim, we will offer an interactive networking tool (chat) in the corresponding section on the MNE online platform at live.mne2021.org. Further information and details will follow closer to the date of the event; A copy of your poster in A1 format will be printed by the MNE Organization, hung on the dedicated board in the poster area and equipped with a QR code so that participants can also directly access the corresponding electronic copy and chat on the MNE online platform to interact directly with the remotely connected authors.

Program at a glance

September 20			
09:00-16:30	MNE2021 International School		
16:30-20:00	Registration and Welcome Reception		
September 21			
	Auditorium		
08:30-08:45	Opening Ceremony		
08:45-09:30	Plenary 1: **Andrea Onetti** (STMicroelectronics - Italy) *Sensors: Cogito, Ergo Sum*		
09:30-10:15	Plenary 2: **John A. Rogers** (North Western University - USA) *Mechanical Assembly as a Route to 3D Micro/nanosystems*		
10:15-10:45	Coffee Break		
	Auditorium	**500 Room**	**Londra Room**
10:45 -12:45	Session A1: Imprinting & Soft Lithography	Session B1: Micro-Nanofab for photonics	Session C1: MEMS/NEMS Technology
12:45-14:00	Lunch Break		
14:00-15:30	Session A2: 3D Lithographies	Session B2: Micro-Nanofab for electronics	Session C2: Fluidic Technologies
15:30-18:00	POSTER SESSION I (ODD NUMBERS) & INDUSTRIAL SESSION (Londra Room)		
September 22			
	Auditorium		
08:45-09:30	Plenary 3: **Boris N. Chichkov** (Leibniz University Hannover - Germany) *Laser bioprinting*		
09:30-10:15	Plenary 4: **Anja Boisen**, 2021 MNE Fellow Award (DTU - Denmark) *Micro/Nano Engineering and Drug Delivery*		
10:15-10:45	Coffee Break		
	Auditorium	**500 Room**	**Londra Room**
10:45 -12:45	Session A3: Functional Structures & Materials	Session B3: Micro & Nano structures and devices	Session C3: Biosensors technologies
12:45-14:00	Lunch Break		
14:00-15:30	Session A4: Nanostructures and applications	Session B4: Technologies for micro and nano photonics I	Session C4: Iteractions with biosystems
15:30-18:00	POSTER SESSION II (EVEN NUMBERS)		
19:30-23:30	SOCIAL DINNER		
September 23			
	Auditorium	**500 Room**	**Londra Room**
8:30 -10:30	Session A5: Electron & Ion beam technologies	Session B5: Technologies for Metasurfaces	Session C5: Technologies for micro and nano Photonics II
10:30-11:00	Coffe Break		
11:00-12:30	Session A6: Technologies for organic/biological matter	Session B6: Wearable technologies	Session C6: Implantable devices
12:30-13:45	Lunch Break		
13:45-15:00	Session A7: Advanced Photon Lithography	Session B7: Late Abstracts	Session C7: Interacting with cells and bacteria
15:00-15:30	Coffe Break		
	Auditorium		
15:30-16:15	Plenary 5: **Paolo Vineis** (Imperial College London - UK) *Technological developments in the study of the health impact of environmental exposures*		
16:15-17:00	Plenary 6: **Zhenan Bao** (Stanford University - USA) *Skin-Inspired Organic Electronics*		
17:00-18:00	CLOSING CONCERT AND REMARKS		

Plenary Speakers

ANDREA ONETTI

Analog, MEMS and Sensors Group Vice President; MEMS Sensors Division General Manager; STMicroelectronics

SENSORS: COGITO, ERGO SUM

TUESDAY, SEPTEMBER 21st 8:45 – 9:30

Abstract: When I started my journey into sensor world, sensors were an anomaly. Today, after only a quarter of a century, the world around us is full of sensors, most of which are connected to the cloud. By measuring multiple variables in the analog world and digitalizing them, sensors are a key enabler of the third and fourth waves of Artificial Intelligence Era: the Sensing AI and the Autonomous AI Eras, respectively. Daily and with tireless pace, the sensors inflate the Big Data digital world sphere. Internet of Things and Augmented reality technologies allow human kind to properly use the data collected by the sensors. But this is only one face of the coin. Indeed, once these data are fed in the latest generation algorithms of the big companies, they boost the profit of those companies and we became the means to others' end. Sensors became a new source of human behavioral surplus with more predictive power, accelerating the transition toward surveillance capitalism, where free will and critical thinking are at risk.
In this talk, after highlighting the key milestones of sensor development in the last twenty-five years and the future trend, I will argue how I see feasible the symbiosis between the Big Data, free will, critical thinking and a more transparent digital world.

Bio: Andrea Onetti is Group Vice President in the Analog, MEMS and Sensors Group and General Manager of ST's MEMS Sensors Division and has held this position since February 2016.
Onetti joined STMicroelectronics' R&D Lab in Castelletto, Italy, in 1990, as a designer of mixed-signal audio IC's and moved into Product Management five years later, in charge of Marketing for Consumer Audio. Under his leadership, his organization became a Product Division and Onetti's scope was enlarged to include management of planning, operation, and quality of audio products. In 2011, ST created the Audio and Sound Business Unit, targeting the whole audio chain, from detectors (ME
MS microphones) to transducers (MEMS speakers), under Onetti's charge. Most recently, he added responsibility for the Analog and Audio Systems Division, including catalog analog standard products.
Onetti has several patents for analog circuit implementations in the Audio domain.
Andrea Onetti was born in Pavia, Italy, in 1965, and graduated with a Degree in Microelectronics from University of Pavia.

JOHN A. ROGERS
Department of Materials Science and Engineering; Northwestern University, USA

MECHANICAL ASSEMBLY AS A ROUTE TO 3D MICRO/NANOSYSTEMS

TUESDAY, SEPTEMBER 21st 9:30 – 10:15

Abstract: Complex, three dimensional (3D) assemblies of micro/nanomaterials form naturally in biological systems, where they provide sophisticated function in even the most basic forms of life. In spite of their broad potential utility in man-made devices, design options for analogous abiotic 3D mesostructures are severely constrained by the comparatively primitive capabilities that are available with established techniques for materials growth, assembly and 3D printing. This talk summarizes progress on strategies that rely on geometric transformation of preformed 2D functional micro/nanostructures into 3D architectures by controlled processes of actively induced compressive buckling. The emphasis is on the foundational materials and mechanics principles, computational approaches that enable inverse designs, and examples of applications in areas ranging from thermoelectrics to microelectromechanical systems to biologically inspired open mesoscale microfluidic/electronic networks as functional interfaces to 3D cell cultures, including spheroids, organoids, assembloids and mini-brains.

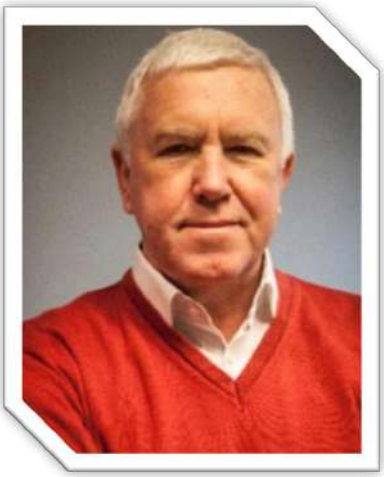
Bio: Professor John A. Rogers obtained BA and BS degrees in chemistry and in physics from the University of Texas, Austin, in 1989. From MIT, he received SM degrees in physics and in chemistry in 1992 and the PhD degree in physical chemistry in 1995. From 1995 to 1997, Rogers was a Junior Fellow in the Harvard University Society of Fellows. He joined Bell Laboratories as a Member of Technical Staff in the Condensed Matter Physics Research Department in 1997, and served as Director of this department from the end of 2000 to 2002. He then spent thirteen years on the faculty at University of Illinois, most recently as the Swanlund Chair Professor and Director of the Seitz Materials Research Laboratory. In the Fall of 2016, he joined Northwestern University as the Louis Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Medicine, with affiliate appointments in Mechanical Engineering, Electrical and Computer Engineering and Chemistry, where he is also Director of the recently endowed Institute for Bioelectronics. He is a member of the National Academy of Engineering, the National Academy of Sciences, the National Academy of Medicine, the National Academy of Inventors and the American Academy of Arts and Sciences.

BORIS N. CHICHKOV
Leibniz University Hannover, Institute of Quantum Optics, GERMANY

LASER BIOPRINTING

WEDNESDAY, SEPTEMBER 22nd 8:45 – 9:30

Abstract: In this lecture, we will discuss laser-based techniques applied for precise generation of 3D scaffolds for tissue engineering and for printing living cells and microorganisms into 3D patterns.
For the scaffold generation, two-photon polymerization (2PP) technique is applied, which allows writing CAD structures directly into the volume of photosensitive polymer solutions. Scaffolds from different biomaterials like organic-inorganic Sol-Gel-Composites (e.g., zirconium-hybrids), biodegradable polymers (e.g., polylactic acid (PLA), polycaprolactone (PCL), polyethylene glycol (PEG)), and hydrogels (e.g., gelatin, hyaluronic acid, chitosan, alginate, gellan gum) or hydrogel blends, have been generated with this technique. Applications of this technique for *in vitro* development of human iPSC-derived functional neuronal networks will be discussed.
For arranging cells in 3D patterns, laser-assisted bioprinting (LAB) based on the laserinduced forward transfer process is used. Different cell types, including primary cells, stem cells, and iPS cells embedded in hydrogels as extra-cellular matrix, have been printed. Our current progress in laser printing of microorganisms will be also discussed.
Both 2PP and LAB techniques are capable of advancing 3D cell culture towards CAD defined and precisely arranged 3D cell models and "organ-on-chip" systems. Printed tissue, for example skin, can be used for analyzing the effect of agents like pharmaceuticals or cosmetics ex vivo and, by applying human primary cells, it might be applied instead of animal tests



Bio: Professor at the Leibniz University Hannover, Institute of Quantum Optics, Hannover, Germany
Graduated with honors and received PhD in Physics from Moscow Institute of Physics and Technology in 1981. Started his scientific carrier at P.N. Lebedev Institute of Physics, Russian Academy of Sciences in Moscow and later worked in many research centers worldwide. At present, he is Professor of Physics at Leibniz University Hannover, Institute of Quantum Optics and Chair of Nanoengineering. Scientific areas: laser physics and laser applications, nanoengineering, additive manufacturing technologies, quantum and nonlinear optics, nano- and biophotonics, biomedical implants and devices, tissue engineering and regenerative medicine.

ANJIA BOISEN
Technical University of Denmark, DENMARK

MICRO/NANO ENGINEERING AND DRUG DELIVERY
MNE Fellow Award 2021

WEDNESDAY, SEPTEMBER 22nd 9:30 – 10:15

Abstract: Our research center of excellence 'IDUN' combines research in nanosensors/centrifugal microfluidics and microfabricated devices for oral drug delivery. This allows us to explore the synergy between sensor development and search for new pharmaceutical delivery tools and materials. I will show examples of recent findings and results within drug/polymer characterization, microdevices for drug delivery and diagnostics. Also, new applications within therapeutic drug monitoring using Surface Enhanced Raman Scattering will be presented as well as sensor integration with centrifugal microfluidics platforms.

Bio: Anja Boisen is head of section and professor at department of Health Technology, Technical University of Denmark. Also, she is heading a DNRF and Villum Centre of Excellence named 'IDUN - Intelligent Drug Delivery and Sensing Using Microcontainers and Nanomechanics'. Her research group focuses on development and application of micro and nano mechanical sensors and microfabricated systems for oral drug delivery. Anja is cofounder of companies Cantion, Silmeco BluSense Diagnostics and LightNovo. She is among others member of the board of the Leo Foundation, the board of Villum Foundation, the Danish Academy of the Technical Sciences and the Royal Danish Academy of Sciences. In 2008 she was awarded the largest research prize in Denmark, the Villum Kann Rasmussen award and in 2012 she was awarded the EliteForsk Award from the Danish ministry of Research, Innovation and Higher Education. In 2013 she received the 'Sapere Aude – top researcher award' from the Danish Council for Independent Research. Recently, in 2020 she was awarded the Order of Dannebrog by her Majesty the Queen of Denmark.

PAOLO VINEIS
Imperial College London, UK

TECHNICAL DEVELOPMENTS ON THE STUDY OF THE HEALTH IMPACT OF ENVIRONMENTAL EXPOSURES

THURSDAY, SEPTEMBER 23rd 15:30 – 16:15

Abstract: With the word "exposome" we refer to the sum of all exposures (from conception onwards) of an individual, with particular focus on critical periods of life, e.g. in utero or in childhood. This is a new branch of environmental epidemiology that couples large population studies with technological developments, including the use of "sensors" and the measurement of molecules in the body. In the Molecular Signatures and Disease Pathways programme at the MRC Centre for Environment and Health we aim to improve our understanding of the causal link between exposures to common environmental contaminants and diseases, by characterizing the individuals' external and internal exposome. Our research involves large population studies with collection of biological samples, using novel study designs and advanced multi-omic technologies (including epigenetics, proteomics, transcriptomics or metabolomics) to identify biomarkers of exposure and/or disease.
The ultimate goal of this research is to reduce uncertainties in assessing the risk related to common environmental contaminants, by characterising the molecular signatures (biomarkers) of these exposures and identifying plausible pathways or networks through which they lead to disease initiation or progression. We are also exploring new approaches to measuring external exposures, including the use of silicone wristbands and other sensors.

Bio: Paolo Vineis is Chair of Environmental Epidemiology at Imperial College London and Visiting Scientist at the Italian Institute of Technology (Genova). He is a leading researcher in the field of molecular epidemiology and his latest research focuses on environmental exposures and intermediate markers from -omic platforms in large epidemiological studies. He also investigates the effects of climate change on non-communicable diseases. Paolo Vineis is coordinator of the European Commission funded Exposomics (on air pollution) and Lifepath (H2020, on socio-economic inequalities and ageing) projects, both based on the development of omic technologies, and is a principal investigator or co-investigator of numerous international projects. He has more than 1000 publications in journals such as *Nature, Science, Lancet*, and *Lancet Oncology*. He is the author of "Health without Borders. Epidemics in the Era of Globalization", Springer 2017.

ZENAN BAO

K.K. Lee Professor and Department Chair in the Department of Chemical Engineering; Courtesy Professor in the Department of Chemistry and Department of Materials science and Engineering - Stanford University; Director of Stanford Wearable Electronics Initiative (eWEAR)

SKIN-INSPIRED ORGANIC ELECTRONICS

THURSDAY, SEPTEMBER 23rd 16:15-17:00

Abstract: Skin is the body's largest organ, and is responsible for the transduction of a vast amount of information. This conformable, stretchable, self-healable and biodegradable material simultaneously collects signals from external stimuli that translate into information such as pressure, pain, and temperature. The development of electronic materials, inspired by the complexity of this organ is a tremendous, unrealized materials challenge. However, the advent of organic-based electronic materials may offer a potential solution to this longstanding problem. Over the past decade, we have developed materials design concepts to add skin-like functions to organic electronic materials without compromising their electronic properties. These new materials and new devices enabled arrange of new applications in medical devices, robotics and wearable electronics. In this talk, I will discuss several projects related to engineering conductive materials and developing fabrication methods to allow electronics with effective electrical interfaces with biological systems, through tuning their electrical as well as mechanical properties. The end result is a soft electrical interface that has both low interfacial impedance as well as match mechanical properties with biological tissue. Several new concepts, such as "morphing electronics" and "genetically targeted chemical assembly - GTCA" will be presented.

Bio: Zhenan Bao is Department Chair and K.K. Lee Professor of Chemical Engineering, and by courtesy, a Professor of Chemistry and a Professor of Material Science and Engineering at Stanford University. Bao founded the Stanford Wearable Electronics Initiate (eWEAR) in 2016 and serves as the faculty director.
Prior to joining Stanford in 2004, she was a Distinguished Member of Technical Staff in Bell Labs, Lucent Technologies from 1995-2004. She received her Ph.D in Chemistry from the University of Chicago in 1995. Shehas over 550 refereed publications and over 65 US patents with a Google Scholar H-Index >160.
Bao is a member of the National Academy of Engineering and the National Academy of Inventors. She is a Fellow of MRS, ACS, AAAS, SPIE, ACS PMSE and ACS POLY.
Bao was selected as Nature's Ten people who mattered in 2015 as a "Master of Materials" for her work on artificial electronic skin. She was awarded the inaugural ACS Central Science Disruptor and Innovator Prize in 2020, the Gibbs Medal by the Chicago session of ACS in 2020, the Wilhelm Exner Medalby Austrian Federal Minister of Science 2018, ACS Award on Applied Polymer Science 2017, the L'Oréal-UNESCO For Women in Science Award in the Physical Sciences 2017, the AICHE Andreas Acrivos Award for Professional Progress in Chemical Engineering in 2014, ACS Carl Marvel Creative Polymer Chemistry Award in 2013, ACS Cope Scholar Award in 2011, the Royal Society of Chemistry Beilby Medal and Prize in 2009, the IUPAC Creativity in Applied Polymer Science Prize in 2008.
Bao is a co-founder and on the Board of Directors for C3 Nano and PyrAmes, both are silicon-valley venture funded start-ups. She serves as an advising Partner for Fusion Venture Capital.

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Writing field size	1000μm□	1000μm□	500μm□	500μm□
Min. / Max. Field size	Min 100μm square Max (Option) 3000μm square			
Scan clock	Max 200MHz			
Min. beam position	0.1nm (at standard field)			
Max. sample size	200mm wafer / 300mm wafer			
Max. writing area	200mm square / 300mm square			
Loading system	Single autoloader Multi autoloader 300mm FOUP robot loader PEB robot loader			
Software	elms	Beam conditions Exposure schedule Pattern data converter Account management Python scripting		

ELIONIX, INC.
3-7-6 Motoyokoyama-cho Hachioji Tokyo 192-0063 Japan

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20. – 23. September 2021
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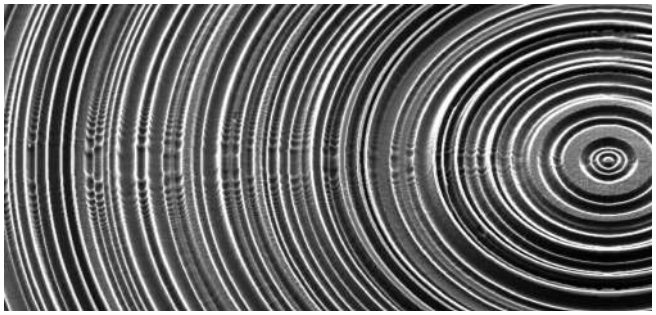
Grayscale Lithography



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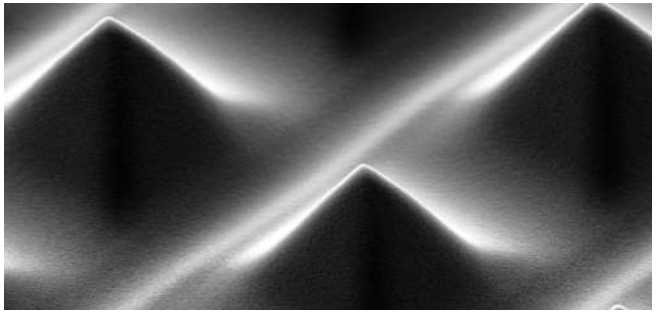
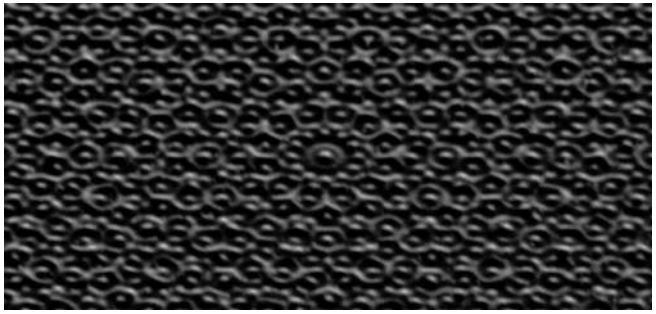


Grayscale Nanophotonics



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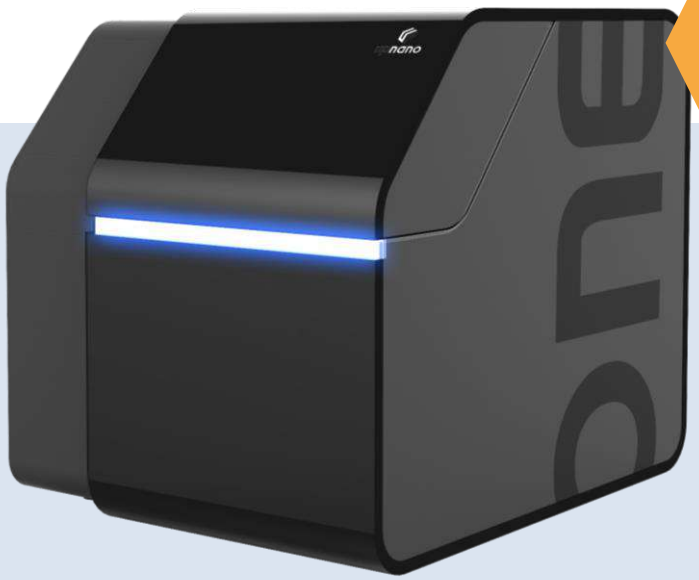
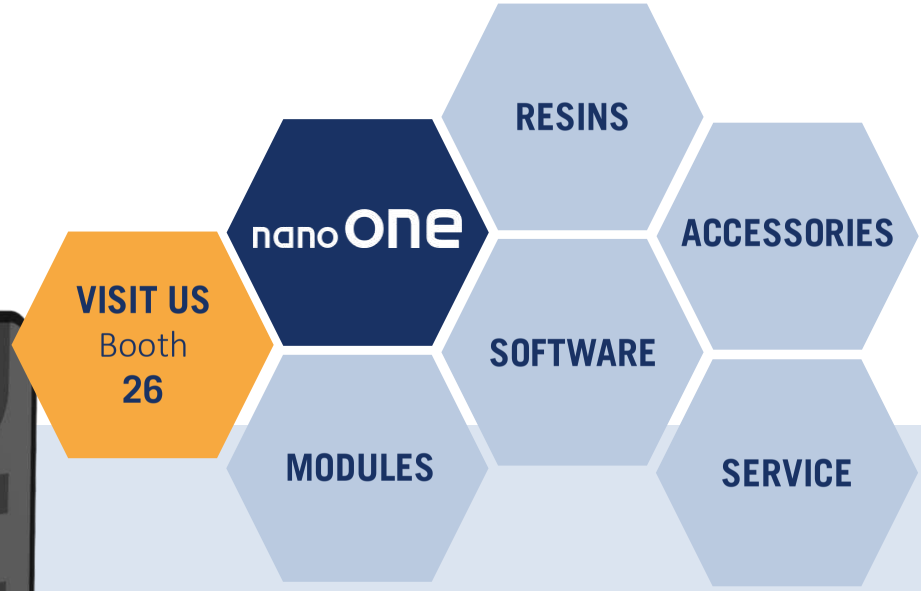
NEW POSSIBILITIES
IN HIGH RESOLUTION 3D PRINTING





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DETAILED PROGRAM

Monday, 20 September

8:45am	**International School - Introduction** *Aula Magna, Politecnico di Torino @ Lingotto*
9am	**International School - Anja Boisen** *Aula Magna, Politecnico di Torino @ Lingotto* Chaired by: Dr. Filippo Pisano and Prof. Luciano Scaltrito
	Micro and Nano Engineering for drug characterization, patient monitoring, and oral drug delivery » Anja Boisen (Technical University of Denmark)
10:30am	**International School - Coffee Break**
10:45am	**International School - John A. Rogers** *Aula Magna, Politecnico di Torino @ Lingotto* Chaired by: Dr. Filippo Pisano and Prof. Luciano Scaltrito
	Flexible Electronic and Microfluidic Systems for the Human Body » John A. Rogers (Northwestern University)
12:15pm	**International School - Lunch**
1:15pm	**International School - Boris N. Chichkov** *Aula Magna, Politecnico di Torino @ Lingotto* Chaired by: Dr. Filippo Pisano and Prof. Luciano Scaltrito
	Laser printing of nanoparticles and living cells » Boris N. Chickov (Institute of Quantum Optics, Leibniz Universität Hannover)
2:45pm	**International School - Coffee Break**
3pm	**International School - Evangelos Gogolides** *Aula Magna, Politecnico di Torino @ Lingotto* Chaired by: Dr. Filippo Pisano and Prof. Luciano Scaltrito
	Superhydrophobic self-cleaning surfaces: Principles, fabrication, characterization, durability » Evangelos Gogolides (NCSR, Institute of Nanoscience and Nanotechnology)
4:30pm	**International School - Conclusion**

Tuesday, 21 September

8:30am	**Opening** *Auditorium*
8:45am	**Plenary 1: Andrea Onetti** *Auditorium* Chaired by: Prof. Massimo De Vittorio and Prof. Matteo Cocuzza
	Sensors: Cogito, Ergo Sum » Andrea Onetti (Analog, MEMS and Sensors Group Vice President; MEMS Sensors Division General Manager; STMicroelectronics)
9:30am	**Plenary 2: John A. Rogers** *Auditorium* Chaired by: Prof. Massimo De Vittorio and Prof. Matteo Cocuzza
	Mechanical Assembly as a Route to 3D Micro/nanosystems » John A. Rogers (Department of Materials Science and Engineering; Northwestern University, USA)

Continued from **Tuesday, 21 September**

10:15am **Coffee Break**

10:45am **A1 -**
Session A1: Imprinting & Soft Lithography
Auditorium
Chaired by: Dr. Vincenzo Mastronardi and Prof. Pietro Asinari

10:45am **Energy-selective plasmonic nanoreactors**
» Dr. Eitan Oksenberg[1], Dr. Ilan Shlesinger[1], Dr. Angelos Xomalis[2], Dr. Andrea Baldi[3], Prof. Jeremy Baumberg[4], Dr. A. Femius Koenderink[1], Prof. Erik Garnett[1] (1. Center for Nanophotonics, AMOLF, Science Park 104, 1098 XG, Amsterdam, The Netherlands, 2. NanoPhotonics Centre, Cavendish Laboratory, Department of Physics, JJ Thompson Avenue, University of Cambridge, Cambridge, CB3 0HE, United Kingdom, 3. DIFFER – Dutch Institute for Fundamental Energy Research, De Zaale 20, 5612 AJ, Eindhoven, The Netherlands; Department of Physics and Astronomy, Vrije Universiteit Amsterdam, De Boelelaan 1081, 1081 HV, Amsterdam, The Netherlands, 4. University of Cambridge)

11:15am **Printing Diffractive Optics, Lightguide Gratings and Metalenses with High Aspect Ratio Nanofeatures using Nanoimprint Lithography and High Refractive Index Nanoparticle Inks**
» Mr. Vincent Einck[1], Ms. Mahsa Torfeh[1], Mr. Andrew McClung[1], Dr. Dae Eon Jung[1], Dr. Mahdad Mansouree[1], Prof. Amir Arbabi[1], Prof. James Watkins[1] (1. University of Massachusetts)

11:30am **Fabrication of an antireflective structure on a lenticular lens array made of high hardness Ultraviolet curable resin**
» Mr. Katsuyuki Yatagawa[1], Prof. Jun Taniguchi[1], Mr. Shin Hiwasa[2] (1. Tokyo University of Science, 2. Autex, Inc.)

11:45am **Blu-ray Drive Based Maskless High-Throughput and Large-Area Spin Writing Microlithography System**
» Prof. Edwin Hwu[1], Mr. Martin Voss[1], Dr. Roman Slipets[1], Mr. Tien-Jen Chang[1], Prof. Anja Boisen[1] (1. Technical University of Denmark)

12pm **Fabrication of films with surface hierarchical micro/nano structures for plastic injection molding**
» Ms. Olga Muntada-López[1], Dr. Patrícia Sousa[2], Dr. Jordi Llobet[1], Mr. Carlos Saez[3], Ms. Nekane Lozano[3], Prof. Francesc Perez-Murano[4] (1. IMB-CNM (CSIC), 2. INL- International Iberian Nanotechnology Laboratory, 3. EURECAT, Centre Tecnològic de Catalunya, 4. Institute of Microelectronics)

12:15pm **One-step printing of metahologram using nanoparticle-embedded resin**
» Mr. Joohoon Kim[1], Mr. Dong Kyo Oh[1], Prof. Junsuk Rho[1] (1. Pohang University of Science and Technology (POSTECH))

12:30pm **UV-assisted embossing of microgel shapes with varying geometries for oral macromolecule delivery**
» Ms. Shahana Bishnoi[1], Dr. Ritika Singh Petersen[2], Dr. Lasse Højlund Eklund Thamdrup[1], Prof. Stephan Sylvest Keller[3], Prof. Leticia Hotsa-Rigau[1] (1. Technical University of Denmark, 2. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 3. DTU Nanolab, Technical University of Denmark)

10:45am **B1 -**
Session B1: Micro-Nanofab for photonics
Sala 500
Chaired by: Dr. Tiziana Stomeo and Francesco Madaro

10:45am **Hyperbolic Nanoparticles Based Dual Function Platform for SERS and Thermoplasmonics**
» Dr. Yingqi Zhao[1], Dr. Aliaksandr Hubarevich[2], Dr. Jianan Huang[3], Ms. Marzia Iarossi[1], Dr. Tetiana Borzda[2], Dr. Francesco Tantussi[2], Dr. Francesco De Angelis[1] (1. Istituto Italiano di Tecnologia, Genova, Italy, 2. Istituto Italiano di Tecnologia, 3. University of Oulu)

11am **Plasmonic mechanically controlled break junctions**
» Dr. Florian Laible[1], Dr. Kai Braun[2], Mr. Martin Eberle[2], Prof. Dieter P. Kern[1], Prof. Alfred J. Meixner[2], Prof. Monika Fleischer[1] (1. University of Tübingen Institute for Applied Physics and Center LISA+, 2. University of Tübingen Institute of Physical and Theoretical Chemistry and Center LISA+)

Continued from **Tuesday, 21 September**

11:15am **Biomimetic colour engineering from nature to applications**
» Prof. Silvia Vignolini[1] (1. University of Cambridge)

11:45am **Electron Beam Induced Deposition of plasmonic nanopillars on nanometric tapered optical fibers for optical characterization of single plasmonic structures**
» Dr. Antonio Balena[1], Dr. Filippo Pisano[1], Dr. Marco Pisanello[1], Dr. Ferruccio Pisanello[1], Prof. Massimo De Vittorio[1], Dr. Rosa Mach Batlle[1], Dr. Cristian Ciracì[1], Ms. Marianna D'Amato[2], Dr. Chengjie Ding[2], Prof. Alberto Bramati[2] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 2. Laboratoire Kastler Brossel, Sorbonne Université, CNRS,ENS-PSL)

12pm **Design and Fabrication of a Photonic Waveguide Switch Based on a VO2 Film**
» Mr. Zixiong LI[1], Dr. Sanaz Rastjoo[1], Ms. Annika Ewy[2], Mr. Xiao WANG[3], Prof. Alfred Ludwig[3], Prof. Manfred Kohl[1] (1. Institute of Microstructure Technology, Karlsruhe Institute of Technology(KIT)), 2. Institute of Microstructure Technology (IMT), Karlsruhe Institute of Technology (KIT), 3. Institute for Materials, Ruhr-Universität Bochum (RUB))

12:15pm **Fabrication of light management nano-structures as an strategy to enhance light absorption and to reduce reflectivity for photovoltaics**
» Dr. Jordi Llobet[1], Dr. Patrícia Sousa[2], Mr. Helder Fonseca[2], Mr. Ashish Prajapati[3], Mr. Ankit Chauhan[3], Dr. Carlos Calaza[2], Dr. Gil Shalev[3] (1. Institute of Microelectronics of Barcelona, 2. INL- International Iberian Nanotechnology Laboratory, 3. Ben Gurion University of the Negev)

12:30pm **Miniaturised 3D monolithic optical system for particles' sensor 'on-a-chip'**
» Dr. Rosanna Toscano[1], Dr. Andrea Lovera[1], Dr. Gabriel Jobert[2], Dr. Pierre Barritault[2], Dr. Maryse Fournier[2], Dr. Cyrielle Monpeurt[2], Dr. Pietro Bernasconi[1], Dr. Daniele Braga[1] (1. Femtoprint SA, Muzzano, 6933, Switzerland, 2. CEA-LETI Minatec, Université Grenoble-Alpes, F-38000 Grenoble, France)

10:45am **C1 -**
Session C1: MEMS/NEMS Technology
Sala Londra
Chaired by: Dr. Francesco Rizzi and Prof. Hubert Brueckl

10:45am **Non-invasive swallowing monitoring system based on soft and flexible piezoelectric sensor**
» Dr. Lara Natta[1], Dr. Francesco Guido[2], Dr. Luciana Algieri[1], Dr. Vincenzo Mastronardi[1], Dr. Francesco Rizzi[1], Dr. Elisa Scarpa[1], Dr. Antonio Qualtieri[1], Dr. Maria Teresa Todaro[3], Dr. Vincenzo Sallustio[4], Prof. Massimo De Vittorio[5] (1. Istituto Italiano di Tecnologia, 2. Piezoskin, 3. Istituto di nanotecnologia, CNR, 4. ASL Lecce, 5. Istituto)

11am **Fabrication method for nearly-perfect circular channel structures using Buried Channel Technology and HNA etchant**
» Mr. Qihui Yu[1], Mr. Xing An[2], Mr. Henk-Willem Veltkamp[1], Mr. Meint de Boer[1], Dr. Remco Wiegerink[1], Prof. Joost Lötters[3] (1. MESA+ Institute for Nanotechnology / University of Twente, 2. MESA+ Institute for Nanotechnology, Enschede, The Netherlands, 3. MESA+ Institute for Nanotechnology / University of Twente / Bronkhorst High-Tech BV)

11:15am **Laser-induced forward transfer of functional SU-8 microparts**
» Mr. Zhiwei Yang[1], Dr. Giovanni Boero[1], Prof. Jürgen Brugger[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL))

11:30am **Triangular Springs for Large Displacements of Comb-Drive Actuators**
» Mrs. Lisa Schmitt[1], Mr. Philip Schmitt[2], Prof. Martin Hoffmann[1] (1. Chair of Microsystems Technology, Ruhr University Bochum, 2. Ruhr-Universtität Bochum)

11:45am **Wineglass mode MEMS gyroscopes with single crystal materials**
» Prof. Toshiyuki Tsuchiya[1] (1. Kyoto University)

12:15pm **Spectral characterisation and tuning effect of picometre-scale thermomechanical motion for silicon NEMS resonators**
» Mr. James Fernando[1], Mr. Fang Ben[1], Dr. Jun-Yu Ou[1], Dr. Yoshishige Tsuchiya[1] (1. University of Southampton)

Continued from **Tuesday, 21 September**

12:30pm

The Scaling of Transduction from MEMS to NEMS: Design Rules, Instabilities, and Possibilities

» Mr. Konstantinos Tsoukalas[1], Prof. Søren Stobbe[2] (1. DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, Ørsteds Plads 343, Kgs. Lyngby, 2800, Denmark, 2. DTU Fotonik, Technical University of Denmark)

12:45pm **Lunch Break**

2pm **A2 -**

Session A2: 3D Lithographies

Auditorium

Chaired by: Dr. Tiziana Stomeo and Dr. Anpan Han

2pm

Ultra-thick positive photoresist layers for maskless grayscale lithography

» Mr. Dominique Collé[1], Ms. Gerda Ekindorf[1], Dr. Peter Heyl[1] (1. Heidelberg Instruments)

2:15pm

Fabrication of 3D closed-wall shapes using Focused Electron Beam Induced Deposition: a nano-cone study

» Ms. Aya Mahgoub[1], Mr. Richard de Jong[1], Mr. Luc van Kessel[1], Dr. Cornelis W Hagen[1] (1. Delft University of technology)

2:30pm

Reference Electrodes with 2PP structured Hydrogel for Biomass Detection in a Micro-Bioreactor

» Mr. Sven Meinen[1], Mr. Steffen Brinkmann[2], Mrs. Bassant Elbardisy[3], Mr. Kevin Viebrock[4], Prof. Rainer Krull[4], Prof. Henning Menzel[3], Prof. Andreas Dietzel[2] (1. Institute of Microtechnology, Technische Universität Braunschweig, 2. Institute of Microtechnology at TU Braunschweig, 3. Institute for Technical Chemistry at Technische Universität Braunschweig, 4. Institute of Biochemical Engineering at Technische Universität Braunschweig)

2:45pm

Non-planar two-photon lithography on tapered fibers to realize implantable neural interfaces for simultaneous multipoint optical control and electrical recording

» Dr. Antonio Balena[1], Dr. Barbara Spagnolo[1], Mr. Marco Bianco[1], Dr. Marco Pisanello[2], Dr. Filippo Pisano[1], Dr. Alessandro Rizzo[3], Dr. Leonardo Sileo[1], Dr. Francesco De Nuccio[4], Prof. Domenico Lofrumento[4], Dr. Ferruccio Pisanello[1], Prof. Massimo De Vittorio[3], Prof. Bernardo L. Sabatini[5] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 2. Istituto Italiano di Tecnologia, 3. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies - Università del Salento, 4. Università del Salento, 5. Massachusetts General Hospital and Harvard Medical School)

3pm

3D Laser Nanoprinting: Recent Progress

» Prof. Martin Wegener[1] (1. Institute of Applied Physics, Karlsruhe Institute of Technology (KIT), 76128 Karlsruhe, Germany)

2pm **B2 -**

Session B2: Micro-Nanofab for electronics

Sala 500

Chaired by: Prof. Matteo Cocuzza and Prof. Michael Kraft

2pm

Fast-response, transient NO2 sensing with ultra-low-power, self-heated carbon nanotube field-effect transistors

» Mr. Seoho Jung[1], Dr. Cosmin Roman[1], Prof. Christofer Hierold[1] (1. ETH Zurich)

2:15pm

Plasma atomic layer etching of high-k layers on WS2

» Dr. Jean-Francois de Marneffe[1], Dr. Daniil Marinov[1], Dr. Andy Goodyear[2], Mr. Pieter-Jan Wyndaele[3], Dr. Benjamin Groven[1], Dr. Souvik Kundu[1], Dr. Mike Cooke[4], Prof. Stefan De Gendt[3] (1. imec v.z.w., 2. Oxford Instruments Plasma Technology, 3. KU Leuven, 4. Oxford Instruments)

Continued from **Tuesday, 21 September**

2:30pm

Nanoscale effects in organic transistors for bio- and neuroelectronics via thin film growth, interfacial chemistry and patterning

» Prof. Fabio Biscarini[1], Dr. Sofia Drakopoulou[2], Dr. Mauro Murgia[3], Dr. Cristiano Albonetti[4], Dr. Michele Di Lauro[5], Dr. Michele Bianchi[5], Dr. Stefano Carli[5], Dr. David Papo[6], Dr. Anna De Salvo[7], Dr. Alice Lunghi[7], Dr. Gioacchino Calandra[5], Dr. Deniz Gulsen Saygin[5], Dr. Meenu Selvaraj[8], Dr. Marcello Berto[8], Dr. Matteo Sensi[8], Dr. Pierpaolo Greco[8], Dr. Carlo Bortolotti[8], Dr. Luciano Fadiga[7] (1. Center for Translational Neurophysiology, Istituto Italiano di Tecnologia, Ferrara, Italy & Dept. of Life Sciences-Università di Modena e Reggio Emilia Via Campi 103, 41125 Modena, Italy, 2. Dept. of Life Sciences-Università di Modena e Reggio Emilia Via Campi 103, 41125 Modena, Italy & Dept. of Physics, Informatics and Mathematics - Università di Modena e Reggio Emilia, Via Campi 213/a, 41125 Modena, Italy, 3. Center for Translational Neurophysiology - Istituto Italiano di Tecnologia, Via Fossato di Mortara 17-19, 44121 Ferrara, Italy & CNR–ISMN, Institute for Nanostructured Materials, Via P. Gobetti 101, I-40129 Bologna, Italy, 4. CNR–ISMN, Institute for Nanostructured Materials, Via P. Gobetti 101, I-40129 Bologna, Italy, 5. Center for Translational Neurophysiology, Istituto Italiano di Tecnologia, Ferrara, Italy, 6. Center for Translational Neurophysiology, Istituto Italiano di Tecnologia, Ferrara, Italy Dept. of Chemistry-Università di Catania, V.le A. Doria 6, 95125 Catania, Italy, 7. Center for Translational Neurophysiology, Istituto Italiano di Tecnologia, Ferrara, Italy Neurosciences and Rehabilitation Dept-Università di Ferrara, Via Fossato di Mortara 17-19, 44121 Ferrara, Italy, 8. Dept. of Life Sciences-Università di Modena e Reggio Emilia Via Campi 103, 41125 Modena, Italy)

3pm

Vertical CNT based Supercapacitors for 3D Integration of On-Chip Energy Storage

» Mr. Hung-Wei Li[1], Dr. Victoria Manzi[1], Mr. Sadegh Kamaei Bahmaei[1], Mr. Pooya Dehghan[2], Dr. Ali Saeidi[1], Dr. Clara F. Moldovan[1], Prof. Adrian M. Ionescu[1] (1. Ecole Polytechique Fédérale de Lausanne, 2. Ecole Polytechnique Fédérale de Lausanne (EPFL))

3:15pm

Compatibility of CMOS technology with QD-based devices

» Mr. Alberto del Moral[1], Dr. Esteve Amat[2], Dr. David Quirion[1], Dr. Nuria Torres[1], Dr. Hans-Juergen Engelmann[3], Dr. Johannes von Borany[3], Dr. Karl-Heinz Heinig[3], Dr. Guido Rademaker[4], Dr. Marie-Line Pourteau[4], Dr. Raluca Tiron[4], Prof. Joan Bausells[5], Dr. Francesc Perez-Murano[5] (1. Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), 2. IMB CNM CSIC, 3. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, 01328, Germany, 4. Univ. Grenoble Alpes, CEA, LETI, F-38000 Grenoble, France, 5. IMB-CNM (CSIC))

2pm

C2 -

Session C2: Fluidic Technologies

Sala Londra

Chaired by: Dr. Lara Natta and Annamaria Gerardino

2pm

Liquid biopsy in cancer: Technical challenges and clinical applications

» Prof. Catherine Alix-Panabières[1] (1. Laboratory of Rare Human Circulating Cells (LCCRH), University Medical Centre of Montpellier, Montpellier, France & CREEC/CANECEV, MIVEGEC (CREES) University of Montpellier, CNRS, IRD, Montpellier, France)

2:30pm

NeuroExaminer: a microfluidic device for whole-brain in vivo imaging

» Ms. Dominika Schrödter[1], Mr. Jakob von Trotha[2], Prof. Reinhard Köster[2], Prof. Andreas Dietzel[3] (1. Institute of Microtechnology, Technische Universität Braunschweig, 2. Technische Universität Braunschweig, 3. Institute of Microtechnology at TU Braunschweig)

2:45pm

Label free capture and release of cells by using a microfluidic system, conical-hole filter and micro-particles

» Mr. Feng Liang[1], Dr. Juan Peng[1], Dr. Jian Shi[2], Dr. Li Wang[2], Dr. Carole Aimé[1], Prof. Yong Chen[1] (1. Ecole Normale Supérieure, 2. MesoBioTech)

3pm

Characterizing size and zeta potential of biocolloids with a salinity gradient

» Mr. Rodolphe Marie[1], Mr. Jonas Nyvold Pedersen[2], Mr. Martin Kjærulf Rasmussen[2] (1. DTU Nanotech, 2. Technical University of Denmark)

Continued from **Tuesday, 21 September**

3:15pm

Pillar Supported Soft X-Ray Compatible Liquid Cells

» Dr. Alokik Kanwal[1], Dr. Robert Ilic[1], Dr. Glenn Holland[1], Dr. Subhrangsu Mukherjee[1], Dr. Eliot Gann[1], Dr. Dean DeLongchamp[1], Dr. J. Alexander Liddle[1] (1. National Institute of Standards and Technology)

3:30pm

Poster Session - Odd numbers - Advanced Patterning

PA1-High throughput fabrication of plasmonic colors on flexible substrates

» Ms. Christine Prietl[1], Mr. Stephan Ruttloff[1], Dr. Susanne Schweitzer[1], Mr. Florian Kolb[1], Dr. Anja Haase[1] (1. JOANNEUM RESEARCH Forschungsgesellschaft mbH)

PA3-Impact of electron scattering in EUV mask absorber materials

» Prof. Chun-Hung (Jimmy) Liu[1], Mr. Hsiang-Yi Hsieh[2], Prof. Kuen-Yu Tsai[3], Mr. Shuen-Ping Wang[1], Mr. Kuan-Fu Huang[1], Mr. Wei-Yung Hsu[1], Mr. Fei-Ming Huang[1], Mr. Chih-Chiang Wu[1], Ms. Yun-Chin Li[1], Mr. Chieh-Sheng Lee[1] (1. Interdisciplinary Program of Green and Information Technology, National Taitung University, 2. Department of Applied Science, National Taitung University, 3. Department of Electrical Engineering, National Taiwan University)

PA5-Direct Micro\Nano-imprint on Chalcogenide Glass Substrate for Optical Applications

» Prof. Mark Schvartzman[1], Ms. Sivan Tzadka[1], Mrs. Natali Ostrovsky[1], Mrs. Esti Toledo[1], Dr. Guillaume Le Saux[1], Mr. Evyatar Kassis[2], Dr. Shay Joseph[2] (1. Ben Gurion University in the Negev, 2. Optical Component Center, Rafael Advanced Defense Systems)

PA7-A study of gate recess-width effect on the DC/RF performance of InP-based InAlAs/InGaAs HEMTs

» Dr. Yuying Xie[1], Dr. Mingsai Zhu[1], Prof. Yifang Chen[1] (1. Fudan University)

PA9-Etch behaviour of an Al2O3 hard mask in Silicon Deep Reactive Ion Etching

» Dr. Martin Drost[1], Dr. Steffen Marschmeyer[1], Mr. Mirko Fraschke[1], Dr. Oksana Fursenko[1], Mr. Florian Baerwolf[1], Dr. Ioan Costina[1], Dr. Marco Lisker[1] (1. IHP - Leibniz-Institut für innovative Mikroelektronik)

PA11-High-resolution etching of nanophotonic cavities using a chromium hard mask

» Mr. Ali Nawaz Babar[1], Mr. Marcus Albrechtsen[1], Dr. Babak Vosoughi Lahijani[1], Prof. Rasmus Ellebæk Christiansen[2], Prof. Jesper Mørk[1], Prof. Henri Jansen[3], Prof. Søren Stobbe[1] (1. DTU Fotonik, Technical University of Denmark, 2. Department of Mechanical Engineering, Technical University of Denmark., 3. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark)

PA13-3D printing of bioinspired super black microstructures

» Mr. Alexandre Wetzel[1], Ms. Nuria del Castillo Iniesta[1], Dr. Einstom Engay[1], Dr. Kirstine Berg-Sørensen[2], Dr. Ada-Ioana Bunea[1], Prof. Rafael Taboryski[3] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Health Tech - Department of Health Technology Technical University of Denmark, 3. DTU Nanolab)

PA15-Implementation of concave vacuum chuck in laser interference lithography to reduce period variation on large area gratings

» Mr. Ratish Rao Nagaraj Rao[1] (1. University of Lyon, UJM saint etienne, Laboratoire Hubert Curien UMR 5516)

PA17-The effects of flame-treated PDMS robust micro-structure on the enhancement of hydrophobicity and bacterial anti-adhesion properties

» Dr. Nithi Atthi[1], Ms. Pemika Eiamworasin[2], Ms. Apitsara Horbud[2], Dr. Suthichai Samart[2], Prof. Sutee Chutipaijit[2], Mr. Witsaroot Sripumkhai[1], Ms. Pattaraluck Pattamang[1], Dr. Pawasuth Saengdee[1], Mrs. Suphichaya Radomyos[1], Mrs. Oraphan Thongsook[1], Dr. Wutthinan Jeamsaksiri[1], Dr. Nongluck Houngkamhang[2] (1. National Electronics and Computer Technology Center, 2. King Mongkut's Institute of Technology Ladkrabang)

Continued from **Tuesday, 21 September**

PA19-A Programmable Gas Injection System for 3D Ice Lithography

» Mr. Affan Waafi[1], Dr. Rubaiyet Haque[1], Dr. Giuliano Bissacco[1], Dr. Anpan Han[1] (1. Technical University of Denmark)

PA21-Thermal and soft nanoimprint lithography with ultra-high resolution and feature size of 10 nm

» Mr. ASHISH PANDEY[1], Ms. Sivan Tzadka[2], Mr. Dor Yehuda[3], Prof. Mark Schvartzman[4] (1. Department of Materials Engineering, Ilse Katz Institute for the Nanoscale Science and Technology, Ben-Gurion University of the Negev, 2. Ben Gurion University of the Negev, 3. BEN GURIION UNIVERSTIY OF NEGEV, 4. Ben Gurion University in the Negev)

PA23-Flexible and reusable parylene C masks technology for applications in cascade impactor air quality monitoring systems

» Dr. Lorenzo Vigna[1], Dr. Martin Gottschalk[2], Dr. Alessio Verna[1], Dr. Simone Luigi Marasso[1], Prof. Stefan Seeger[2], Prof. Fabrizio Pirri[1], Prof. Matteo Cocuzza[1] (1. Politecnico di Torino, 2. Bundesanstalt für Materialforschung und -prüfung)

PA25-GaAs/AlGaAs coreshell wires integrated on dewetted SiGe Mie resonators

» Mr. Luca Fagiani[1], Ms. Chiara Barri[2], Dr. Erfan Mafakheri[3], Dr. Monica Bollani[3], Dr. Alexey Fedorov[4], Dr. Marco Abbarchi[5], Mr. Mohammed Bouabdellaoui[5], Dr. Francesca Intonti[6], Ms. Nicoletta Granchi[6], Dr. Andrea Ristori[6], Dr. Francesco Biccari[6], Dr. Michele Montanari[6], Dr. Stefano Sanguinetti[6] (1. Politecnico di Milano, IFN-CNR, 2. Politecnico di Milano, 3. IFN-CNR, L-NESS, 4. IFN-CNR LNESS Laboratory, 5. Aix Marseille University, 6. LENS, University of Florence)

PA27-Crystal orientation alignment marks for (100) silicon wafers

» Mr. Michiel Gidts[1], Dr. Chen Wang[1], Prof. Jean-Pierre Locquet[1], Prof. Michael Kraft[1] (1. University of Leuven)

PA29-Controlling undercuts and side-wall angles in e-beam lithography (EBL)

» Dr. Silvia Diewald[1], Prof. Gernot Goll[1] (1. Karlsruhe Institute of Technology (KIT))

PA31-Hierarchical master copies for roll to roll UV-NIL by combining photolithography and laser-induced self-organizing processes

» Dr. Joachim Zajadacz[1], Dr. Pierre Lorenz[1], Dr. Martin Ehrhardt[1], Dr. Klaus Zimmer[1] (1. Leibniz Institute of Surface Engineering (IOM))

PA33-Plasmonic Nanogap Patterns by Computational Block Copolymer Self-Assembly

» Prof. sang-kon kim[1] (1. hongik university)

PA35-Smoothening of Si waveguide sidewalls through combinations of H2 annealing and Si epitaxial regrowth for photonics applications

» Dr. Laurène Youssef[1], Dr. Camille Petit-Etienne[1], Dr. Jean-Michel Hartmann[2], Dr. Erwine Pargon[1] (1. Univ. Grenoble Alpes, CNRS, CEA/LETI-Minatec, Grenoble INP, LTM, F-38054 Grenoble, France, 2. Univ. Grenoble Alpes, CEA-LETI, Minatec, 38054 Grenoble, France)

PA37-Negative-tone plasma-development of poly(methyl methacrylate) for grayscale e-beam lithography

» Mr. Furkan Ayhan[1], Mr. Thomas Mortelmans[2], Dr. DIMITRIOS KAZAZIS[2], Dr. Yasin Ekinci[2] (1. Centre Suisse d'Électronique et de Microtechnique, 2. Paul Scherrer Institute)

PA39-Large area nanopatterning and industrial resist testing with an in-lab EUV Dual Beamline

» Mr. Bernhard Lüttgenau[1], Dr. Sascha Brose[1], Dr. Serhiy Danylyuk[2], Dr. Jochen Stollenwerk[1], Prof. Peter Loosen[2], Prof. Carlo Holly[1] (1. RWTH Aachen University, Chair for Technology of Optical Systems, Aachen, 52074, Germany, 2. Fraunhofer Institute for Laser Technology, Aachen, 52074, Germany)

PA41-Compact metrology tool for nanolayer characterization and materials analysis in the extreme ultraviolet

» Ms. Sophia Schröder[1], Mr. Henning Heiming[1], Mr. Lukas Bahrenberg[1], Dr. Sascha Brose[1], Dr. Serhiy Danylyuk[2], Dr. Jochen Stollenwerk[1], Prof. Peter Loosen[2], Prof. Carlo Holly[1] (1. RWTH Aachen University, Chair for Technology of Optical Systems, Aachen, 52074, Germany, 2. Fraunhofer Institute for Laser Technology, Aachen, 52074, Germany)

Continued from **Tuesday, 21 September**

PA43-A study of optical field manipulation by a buried metasurface in InGaAs/InAlAs heterojunction in NIR

» Ms. Xiaohang Pan[1], Mr. Bo Feng[1], Prof. Yifang Chen[2] (1. School of Information Science and Technology, Fudan University, 2. Fudan University)

PA45-Nanofabrication of free-standing Si membranes with controllable thicknesses

» Ms. Yijie Li[1], Mr. Chengyang Mu[1], Mr. Xujie Tong[1], Prof. Yifang Chen[2] (1. School of Information Science and Technology, Fudan University, 2. Fudan University)

PA47-Two-step replicated Nano Optical Pattern on curved Surfaces for Spectrometer Components

» Mr. Johannes Wolf[1], Dr. Susanne Grützner[1], Dr. Rolón Daniel A.[2], Dr. Kühne Stefan[3], Dr. Kastl Paul[4], Dr. Oberschmidt Dirk[2], Dr. Bernd Löchel[5], Dr. Arne Schleunitz[6], Dr. Grützner Gabi[7] (1. micro resist technology GmbH, Köpenicker Straße 325, D-12555 Berlin, Germany, 2. Berlin Institute of Technology, Department Micro and Precision Devices, Pascalstrasse 8-9, D-10587 Berlin, Germany, 3. Berlin Institute of Technology, Department Micro & Precision Devices, Pascalstrasse 8-9, D-10587 Berlin, Germany, 4. Berlin Institute of Technology, Department Micro & Precision Devices, Pascalstraße 8-9, D-10587 Berlin, Germany, 5. micro resit technology GmbH, 6. micro resist technology GmbHKöpenicker Straße 325, D-12555 Berlin, Germany, 7. micro resist technology GmbH, Köpenicker Strasse 325, D-12555 Berlin, Germany)

PA49-Shaping organic printed films with surface energy engineering

» Ms. Sara Sequeira[1], Dr. Verónica Romão[1], Dr. Rui Vilarinho[2], Dr. Joaquim Moreira[2], Dr. Susana Cardoso de Freitas[1], Dr. Helena Alves[3], Dr. Diana Leitão[1] (1. Instituto de Engenharia de Sistemas e Computadores – Microsistemas e Nanotecnologias (INESC MN), 2. IFIMUP and Physics and Astronomy Department. Faculty of Sciences of University of Porto, 3. CICECO, Univerisdade de Aveiro)

PA51-Wearable enzymatic sensor for glucose monitoring on flexible polymer foil

» Ms. Annika Müsse[1], Mr. Francesco La Malfa[1], Dr. Virgilio Brunetti[2], Dr. Antonio Qualtieri[2], Dr. Francesco Rizzi[2], Prof. Massimo De Vittorio[2] (1. Università del Salento, 2. Istituto Italiano di Tecnologia)

PA53-Large-Scale Nanopillar Arrays in Single Crystal Diamond with Integrated Gold Microelectrodes for Biosensing Applications

» Ms. Elena Losero[1], Dr. Christophe Galland[1], Dr. Hossein Babashah[1], Prof. Niels Quack[1] (1. EPFL)

PA55-Micro organic light-emitting diode arrays grown by solution processed area-selective growth

» Ms. Xiaojie Zhou[1], Ms. Yichen Cai[1], Mr. Mingsheng Xu[1], Dr. Laigui Hu[1], Prof. Ran Liu[1], Dr. Wenchong Wang[2] (1. Fudan University, 2. University of Muenster)

PA57-Nanofabrication of 30 nm resolution testing cards by e-beam lithography and electroplating for hard x-ray imaging

» Mr. Chengyang Mu[1], Mr. Xujie Tong[2], Ms. Yijie Li[1], Prof. Yifang Chen[1] (1. Fudan University, 2. School of Information Science and Technology, Fudan University)

PA59-Water Wettability and Microfluidics of Microstructured Surfaces

» Mr. Marc Serra-Peralta[1], Mr. Gerard Martí[2], Dr. Gemma Rius[1] (1. Institute of Microelectronics of Barcelona IMB-CNM-CSIC, 2. Universitat Autònoma de Barcelona UAB)

PA61-Nanoimprinting of Microoptical Elements starting from a 3D-Printed Master Template

» Ms. Sonja Kopp[1], Dr. Michael Mühlberger[1], Dr. Jonas Wiedenmann[2], Dr. Benedikt Stender[2] (1. Profactor GmbH, 2. Multiphoton Optics)

PA63-Developing a Hall Bar Configuration for semiconducting Nanowires

» Mr. Ahmad Echresh[1], Dr. Himani Arora[1], Dr. Slawomir Pruncal[1], Dr. Lars Rebohle[1], Dr. Yordan M. Georgiev[1] (1. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, 01328, Germany)

Continued from **Tuesday, 21 September**

PA65-pH dependence of X-ray-radiolysis-induced synthesis and immobilization of nickel nano/microparticles

» Mr. Shunya Saegusa[1], Dr. Ikuya Sakurai[2], Prof. Ikuo Okada[2], Dr. Mari Ishihara[3], Prof. Yuichi Utsumi[1], Dr. Akinobu Yamaguchi[4] (1. University of Hyogo, 2. Nagoya University, 3. Hyogo Prefectural Institute of Technology, 4. u)

PA67-Simulation, manufacturing and characterization of Pt/Au structures for direct heating and temperature measurements of fluids in mini/microchannels

» Mr. Mark Schepperle[1], Prof. Peter Woias[1] (1. Albert-Ludwigs-Universität Freiburg)

PA69-Manipulating the magnetic behaviour in thin film microstructures via nanosized ordered defects

» Mr. Pedro Araújo[1], Dr. Rita Macedo[1], Dr. Susana Cardoso de Freitas[1], Dr. Diana Leitão[1] (1. INESC MN)

PA71-Direct sub-100 nm Metasurfaces Nanoimprinting via Water-based Hydrogel resin

» Mr. Byoungsu Ko[1], Mr. Younghwan yang[1], Mr. Trevon Badloe[1], Prof. Junsuk Rho[1] (1. Pohang University of Science and Technology (POSTECH))

PA73-Suppressing optical losses of hydrogenated amorphous silicon to fabricate functional dielectric metasurfaces working at the visible

» Mr. Younghwan yang[1], Prof. Gwanho Yoon[2], Mr. Trevon Badloe[1], Dr. Sunghak Park[3], Prof. Ki Tae Nam[3], Prof. Junsuk Rho[1] (1. Pohang University of Science and Technology (POSTECH), 2. Seoul National University of Science and Technology, 3. Seoul National University)

PA75-Analysis of resist charging in electron beam lithography

» Mr. Yoshinobu Kono[1], Mr. Kentaro Kojima[1], Prof. Masatoshi Kotera[1] (1. Osaka Institute of Technology)

PA77-Atomic layer etching of SiGe nanowires

» Mr. Muhammad Bilal Khan[1], Mr. Shahrukh Shakeel[2], Dr. Karola Richter[2], Mr. Sayantan Ghosh[1], Prof. Thomas Mikolajick[2], Dr. Artur Erbe[1], Dr. Yordan M. Georgiev[1] (1. Institute of Ion Beam Physics and Materials Research, HZDR, Dresden, 01328, Germany, 2. Technische Universität Dresden, Institut für Halbleiter und Mikrosysteme, Dresden, 01069, Germany)

PA79-3D topography optimization in direct writing lithography by comparative analysis of design and confocal microscopy shape

» Mr. Jan Erjawetz[1], Dr. Helmut Schift[1], Mr. Dominique Collé[2], Ms. Gerda Ekindorf[2], Dr. Peter Heyl[2], Mr. Daniel Ritter[3], Dr. Aditya Reddy[3] (1. Paul Scherrer Institute, 2. Heidelberg Instruments, 3. GenISYS GmbH)

PA81-Investigation of cryogenic atomic-layer etching for nanoporous dielectrics with low dielectric constant

» Dr. Andrey Miakonkikh[1], Mr. Vitaly Kuzmenko[2] (1. Valiev Institute of Physics and Technology RAS, 2. Valiev Institute of Physics and Technology, Russian Academy of Sciences)

PA83-Application of electron-beam lithography toward highly sharp nanostructures and extreme electromagnetic field enhancement

» Mr. Dong Kyo Oh[1], Dr. Inki Kim[1], Mr. Joohoon Kim[1], Mr. Heonyeong Jeong[1], Ms. Yeseul Kim[1], Prof. Junsuk Rho[1] (1. Pohang University of Science and Technology (POSTECH))

PA85-Silver 2D nanograting production by Electron Beam Lithography to enhance light detection in Near Infra-red

» Mr. Elia Scattolo[1], Mr. Alessandro Cian[1], Mr. Damiano Giubertoni[1], Mr. Giovanni Paternoster[1], Mr. Jiří Fiala[2], Mr. Milos Hrabovsky[2], Mr. Jiří Babocký[2], Dr. Pierluigi Bellutti[1] (1. FBK, Bruno Kessler Foundation, 2. TESCAN Brno s.r.o.)

Continued from **Tuesday, 21 September**

PA87-An emerging method for rapid nano-manufacturing

» Ms. Konstantina Tourlouki[1], Mr. Panagiotis Mandylas[2], Dr. Efstratios Svinterikos[1], Dr. Panagiotis Dimitrakis[3], Dr. Nikolaos Kehagias[4] (1. Nanotypos, Technopoli ICT Business Park Thessaloniki, Building C2, 55535 Pylea, 2. Institute of Nanoscience & Nanotechnology NCSR "Demokritos" P. Grigoriou 27 & Neapoleos Str (P.O.Box 60037) 15341 Ag. Paraskevi, 3. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 4. Institute of Nanoscience & Nanotechnology NCSR "Demokritos" P. Grigoriou 27 & Neapoleos Str (P.O.Box 60037) 15341 Ag. Paraskevi, Greece)

PA89-MEDUSA 82 as SiO2-like thin-film generator through thermal curing

» Mr. David Bricio[1], Dr. Esteve Amat[2], Dr. Marta Fernández-Regúlez[1], Dr. Jordi Llobet[1], Mr. Albert Alcàcer[1], Ms. Olga Muntada-López[3], Mr. Alberto del Moral[1], Prof. Joan Bausells[3], Dr. Francesc Perez-Murano[3] (1. Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), 2. Institute of Microelctronics of Barcelona, 3. IMB-CNM (CSIC))

PA91-Controlled SOI nanopatterning for GaN pendeo-epitaxy

» Dr. Mrad Mrad[1], Mr. Kilian Baril[2], Dr. Sebastien Labau[1], Dr. Marie Panabiere[1], Dr. Camille Petit-Etienne[1], Dr. Blandine Alloing[2], Dr. Jesus Zuniga Perez[2], Dr. Gauthier Lefevre[1], Dr. Matthew Charles[3], Dr. Guy Feuillet[3], Dr. Cecile Gourgon[1] (1. Université Grenoble Alpes, CNRS, CEA/LETI-Minatec, LTM, Grenoble INP, 38054, 2. Université Côte d'Azur, CRHEA-CNRS, Rue Bernard Gregory, Valbonne, 06560, 3. Université Grenoble Alpes, CEA-LETI, 17 Rue Des Martyrs, Grenoble, 38054)

PA93-Spontaneous formation of ordered micro-wrinkles on a thermosensitive resist

» Dr. Xia Liu[1], Mr. Mohammadreza Rostami[2], Dr. Ana Conde-Rubio[2], Dr. Giovanni Boero[1], Prof. Jürgen Brugger[2] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL), 2. Ecole Polytechnique Fédérale de Lausanne)

PA95-Markerless chip-scale fabrication of FETs by mix and match of thermal scanning probe lithography and direct laser writing

» Dr. Jana Chaaban[1], Dr. Tero Kulmala[1], Dr. Emine Çağin[1], Mr. Samuel Bisig[1], Dr. Heiko Wolf[2], Mr. Daniel Widmer[2], Ms. Ute Drechsler[2], Mr. Philippe Nicollier[2], Dr. Francesca Ruggeri[2], Dr. Armin Knoll[2] (1. Heidelberg Instruments Nano, 2. IBM Research Europe - Zurich)

PA97-Tailored carboxymethyl-dextran functionalization using organic mixed monolayers for bioassay applications

» Dr. Elena Ambrosetti[1], Ms. Martina Conti[2], Dr. Ana Teixeira[1], Dr. Simone Dal Zilio[2] (1. Karolinska institutet, 2. CNR-IOM)

PA99-Ru plasma etching process for thermally stable and low resistivity contacts

» Mr. Mohamed Najah[1], Mr. Mark Ferguson[1], Dr. Mohamed Boucherit[2], Mr. Marc Guilmain[2], Dr. Jacques Renaud[2], Prof. Luc Fréchette[1], Prof. Serge Charlebois[1], Prof. François Boone[1], Dr. Serge Ecoffey[1] (1. Institut Interdisciplinaire d'Innovation Technologique (3IT), Université de Sherbrooke, Sherbrooke, J1K 2R1, Canada, 2. Teledyne DALSA Semiconductor, 18 Boulevard de l'Aéroport, Bromont, J2L 1S7, Canada)

PA101-Carbon nanograss electrodes for miniaturized microbial solar cells

» Mrs. Jitka Urbankova[1], Prof. Stephan Sylvest Keller[2], Ms. Galina Pankratova[1], Prof. Jenny Emnéus[3] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Nanolab, Technical University of Denmark, 3. DTU Bioengineering, Department of Biotechnology and Biomedicine, Technical University of Denmark)

3:30pm **Poster Session - Odd Numbers - Micro and Nano Devices for Life Sciences and Chemistry**

PB1-Design, fabrication and testing of horizontal, plastic, soft micro-cantilever for probing forces at cells-to-cell junction

» Dr. Gianluca Grenci[1], Mr. Aditya Arora[1], Mrs. Abigail Thomson[1], Ms. Sree Sundararajan[1], Prof. Virgile Viasnoff[1] (1. Mechanobiology Institute, National University of Singapore)

Continued from **Tuesday, 21 September**

PB3-Generate DNA filaments with control using drop impact method

» Mr. ZIQIANG YANG[1], Dr. Peng Zhang[2], Dr. MENG SHI[2], Mr. Ali Al Julaih [1], Dr. Yuansi Tian[3], Prof. HIMANSHU MISHRA[2], Prof. ENZO Di Fabrizio[4], Prof. SIGURDUR THORODDSEN[1] (1. High-Speed Fluids Imaging Lab, Physical Science and Engineering (PSE) Division, King Abdullah University of Science and Technology (KAUST), Thuwal, 23955-6900, Saudi Arabia, 2. Interfacial Lab, Water Desalination and Reuse Center (WDRC), Biological and Environmental Sciences and Engineering (BESE) Division, King Abdullah University of Science and Technology (KAUST), Thuwal, 23955–6900, Saudi Arabia, 3. Key Laboratory of Road Construction Technology and Equipment of Ministry of Education, School of Construction Machinery, Chang'an University, Xi'an 710064, China, 4. Materials and Microsystems Laboratory, Department of Applied Science and Technology, Politecnico di Torino, 10129, Torino, Italy)

PB5-A Microfluidic Device for Food Allergy Diagnostics Fabricated Through a Wax Reflow Process to Improve the Reliability of Autonomous Sample Dispensing

» Mr. Daigo Natsuhara[1], Ms. Sae Misawa[2], Mr. Ryogo Saito[1], Mr. Kisuke Tanaka[1], Prof. Shunya Okamoto[1], Prof. Moeto Nagai[1], Prof. Masashi Kitamura[2], Prof. Takayuki Shibata[1] (1. Toyohashi University of Technology, 2. Josai University)

PB7-HARC Line within Inertial Focusing Systems - Separation of Sub-Micron Particles with Nanometer Resolution

» Dr. Javier Cruz[1], Prof. Klas Hjort[1] (1. Uppsala University)

PB9-A Highly Efficient Passive Micromixer Integrated with Asymmetric Vertical Obstacle Structures for a Microfluidic Diagnostic Device

» Mr. Ryogo Saito[1], Mr. Daigo Natsuhara[1], Mr. Kisuke Tanaka[1], Prof. Hiroka Aonuma[2], Prof. Tatsuya Sakurai[2], Prof. Shunya Okamoto[1], Prof. Moeto Nagai[1], Prof. Hirotaka Kanuka[2], Prof. Takayuki Shibata[1] (1. Toyohashi University of Technology, 2. The Jikei University School of Medicine)

PB11-Design Automation for Microfluidic Concentration Gradient Generators

» Ms. Tina Mitteramskogler[1], Mr. Gerold Fink[1], Dr. Marcus Hintermüller[1], Prof. Bernhard Jakoby[1], Prof. Robert Wille[1] (1. Johannes Kepler University Linz)

PB13-Spontaneous Capillary Filling of Open Microgrooves

» Ms. Tina Mitteramskogler[1], Prof. Bernhard Jakoby[1], Prof. Kurt Hingerl[1] (1. Johannes Kepler University Linz)

PB15-Design and Fabrication of a Compartmentalized Neuronal Cell Co-Culture Platform Compatible with High-pressure Freezing for Ultrastructural Imaging

» Mr. Hung Tri Tran[1], Dr. Sarah Shahmoradian[1], Dr. Celestino Padeste[1] (1. Paul Scherrer Institut)

PB17-Towards Micro-coil Probes for Intracortical Magnetic Stimulation

» Mr. Xiyuan Liu[1], Dr. Anpan Han[1], Dr. Seung Woo Lee[2], Dr. Shelley Fried[2] (1. Technical University of Denmark, 2. Massachusetts General Hospital and Harvard Medical School)

PB19-Clustering of Major Histocompatibility Complex-Class I Molecules in Healthy and Cancer Colon Cells Revealed from Their Nanomechanical Properties

» Dr. Manola Moretti[1], Dr. Bruno Torre[2], Prof. Claudio Canale[3], Prof. ENZO Di Fabrizio[2] (1. King Abdullah University of Science and Technology, 2. Department of Applied Physics, Polytechnic University of Turin, Corso Duca degli Abruzzi, 24, 10129 Torino, ITALY, 3. Department of Physics, University of Genova, Via Dodecaneso 33, 16146, Genova, Italy)

PB21-Simultaneous determination of fat content and Penicillin G antibiotic residue in raw milk by using Lab-on-a-Disc

» Dr. Pawasuth Saengdee[1], Dr. Nithi Atthi[1], Ms. Porntip Chamnan[2], Mr. norabadee Ranron[1], Mrs. Suphichaya Radomyos[1], Mr. Witsaroot Sripumkhai[1], Ms. Pattaraluck Pattamang[1], Ms. Rattanawan Meananeatra[1], Dr. Wutthinan Jeamsaksiri[1], Dr. Kitiya Vongkamjan[3] (1. National Electronics and Computer Technology Center, 2. Prince of Songkla University, 3. Kasetsart University)

Continued from **Tuesday, 21 September**

PB23-Mechanical Fingerprint of Senescence in Endothelial Cells

» Ms. Nafsika Chala[1], Dr. Silvia Moimas[1], Dr. Costanza Giampietro[2], Ms. Xinyu Zhang[1], Prof. Tomaso Zambelli[1], Mr. Vasileios Exarchos[3], Dr. Timo Z. Nazari-Shafti[4], Dr. Aldo Ferrari[5], Prof. Dimos Poulikakos[1] (1. ETH Zurich, 2. EMPA Dübendorf, ETH Zurich, 3. German Heart Center Berlin, 4. German Heart Center Berlin, Berlin Institute of Health at Charité – Universitätsmedizin Berlin, 5. ETH Zurich, EMPA Dübendorf)

PB25-Portable electronic nose based on individual sensor for environmental monitoring in museums

» Dr. Guillem Domènech-Gil[1], Dr. Donatella Puglisi[1] (1. Linköping University)

PB27-Fabrication of interdigital electrodes with barriers and nanofibers for enhanced impedance bio-sensing in a microfluidic device

» Dr. Haoyue LUO[1], Mr. Feng Liang[1], Dr. Boxin Huang[1], Dr. Juan Peng[1], Dr. Xiaochen Huang[1], Dr. Li Wang[2], Dr. Jian Shi[2], Prof. Yong Chen[1] (1. PASTEUR, Département de chimie, École normale supérieure, PSL University, Sorbonne Université, CNRS, 2. MesoBioTech)

PB29-Whey Proteins/Zinc Oxide bionanocomposite hydrogels as sustainable antimicrobial platforms

» Mr. Paolo Pino[1], Prof. Barbara Onida[1], Prof. Francesca Bosco[2] (1. Politecnico di Torino, 2. Applied Science and Technology Department, Politecnico di Torino, Torino, 10129, Italy)

PB31-Manipulating and characterizing individual bio-particles in nanochannels

» Dr. Christian Höller[1], Dr. Gabriel Schnoering[2], Dr. Hadi Eghlidi[1], Prof. Dimos Poulikakos[2], Dr. Maarit Suomalainen[3], Prof. Urs Greber[3] (1. Laboratory of Thermodynamics in Emerging Technologies, ETH Zurich, Sonneggstrasse 3, Zurich, Switzerland, 2. ETH Zurich, 3. Institute of Molecular Life Sciences, University of Zurich, Zurich, Switzerland)

PB33-Fabrication and Replication of Dense High Aspect Ratio Nanostructures for Cell Chip Applications

» Mr. Markus Pribyl[1], Mr. Philipp Taus[1], Dr. Samuele Maria Dozio[1], Dr. Sonia Prado-López[1], Mr. Sebastian Knafl[1], Dr. Michael Haslinger[2], Ms. Sonja Kopp[2], Dr. Michael Mühlberger[2], Ms. Alison Deyett[3], Dr. Sasha Mendjan[3], Prof. Heinz Wanzenboeck[1] (1. TU Wien, 2. Profactor GmbH, 3. IMBA of the Austrian Academy of Sciences)

PB35-Effect of Micro/Nanostructured Polystyrene Substrates onto Adhesion, Viability and Differentiation of Adipose Tissue Derived Mesenchymal Stem Cells

» Dr. Anastasia Kanioura[1], Dr. Angelos Zeniou[2], Dr. Panagiota Petrou[3], Dr. Adamantia Papadopoulou[4], Dr. Eleni Mavrogonatou[4], Dr. Dimitris Kletsas[4], Dr. Angeliki Tserepi[5], Dr. Evangelos Gogolides[3], Dr. Sotirios Kakabakos[6] (1. Institute of Nuclear & Radiological Sciences & Technology, Energy & Safety, NCSR "Demokritos", Aghia Paraskevi, 15341, Greece, 2. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 3. NCSR Demokritos, 4. Institute of Biosciences and Applications, NCSR "Demokritos", Aghia Paraskevi, 15341, Greece, 5. Institute of Nanoscience & Nanotechnology, NCSR "Demokritos", Aghia Paraskevi, 15341, Greece, 6. NSCR "Demokritos")

PB37-Waste liquid assisted flow-switching on a centrifugal microfluidic platform

» Mr. Ehsan Mahmodiarjmand[1], Mr. Gustav Grether[1], Prof. Roland Zengerle[1], Dr. Nils Paust[1], Dr. Jan Lüddecke[1] (1. Hahn-Schickard)

PB39-Multi Technology Approach for Biomedical Devices - Vat Photopolymerization and Microfabrication Hand in Hand

» Ms. Julia Linert[1], Mr. Philipp Taus[1], Dr. Sonia Prado-López[1], Mr. Markus Pribyl[1], Dr. Samuele Maria Dozio[1], Dr. Michael Haslinger[2], Dr. Michael Mühlberger[2], Prof. Heinz Wanzenboeck[1] (1. TU Wien, 2. Profactor GmbH)

3:30pm **Poster Session - Odd Numbers - Micro and Nano Devices for Electronics, Photonics, Physical Applicatons & Energy**

PC1-Simulate the effect of various Nano-fluids to improve the performance of industrial heat exchangers

» Mr. milad Darboui[1], Mr. reza feridoni[2], Mr. Ebrahim Taiedinejad[3] (1. Micro & Nano Electromechanic, 2. chemical engeneer, 3. Nano technology)

Continued from **Tuesday, 21 September**

PC3-Micro-Mechanical Characterization of Electrodeposited Ni-Co Alloys toward Design of MEMS Components

» Mr. Yiming Jiang[1], Prof. Chun-Yi Chen[1], Prof. Tso-Fu Mark Chang[1], Prof. Xun Luo[2], Prof. Daisuke Yamane[3], Prof. Masato Sone[1] (1. Tokyo Institute of Technology, 2. Guizhou Institute of Technology, 3. Ritsumeikan University)

PC5-Wafer Map Defect Patterns Classification Using Semi-Supervised Learning with Generative Adversarial Networks

» Mrs. Jina PARK[1], Prof. Jee-Hyong Lee[2] (1. 1) Department of Semiconductor and Display Engineering, Sungkyunkwan Univ, Suwon, Gyeonggi-do, 440-746, Republic of Korea, 2) Samsung Electronics Co. Ltd, Hwaseong-si, Gyeonggi-do, 445-330, Republic of Korea, 2. Sungkyunkwan Univ, Suwon, Gyeonggi-do, 440-746, Republic of Korea)

PC7-A micro-optical gyroscope prototype on basis of monolithic silicon double micromirrors

» Dr. Ismail Firat Arikan[1], Mr. Ingmar Leber[1], Mr. Christian Werner[2], Mr. Liang Yu[2], Dr. Jens Flügge[2], Prof. Andreas Dietzel[1] (1. Technische Universität Braunschweig, 2. Physikalisch-Technische Bundesanstalt)

PC9-Silicon microtechnologies driven biosensing systems

» Dr. VUSLAT JUSKA[1], Dr. ALAN O'RIORDAN[2] (1. Micro & Nano Systems Centre, Tyndall National Institute, University College Cork, Cork, T12 R5CP, Ireland, 2. Tyndall National Institute, University College Cork)

PC11-Microfluidic device for all electric single microbead capturing and releasing by positive dielectrophoresis

» Mr. Ruben Van den Eeckhoudt[1], Ms. Yuting Guo[2], Prof. Filip Tavernier [1], Prof. Irene Taurino[1], Prof. Nico Boon[2], Prof. Michael Kraft[1] (1. University of Leuven, 2. UGent)

PC13-MEMS Ultrasound Sensor with Functional Compliance for SHM in Fiber Metal Laminates

» Mr. Jan Niklas Haus[1], Mrs. Liv Rittmeier[2], Mr. Thomas Roloff[2], Mrs. Sarah Wendelken[3], Mr. Andrey Mikhaylenko[4], Dr. Natalie Rauter[4], Prof. Michael Sinapius[2], Prof. Walter Lang[3], Prof. Andreas Dietzel[5] (1. Institute of Microtechnology, Technische Universität Braunschweig, 2. Institute of Mechanics and Adaptronics, Technische Universität Braunschweig, 3. Institute for Microsensors, -actuators and –systems, Universität Bremen, 4. Institute of Mechanics, Helmut-Schmidt-Universität, 5. Institute for Microtechnology, Technische Universität Braunschweig)

PC15-Exploring the advantages of harvesting acoustic power through a metal wall using 1-3 composite transducers

» Mr. Bibhu Kar[1], Prof. Ulrike Wallrabe[1] (1. Laboratory for Microactuators, IMTEK - Department of Microsystems Engineering, University of Freiburg)

PC17-Measuring propagation losses of edge modes in photonic topological insulators

» Mr. Christian Anker Rosiek[1], Mr. Marcus Albrechtsen[1], Ms. Anastasiia Vladimirova[1], Prof. Henri Jansen[2], Prof. Søren Stobbe[1] (1. DTU Fotonik, Technical University of Denmark, 2. DTU Nanolab, Technical University of Denmark)

PC19-Micro-fabricated tactile sensors for monitoring of a mouse paw

» Ms. Valeria Carluccio[1], Dr. Lara Natta[2], Dr. Vincenzo Mastronardi[2], Dr. Luciana Algieri[2], Dr. Luca Fachechi[2], Dr. Francesco Rizzi[2], Prof. Massimo De Vittorio[2] (1. Università del Salento, 2. Istituto Italiano di Tecnologia)

PC21-Graphene suspended on Ge micro-crystals for photodetection applications

» Mrs. Virginia Falcone[1], Mr. Andrea Barzaghi[1], Prof. Giovanni Isella[1], Dr. Federico Bottegoni[1], Dr. Andrea Ballabio[1], Dr. Jacopo Frigerio[1], Dr. Carlo Zucchetti[1], Prof. Paolo Biagioni[1], Prof. Roman Sordan[1], Dr. Luca Anzi[1] (1. Politecnico di Milano)

PC23-A Novel Glare Prevention Method for High Power LED Lights

» Mr. Karlheinz Kellner[1] (1. Danube University Krems)

Continued from **Tuesday, 21 September**

PC25-High selective doping treatment via spin-on dopant on patterned semiconductor samples

» Ms. Chiara Barri[1], Dr. Erfan Mafakheri[2], Mr. Luca Fagiani[1], Mr. Giulio Tavani[3], Mr. Paolo Grassi[3], Dr. Alexey Fedorov[2], Dr. Monica Bollani[2] (1. Politecnico di Milano, IFN-CNR, 2. IFN-CNR, L-NESS, 3. Politecnico di Milano)

PC27-Dynamically adaptable acoustic sensor with nonlinear filtering functionality

» Dr. Claudia Lenk[1], Mr. Kalpan Ved[1], Dr. Stefanie Gutschmidt[2], Dr. Tzvetan Ivanov[1], Dr. Philipp Hövel[3], Prof. Thomas Meurer[4], Prof. Martin Ziegler[1] (1. Technische Universität Ilmenau, 2. University of Canterbury, 3. University College Cork, 4. Kiel University)

PC29-A microcantilever driven by a wireless power transfer system

» Mr. raul ruiz[1], Dr. Gabriel Abadal[2] (1. student, 2. Associate Professor)

PC31-A Passive Acceleration Sensor with 5 Bit mechanical Memory and Analog-to-Digital Converter

» Mr. Philip Schmitt[1], Prof. Martin Hoffmann[1] (1. Chair of Microsystems Technology, Ruhr University Bochum)

PC33-Layer by layer assembly on optical fibers: a powerful nanofabrication tool for next generation "lab-on-fiber" based biosensors

» Dr. Maria Salbini[1], Dr. Tiziana Stomeo[2], Dr. Filippo Pisano[3], Dr. Antonio Balena[3], Dr. Ferruccio Pisanello[4], Prof. Massimo De Vittorio[3] (1. UNIVERISTA' DEL SALENTO, 2. Italian Institute of technology, 3. Istituto Italiano di Tecnologia, 4. Università del Salento)

PC35-Additive Manufacturing Technology for Embedding Miniaturized pMUT-based Ultrasound Probes

» Dr. Vincenzo Mastronardi[1], Dr. Antonio Qualtieri[1], Dr. Enrico Boni[2], Dr. Francesco Guido[3], Prof. Piero Tortoli[2], Prof. Massimo De Vittorio[4] (1. Istituto Italiano di Tecnologia, 2. Dipartimento di Ingegneria dell'Informazione, 3. Piezoskin, 4. Istituto)

PC37-Room-temperature double quantum dot for investigating Maxwell's Demon

» Mr. Faris Abualnaja[1], Mr. Wenkun He[1], Dr. Zahid Durrani[1], Dr. Mervyn Jones[1] (1. Imperial College London)

PC39-Micro-Mechanical Property Evaluation of Gold-Nickel Alloys toward Design of MEMS Components

» Mr. Takumi Akiyama[1], Prof. Chun-Yi Chen[1], Prof. Tso-Fu Mark Chang[1], Prof. Daisuke Yamane[2], Prof. Hiroyuki Ito[1], Prof. Katsuyuki Machida[1], Prof. Kazuya Masu[1], Prof. Masato Sone[1] (1. Tokyo Institute of Technology, 2. Ritsumeikan University)

PC41-Ultra-sensitive ionic capacitive pressure sensors based on wrinkled microstructures on convex patterns

» Mr. Changwoo Cho[1], Dr. Yeongjun Kim[1], Prof. Je Hoon Oh[1] (1. Hanyang University)

PC43-Graphene monolayer treated with UV irradiation for large area graphene field-effect transistors by electron beam lithography

» Dr. Panagiotis Dimitrakis[1] (1. Institute of Nanoscience and Nanotechnology, NCSR Demokritos)

PC45-Multifrequency piezoelectric energy harvesting using a double-mass MEMS cantilever

» Mr. Marcos Duque[1], Dr. Edgardo Leon[2], Dr. Gonzalo Murillo[1] (1. IMB-CNM (CSIC), 2. Universidad de Sonora)

PC47-Design and simulation of a MEMS device to investigate the strain engineering properties of 2D nanomaterials

» Mr. Naga Manikanta Kommanaboina[1], Mr. Alvise Bagolini[2], Dr. Maria F Pantano[1] (1. university of trento, 2. Fondazione Bruno Kessler)

PC49-Complex biological matrix resolved on functionalized gold nanosensors by selective Raman spectroscopy in microfluid chip

» Prof. MariaLaura Coluccio[1] (1. University Magna Graecia)

Continued from **Tuesday, 21 September**

PC51-Back-end processing of optoelectronic devices for neural interfaces based on tapered optical fibers

» Dr. Marco Pisanello[1], Dr. Antonio Balena[1], Dr. Filippo Pisano[1], Dr. Barbara Spagnolo[1], Mr. Marco Bianco[1], Dr. Leonardo Sileo[1], Dr. Ferruccio Pisanello[1], Prof. Massimo De Vittorio[1] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies)

PC53-Nanomaterial based flow-sensing device for microfluidic systems

» Dr. Evangelos Skotadis[1], Dr. Evangelos Aslanidis[1], Dr. Angeliki Tserepi[2], Dr. Evangelos Gogolides[3], Dr. Stavros Chatzandroulis[2], Prof. Dimitris Tsoukalas[1] (1. NATIONAL TECHNICAL UNIVERSITY OF ATHENS, 2. NCSR-Demokritos, 3. NCSR Demokritos)

PC55-Thermal control for in-situ TEM nanomechanical testing devices

» Mr. Alex Pip[1], Prof. Jean-Pierre Raskin[1], Prof. Hosni Idrissi[1] (1. Université catholique de Louvain)

PC57-Enhancing Partial Discharge Detection by Tuning Residual Stresses in Ultrathin CMOS-compatible Multilayer Membranes for Resonant Frequency Control

» Ms. Eléonore Masarweh[1], Dr. Nicolas André[1], Mr. Thibault Delhaye[1], Prof. Laurent Francis[2], Prof. Denis Flandre[1] (1. Institute of Information and Communication Technologies, Electronics and Applied Mathematics, UCLouvain, 2. Université catholique de Louvain)

PC59-Sprayable Triboelectric Nanocomposite to Enhance both Energy Harvesting and Sensing Capabilities of Commercial Piezoelectric Films

» Ms. Carmen Salvadores Fernandez[1], Dr. Biswajoy Bagchi[1], Dr. Priyankan Datta[1], Prof. Manish Kumar Tiwari[1] (1. University College London)

PC61-Polyetherimide reinforced smart inlays for bondline surveillance in composites

» Mr. Chresten von der Heide[1], Mr. Julian Steinmetz[2], Prof. Christian Hühne[2], Prof. Michael Sinapius[2], Prof. Andreas Dietzel[1] (1. Institute of Microtechnology, Technische Universität Braunschweig, 2. Institute of Mechanics and Adaptronics, Technische Universität Braunschweig)

PC63-Improving electrical performance of PEALD ZnO TFTs using highly-selective TMAH wet-etching of Al2O3 for contact vias

» Mr. Ben Rowlinson[1], Mr. Joshua Akrofi[1], Dr. Martin Ebert[1], Prof. Harold Chong[1] (1. University of Southampton)

PC65-Electron Beam Induced Current (EBIC) of polycrystalline materials for thin-film solar cell applications

» Dr. Aina Quintilla[1] (1. KIT)

PC67-Silicon nitride drum resonators with a top-gate capacitive coupling scheme

» Dr. Xin Zhou[1] (1. CNRS-IEMN)

PC69-Selective Under-Etching of Free-Standing Tantalum Pentoxide Waveguides for MIR Gas Spectroscopy

» Dr. Marek Vlk[1], Dr. Anurup Datta[1], Dr. Sebastian Alberti[1], Prof. Astrid Aksnes[2], Prof. Ganapathy Senthil Murugan[3], Prof. Jana Jágerská[1] (1. The arctic University of Tromsø, UiT, 2. NTNU, 3. University of Southampton)

3:30pm **Poster Session - Odd Numbers - Nanofabrication and Manufacturing for Functional Structures/Surfaces**

PD1-3D printing of Shape-morphing Carbon Architectures

» Dr. Monsur Islam[1], Dr. Dario Mager[1], Prof. Jan G. Korvink[1], Prof. Andrés Díaz Lantada[2] (1. Karlsruhe Institute of Technology, 2. Universidad Politécnica de Madrid)

Continued from **Tuesday, 21 September**

PD3-Micro fabrication of polymer patterned surfaces for the enhancement of marine bacteria biofilm

» Ms. Ariadni Droumpali[1], Prof. Jörg Hübner[1], Prof. Lone Gram[2], Prof. Rafael Taboryski[1] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Bioengineering, Department of Biotechnology and Biomedicine, Technical University of Denmark)

PD5-Nanohole Arrays in a Multilayer Hyperbolic Metamaterial for Biosensing Applications

» Ms. Marzia Iarossi[1], Dr. Daniel Darvill Price[1], Dr. Nicolò Maccaferri[2], Dr. Yingqi Zhao[1], Dr. Francesco De Angelis[1] (1. Istituto Italiano di Tecnologia, Genova, Italy, 2. Department of Physics and Materials Science, University of Luxembourg)

PD7-A flexible thin ZnO-based pressure sensor using seedless hydrothermal growth

» Ms. Karina Jeronimo[1], Dr. Graham Wood[1], Dr. Rebecca Cheung[1], Dr. Enrico Mastropaolo[1] (1. University of Edinburgh)

PD9-Anodization spectroscopy for superconducting devices

» Ms. Mira Kreßler[1], Mr. Erik Bork[1], Dr. Jörn Beyer[1], Dr. Patryk Krzysteczko[1] (1. Cryosensor Technolgy, PTB Berlin)

PD11-Aerosol Direct Writing of Cu and Au Nanoparticle Patterns for SERS-active Substrates

» Mr. Saleh Aghajani[1], Dr. Angelo Accardo[1], Dr. Marcel Tichem[1] (1. Delft University of technology)

PD13-Plasma enhanced inkjet printing of particle-free silver ink thin films on polyester fabric

» Dr. Thomas Jones[1], Dr. Andrew Hourd[1], Mr. Tang Chung Liu[2], Mr. Lu-Chiang Jia[3], Mr. Chia-Mei Lung[3], Dr. Svetlana Zolotovskaya[1], Prof. Amin Abdolvand[1], Prof. Chao-Yi Tai[2] (1. University of Dundee, 2. National Central University, 3. Sousveillance Technology Ltd.)

PD15-Folding of laser-cut templates with plasmonic functionalized surfaces into micro cubes

» Dr. Pierre Lorenz[1], Ms. Ye Yu[2], Dr. Joachim Zajadacz[1], Mr. Clemens Petersen[3], Dr. Martin Ehrhardt[1], Prof. Robert Kirchner[4], Dr. Klaus Zimmer[1] (1. Leibniz Institute of Surface Engineering (IOM), 2. Technische Universität Dresden, 3. Leibniz Institute of Surface Engineering, 4. TU Dresden)

PD17-Large scale, surface texturing by laser induced micro- and nano-morphologies

» Dr. girolamo mincuzzi[1], Dr. Aurelien Sikora[2], Mr. Marc Faucon[1], Dr. Laura Gemini[1], Ms. Alexandra Bourtereau[1], Dr. Rainer Kling[1] (1. Alphanov, 2. Aphanov)

PD19-Surface tension-assisted drop casting for flexible molecular ferroelectric memory devices

» Ms. Yichen Cai[1], Ms. Xiaojie Zhou[1], Mr. Mingsheng Xu[1], Dr. Laigui Hu[1], Prof. Ran Liu[1], Dr. Wenchong Wang[2] (1. Fudan University, 2. University of Muenster)

PD21-Nanofabrication of polarizers in high aspect ratio tungsten gratings with high extinction ratio

» Mr. Shuoqiu Tian[1], Prof. Yifang Chen[1] (1. Fudan University)

PD23-Fabrication and Characterization of a 3D printed flexible dual-band PIFA antenna for 5G applications

» Ms. Ilaria Marasco[1], Mr. GIOVANNI NIRO[1], Dr. Vincenzo Mastronardi[2], Dr. Francesco Rizzi[2], Prof. Antonella D'Orazio[1], Prof. Massimo De Vittorio[2], Dr. Marco Grande[1] (1. Politecnico di Bari, 2. Istituto Italiano di Tecnologia)

PD25-Single-step additive manufacturing of 3D polymer precursor structures for on-chip pyrolytic carbon microelectrodes

» Mr. Jesper Pan[1], Dr. Thomas Aarøe Anhøj[1], Prof. Niels Bent Larsen[2], Prof. Stephan Sylvest Keller[3] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Health Tech - Department of Health Technology Technical University of Denmark, 3. DTU Nanolab, Technical University of Denmark)

Continued from **Tuesday, 21 September**

PD27-Composite conductive resin for 3D microfabrication of gas sensors via two photon light induced polymerization

» Dr. Lorenzo Vigna[1], Dr. Valentina Bertana[1], Dr. Simone Luigi Marasso [1], Prof. Matteo Cocuzza[1], Dr. Ignazio Roppolo[1], Dr. Annalisa Chiappone [1], Dr. Matteo Manachino[1], Prof. Marco Sangermano[1], Dr. Alessio Verna [1], Prof. Luciano Scaltrito[1], Prof. Fabrizio Pirri[1], Prof. Sergio Ferrero[1] (1. Politecnico di Torino)

PD29-Graphene/Titanium Golay micro-cell arrays for a color-sensitive terahertz imaging sensor

» Mr. Erik Betz-Guttner[1], Dr. Simone Dal Zilio[2], Dr. Nicola Cefarin[2], Dr. Marco Lazzarino[2] (1. Università di Trieste, 2. CNR-IOM)

PD31-Fabrication of a novel FBAR stack usable as gravimetric sensor

» Mr. GIOVANNI NIRO[1], Ms. Ilaria Marasco[1], Prof. Antonella D'Orazio[1], Prof. Massimo De Vittorio[2], Dr. Lara Natta[2], Dr. Marco Grande[1], Dr. Francesco Rizzi[2] (1. Politecnico di Bari, 2. Istituto Italiano di Tecnologia)

PD33-Solvent-free fabrication of ZIF-8-coated coupled resonators for mass-based gas detection

» Ms. Chenxi Wang[1], Dr. Chen Wang[1], Mr. Benzheng Xia[1], Mr. Aojie Quan[1], Dr. Aleksander Matavž[1], Dr. Min Tu[1], Ms. Linlin Wang[1], Prof. Rob Ameloot[1], Prof. Michael Kraft[1] (1. KU Leuven)

PD35-Trampolining Liquid Marbles

» Dr. Peng Zhang[1], Mr. Nischal Maharjan[1], Mr. Adair Gallo Junior[1], Mr. Sankara Arunachalam[1], Dr. MENG SHI[1], Prof. HIMANSHU MISHRA[1] (1. Interfacial Lab, Water Desalination and Reuse Center (WDRC), Biological and Environmental Sciences and Engineering (BESE) Division, King Abdullah University of Science and Technology (KAUST), Thuwal, 23955–6900, Saudi Arabia)

PD37-Electrical Transport through an oxide-mediated hybrid InP on Si interface: the optimal choice for the oxide material

» Dr. Anne Talneau[1], Dr. Gregoire Beaudoin[1], Dr. Frederique Ducroquet[2], Dr. Gilles Patriarche[1] (1. CNRS C2N, 2. IMEP- LAHC Univ. Grenoble Alpes)

PD39-Dew water harvesting and fog collection on biphilic, nanotextured surfaces

» Mr. Dimitris Nioras[1] (1. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi, 15341, Attiki, Greece)

PD41-Hierarchical surfaces with reversible photoinduced and heat-induced wettability: ZnO nanorods on laser-microstructured silicon

» Dr. Maria Kanidi[1], Mr. Achilleas Bardakas[2], Dr. Ariadni Kerasidou[2], Mr. Andreas Anastasopoulos[1], Dr. Christos Tsamis[2], Dr. Maria Kandyla[1] (1. Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, 48 Vasileos Constantinou Avenue, 11635 Athens, Greece, 2. Institute of Nanoscience and Nanotechnology, National Center for Scientific Research 'Demokritos', 15310 Athens, Greece.)

PD43-Performance Comparison of Different Gate Dielectrics in Reconfigurable Field Effect Transistors

» Mr. Muhammad Bilal Khan[1], Mr. Sayantan Ghosh[1], Dr. Slawomir Pruncal[2], Mr. Tom Mauersberger[3], Prof. Thomas Mikolajick[4], Dr. Artur Erbe[2], Dr. Yordan M. Georgiev[2] (1. Institute of Ion Beam Physics and Materials Research, HZDR, Dresden, 01328, Germany, 2. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, 01328, Germany, 3. Namlab gGmbH, Dresden, 01187, Germany, 4. Technische Universität Dresden, Institut für Halbleiter und Mikrosysteme, Dresden, 01069, Germany)

PD45-NIR Responsive Capacitive Photocathodes based on PbS Nanocrystals Decorated Reduced Graphene Oxide

» Dr. Chiara Ingrosso[1], Dr. Vitantonio Valenzano[2], Dr. Michela Corricelli [3], Dr. Anna Testolin[4], Dr. Valentina Pifferi[4], Dr. Giuseppe Valerio Bianco [5], Dr. Roberto Comparelli[1], Dr. Nicoletta Depalo[1], Prof. Elisabetta Fanizza[2], Dr. Marinella Striccoli[1], Prof. Angela Agostiano[3], Prof. Ilaria Palchetti[6], Prof. Luigi Falciola[4], Prof. Maria Lucia Curri[3] (1. CNR-IPCF S.S. Bari, 2. Dipartimento di Chimica, Università di Bari, 3. Dip. di Chimica, Università di Bari,, 4. Dipartimento di Chimica, Università di Milano, 5. CNR-NANOTEC S.S. Bari, 6. Dept. of Chemistry Ugo Schiff, University of Firenze)

PD47-Solid-state dewetting for sensing with plasmonic optical fiber

» Dr. Di Zheng[1], Dr. Filippo Pisano[2], Dr. Marco Pisanello[1], Dr. Liam Collard[3], Prof. Massimo De Vittorio[4], Dr. Ferruccio Pisanello[5] (1. Istituto Italiano di Tecnologia, 2. I, 3. Isti, 4. Istituto, 5. Università del Salento)

Continued from **Tuesday, 21 September**

PD49-Shape stable nanofibrous materials by electrospinning and photo-induced crosslinking

» Ms. Parnian Kianfar[1], Prof. Roberta Bongiovanni[1], Dr. Alessandra Vitale[1] (1. Politecnico di Torino)

PD51-Picoliter dispensing technology for micro-optical components and photonic packaging using highly viscous liquid polymers

» Mr. Philipp Wachholz[1], Dr. Maria Russew[2], Mr. Johannes Wolf[2], Dr. Jan Jasper Klein[2], Dr. Henning Schröder[1] (1. Fraunhofer IZM, 2. micro resist technology GmbH)

PD53-Piezo/Triboelectric Flexible Transducers and Nanogenerators for Energy Harvesting and Biosensing

» Dr. Massimo Mariello[1], Prof. Massimo De Vittorio[2] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL), 2. Istituto)

PD55-Optimization of laser-induced graphene electrodes for flexible micro-supercapacitors

» Dr. Pietro Zaccagnini[1], Mr. Marco Reina[2], Dr. Davide Arcoraci[3], Dr. Marco Fontana[2], Dr. Stefano Stassi[3], Dr. Mara Serrapede[2], Dr. Stefano Bianco[3], Prof. Sergio Ferrero[1], Prof. Luciano Scaltrito[1], Prof. Andrea Lamberti[1] (1. Politecnico di Torino, 2. Istituto Italiano di Tecnologia, 3. Applied Science and Technology Department, Politecnico di Torino, Torino, 10129, Italy)

PD57-AFM-Driven Global Compression of 3D Cardiac Spheroids

» Mr. Michele Zanetti[1], Dr. Laura Andolfi[1], Dr. Marco Lazzarino[1] (1. CNR-IOM)

PD59-Nano-fabrication and SEM integration of the Nano Aperture Ion Source

» Mr. Mike Simons[1], Mr. Carel Heerkens[1], Mr. Dustin Laur[1], Prof. Pieter Kruit[1], Ms. Aya Mahgoub[1] (1. Delft University of technology)

PD61-Nanoregion: where nanotechnology meets business.

» Dr. Simone Dal Zilio[1], Dr. Marco Lazzarino[1], Dr. Mattia Fanetti[2], Prof. Lucia Pasquato[3], Prof. Dragan mihailovic[4], Prof. Alvise Benedetti[5], Dr. Giovanni De Ninno[6], Prof. Carlo Bagnoli[7], Ms. Dunia Manhe[8], Dr. Gasper juvancic[9], Ms. Bojana Cipot[10] (1. CNR-IOM, 2. University of Nova Gorica, 3. Università di Trieste, 4. Jozef Stefan Institute, 5. Università Ca' Foscari, 6. Elettra-Sincrotrone Trieste S.C.p.A., 7. fosc, 8. RRA Zeleni kras d.o.o., 9. Tehnološki park Ljubljana, 10. Primorski tehnološki park)

PD63-3D printed NEMS to overcome internal damping limit in nanomechanical resonators

» Dr. Stefano Stassi[1], Dr. Ido Cooperstein[2], Prof. Fabrizio Pirri[3], Prof. Shlomo Magdassi[2], Prof. Carlo Ricciardi[1] (1. Applied Science and Technology Department, Politecnico di Torino, Torino, 10129, Italy, 2. Casali Center for Applied Chemistry, Institute of Chemistry,The Hebrew University of Jerusalem, 3. Politecnico di Torino)

PD65-Manufacture process of vibrating micro-wire resonators for characterization of quantum turbulence in superfluid 4He

» Mr. Šimon Midlik[1] (1. Charles University, Prague, Ke Karlovu 3, 121 16, Czech Republic)

PD67-Quantifying the information content of multiscale nanostructured surfaces: an entropy-based scaling analysis

» Mr. Athanasios Arapis[1], Dr. Vassilios Constantoudis[2], Dr. Dimitrios Kontziampasis[3], Dr. Athanasios Milionis[4], Mr. Cheuk Wing Edmond Lam[4], Dr. Abinash Tripathy[4], Prof. Dimos Poulikakos[4], Dr. Evangelos Gogolides[5] (1. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi, 15341, Attiki, Greece, 2. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 3. School of Biomedical Sciences, Faculty of Biological Sciences, University of Leeds, 4. ETH Zurich, 5. NCSR Demokritos)

Continued from **Tuesday, 21 September**

PD69-Nanofabrication of periodically corrugated and large-area 2D-MoS2 films featuring enhanced optical absorption in the few layer regime

» Mr. Matteo Gardella[1], Dr. M Bhatnagar[1], Dr. MC Giordano[1], Dr. D Chowdhury[1], Dr. Carlo Mennucci[1], Dr. Andrea Mezzanti[2], Dr. Giuseppe Della Valle[2], Dr. Christian Martella[3], Dr. P Tummala[3], Dr. Alessio Lamperti[3], Dr. Alessandro Molle[3], Dr. F Buatier de Mongeot[1] (1. Dip. di Fisica, Università di Genova, Via Dodecaneso 33, 16146 Genova, Italy, 2. Dip. di Fisica and IFN-CNR, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133 Milano, Italy, 3. CNR-IMM Unit of Agrate Brianza, via C. Olivetti 2, Agrate Brianza, I-20864, Italy)

PD71-Noise data as a source of information in CO2 sensors based on liquid-phase exfoliated graphene

» Mr. Stevan Andric[1], Dr. Ivana Jokić[1], Dr. Miloš Frantlović[1], Ms. Jelena Stevanović[1], Dr. Marko Spasenović[1] (1. University of Belgrade, Institute of Chemistry, Technology and Metallurgy - National Institute of the Republic of Serbia, Belgrade, Serbia)

3:30pm **Industrial Session**

Printed version of the detailed schedule on page 11 of the program guide

Wednesday, 22 September

8:45am **Plenary 3: Boris Chichkov**

Auditorium

Chaired by: Urs Staufer and Dr. Evangelos Gogolides

Laser bioprinting

» Boris N. Chichkov (Leibniz Univesity Hannover, Institute of Quantum Optics)

9:30am **Plenary 4: Anja Boisen**

Auditorium

Chaired by: Urs Staufer and Dr. Evangelos Gogolides

Micro/nano engineering and drug delivery - MNE Fellow Award 2021

» Anja Boisen (Technical University of Denmark, DENMARK)

10:15am **Coffee Break**

10:45am **A3 - Session A3: Functional Structures & Materials**

Auditorium

Chaired by: Prof. Michele Scaraggi and Prof. Stephan Sylvest Keller

10:45am

Development and Engineering of Biocomposites for applications in Wound Management and Water Treatment

» Dr. Marco Contardi[1], Dr. Giulia Suarato[1], Dr. Giovanni Perotto[1], Dr. Ilker Bayer[1], Dr. Despina Fragouli[1], Dr. Athanassia Athanassiou[1] (1. Smart Materials Group, Istituto Italiano di Tecnologia, Via Morego 30, Genoa, 16014, Italy)

11:15am

PDMS curing inhibition and toxicity of leached compounds from 3D-printed molds for fabricating PDMS-based devices.

» Dr. Bastien Venzac[1], Dr. Marcia de Almeida Monteiro Melo Ferraz[2], Mr. Shanliang Deng[3], Dr. Ziad Mahmoud[4], Mr. Aufried Lenferink[5], Ms. Aurélie Costa[4], Mr. Fabrice Bray[4], Dr. Jennifer Nagashima[6], Prof. Cees Otto[5], Prof. Nucharin Songsasen[6], Prof. Séverine Le Gac[3] (1. LAAS-CNRS, 2. Molecular Animal Breeding and Biotechnology, Gene Center Ludwig-Maximilians University of Munich, 3. AMBER, MESA+ and Techmed Centre, University of Twente, 4. MSAP, Université de Lille, CNRS, 5. Medical Cell Biophysics, TechMed Centre, University of Twente, 6. Center for Species Survival, Smithsonian National Zoo and Conservation Biology Institute)

Continued from **Wednesday, 22 September**

11:30am

Contribution to the clean water production via superhydrophobic, plasma nanotextured membrane distillation

» Mr. Dimosthenis Ioannou[1], Dr. Youmin Hou[2], Ms. Prexa Shah[2], Dr. Kosmas Ellinas[3], Dr. Michael Kappl[2], Dr. Evangelos Gogolides[3] (1. School of Mechanical Engineering, National Technical University of Athens, 2. Max Planck Institute for Polymer Research, 3. Institute of Nanoscience and Nanotechnology, NCSR Demokritos)

11:45am

Controlled Concentration of traces using a hierarchical superhydrophobic device for analytical purposes

» Mr. Victor Fabre[1], Mr. Franck Carcenac[2], Mr. Adrian Laborde[2], Mr. Laurent Mazenq[2], Prof. Christophe Vieu[3], Dr. Emmanuelle Trevisiol[4], Dr. Philippe Louarn[5] (1. LAAS-CNRS, IRAP, 2. LAAS-CNRS, 3. Univesité de Toulouse, 4. TBI, 5. IRAP)

12pm

Freeform Micro Structuring of Cast Polymer-Derived Ceramics by Sacrificial Direct Laser Writing

» Mr. Lorenz Hagelüken[1], Mrs. Ho-Yun Lee[1], Mr. David Di Stadio[1], Prof. Jürgen Brugger[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL))

12:15pm

Sequential Drug Release in the Gut Achieved with Dual-compartment Microcontainers: Towards Combinational Drug Therapy

» Ms. Juliane Fjelrad Christfort[1], Ms. Carmen Milian Guimera[1], Ms. Khorshid Khorshid Kamguyan[1], Dr. Morten Borre Hansen[1], Dr. Line Hagner Nielsen[1], Dr. Lasse Højlund Eklund Thamdrup[1], Dr. Kinga Zór[1], Prof. Anja Boisen[1] (1. Technical University of Denmark)

12:30pm

Nucleic Acid Nanofabrication: Cooperative Effects in Self-Assembly and Progress Towards Functional Systems

» Dr. Jacob Majikes[1], Dr. Paul Patrone[1], Dr. Anthony Kearsley[1], Dr. Michael Zwoalk[1], Dr. James Liddle[2] (1. National Institute of Standards and Technology (NIST), 2. National Institute of Standards and Technology)

10:45am

B3 -

Session B3: Micro & Nano structures and devices

Sala 500

Chaired by: Dr. Francesco Rizzi and Prof. Fabio Biscarini

10:45am

Surface and plasma characterization of a self-limited two step etch process for SiN spacer etching applications.

» Mr. Nicolas Loubet[1], Dr. Camille Petit-Etienne[2], Dr. Cécile Jenny[1], Dr. Gilles Cunge[2], Dr. Erwine Pargon[2] (1. STMicroelectronics, 2. Univ. Grenoble Alpes, CNRS, CEA/LETI-Minatec, Grenoble INP, LTM, F-38054 Grenoble, France)

11am

High throughput metrology of energy harvesting devices based on nanowires

» Dr. Zhi Li[1], Dr. François Piquemal[2], Dr. Richard Koops[3], Dr. Petr Klapetek[4], Dr. Luca Boarino[5], Dr. Uwe Brand[1], Dr. Noelle Gogneau[6], Dr. Jacob Larsen[7], Dr. Janusz Fidelus[8], Dr. Hele Savin[9], Dr. Markys Cain[10], Dr. Graham Cross[11], Dr. Chris Schwalb[12], Dr. Erwin Peiner[13], Prof. Teodor Gotszalk[14], Dr. Javier Rodríguez Viejo[15], Dr. Didier Pellerin[16] (1. Physikalisch-Technische Bundesanstalt, Bundesallee 100, 38116 Braunschweig, Germany, 2. Laboratoire national de métrologie et d'essais, 29 Avenue Roger Hennequin, 78197, Trappes Cedex, France, 3. VSL B.V., Thijsseweg 11, 2629 JA Delft, The Netherlands, 4. Czech Metrology Institute, Okružní 31, 638 00 Brno, Czech Republic, 5. Istituto Nazionale di Ricerca Metrologica, Strada delle Cacce 91, 10135 Torino, Italy, 6. C2N-CNRS, Université Paris Saclay, 91120 Palaiseau, France, 7. DFM A/S, Kogle Allé 5, DK-2970 Hørsholm, Denmark, 8. GUM, Główny Urząd Miar, ul. Elektoralna 2, 00139 Warszawa, Poland, 9. Aalto University, Department of Electronics and Nanoengineering, Tietotie 3, 02150 Espoo, Finland, 10. Electrosciences Ltd, 1 Osborn Road, Farnham, Surrey GU9 9QT, United Kingdom, 11. CRANN Institute, School of Physics, Trinity College Dublin, Dublin 2, Ireland, 12. GETec Microscopy GmbH, 1220 Vienna, Austria, 13. Institute of Semiconductor Technology, Technische Universität Braunschweig, 38106 Braunschweig, Germany, 14. Wroclaw Univesity of Science and Technology, 15. Physics department. Universitat Autònoma de Barcelona, 08193 Bellaterra, Spain, 16. Scientec/CSInstruments, 91940 Les Ulis, France)

Continued from **Wednesday, 22 September**

11:15am **Evaluation of curing efficiency of OSG low-k films using time-domain Brillouin scattering**
» Prof. Mikhail Baklanov[1] (1. Professor at North China University of Technology)

11:30am **A thermal-mechanical investigation for the optimization of silicon microheaters for gas sensing applications**
» Dr. Andrea Gaiardo[1], Dr. David Novel[1], Mr. Elia Scattolo[2], Dr. Alessio Bucciarelli[3], Dr. Pierluigi Bellutti[1] (1. Fondazione Bruno Kessler, 2. FBK, Bruno Kessler Foundation, 3. CNR-NANOTEC S.S. Bari)

11:45am **Security Vulnerability of Metal-Oxide RRAM under SEM Imaging**
» Ms. Nhu Huynh[1], Mr. Hebin Cherian[1], Prof. Ethan Ahn[1] (1. The University of Texas at San Antonio)

12pm **Application of C2F4Br2 plasma to low damage etching of nanoporous low-k dielectric**
» Dr. Andrey Miakonkikh[1], Dr. Askar Rezvanov[2], Dr. Alexey Vishnevsky[3], Mr. Andrey Orlov[2], Dr. Konstantin Rudenko[4] (1. Valiev Institute of Physics and Technology RAS, 2. Molecular Electronics Research Institute, 3. Research and Education Center "Technological Center," RTU MIREA, 4. Valiev Institute of Physics and Technology, Russian Academy of Sciences)

12:15pm **HSQ-based process to integrate vertical nanoscale devices**
» Dr. Esteve Amat[1], Mr. Alberto del Moral[2], Dr. Hans-Juergen Engelmann[3], Dr. Johannes von Borany[3], Dr. Karl-Heinz Heinig[3], Dr. Marie-Line Pourteau[4], Dr. Guido Rademaker[4], Dr. Raluca Tiron[4], Prof. Joan Bausells[5], Prof. Francesc Perez-Murano[6] (1. Institute of Microelctronics of Barcelona, 2. Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), 3. Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Dresden, 01328, Germany, 4. Univ. Grenoble Alpes, CEA, LETI, F-38000 Grenoble, France, 5. IMB-CNM (CSIC), 6. Institute of Microelectronics)

12:30pm **Disposable C_Spacer Flow for building MIM Capacitors**
» Dr. marcello ravasio[1] (1. STMicroelectronics)

10:45am **C3 -**
Session C3: Biosensors technologies
Sala Londra
Chaired by: Dr. Barbara Spagnolo and Dr. Antonio Qualtieri

10:45am **Mirroring Action Potentials: A New Methodology for Label-Free, Accurate, and Noninvasive Electrophysiological Recording**
» Dr. Andrea Barbaglia[1], Dr. Michele Dipalo[1], Dr. Giovanni Melle[1], Dr. Giuseppina Iachetta[1], Dr. Lieselot Deleye[1], Dr. Aliaksandr Hubarevich[1], Dr. Andrea Toma[1], Dr. Francesco Tantussi[1], Dr. Francesco De Angelis[1] (1. Istituto Italiano di Tecnologia)

11am **3D high-resolution Laser Printing of monolithic glass Suspended Microchannel Resonators for enhanced Biosensing**
» Dr. Rosanna Toscano[1], Dr. Andrea Lovera[1], Dr. Roberta Calmo[2], Dr. Stefano Stassi[2], Dr. Alessandro Chiadò[2], Dr. Davide Scaiola[2], Prof. Francesca Bosco[2], Prof. Carlo Ricciardi[2] (1. Femtoprint SA, Muzzano, 6933, Switzerland, 2. Applied Science and Technology Department, Politecnico di Torino, Torino, 10129, Italy)

11:15am **Copper-based, on-chip purification of tetracyclines**
» Dr. Lorenzo Lunelli[1], Dr. Martina Germanis[1], Dr. Lia Vanzetti[1], Dr. Cristina Potrich[1], Dr. Cecilia Pederzolli[1] (1. FBK)

11:30am **Symmetric and Asymmetric Cladding Architectures of High Q-Factor 1D Photonic Crystal Cavities on Silicon Nitride Platform for Sensing Applications in both Gaseous and Liquid Solutions**
» Dr. Simone Iadanza[1], Mr. Alessio Tedesco[2], Mr. Giuseppe Giannino[3], Dr. Marco Grande[3], Dr. Liam O'Faolain[1] (1. Munster Tecnological University - Tyndall National Institute, 2. Politecnico di Bari, 3. Politecnico)

11:45am **Frontiers in Nanophotonics: Enabling Technology for Next-Generation Biosensors**
» Prof. Hatice Altug[1] (1. Laboratory of Bionanophotonic Systems, Ecole Polytechnique Federale de Lausanne, Lausanne, 1015, Switzerland)

Continued from **Wednesday, 22 September**

12:15pm **Chitosan film: a biodegradable and transparent piezoelectric innovative material for the development of flexible and biocompatible thin devices for biomedical applications**

» Ms. Gaia de Marzo[1], Ms. Federica Vergari[2], Dr. Vincenzo Mastronardi[2], Dr. Luciana Algieri[2], Dr. Lara Natta[2], Dr. Francesco Rizzi[2], Dr. Ferruccio Pisanello[3], Prof. Massimo De Vittorio[2] (1. I, 2. Istituto Italiano di Tecnologia, 3. Università del Salento)

12:30pm **Deterministic nanopore membrane encapsulated in an inert microfluidic system for cell cultivation experiments**

» Mr. Bo Tang[1], Ms. Han Fan[2], Mr. Busche Jan[1], Prof. Pu Chen[2], Prof. Andreas Dietzel[1] (1. Institute for Microtechnology at TU Braunschweig, 2. Department of Biomedical Engineering, Wuhan University School of Basic Medical Sciences)

12:45pm **Lunch Break**

2pm **A4 -**

Session A4: Nanostructures and applications

Auditorium

Chaired by: Dr. Monica Bollani and Prof. Manfred Kohl

2pm **Electrospun Polyacrylonitrile-polydimethylsiloxane composite nanofibers for enhancing miRNAs capture**

» Dr. Giulia Massaglia[1], Dr. Cristina Potrich[2], Dr. Lorenzo Lunelli[2], Dr. Lia Vanzetti[2], Dr. Cecilia Pederzolli[2], Prof. Fabrizio Pirri[3], Dr. Marzia Quaglio[4] (1. Politecnico di Torino; Center for sustainable future technologies (IIT, CSFT@Torino), 2. FBK, 3. Politecnico di Torino, Center for sustainable future Technologies (IIT, CFST@Polito), 4. Politecnico di Torino)

2:15pm **Graphene functionalization as a seed for dielectric growth on monolayer WS2**

» Mr. Pieter-Jan Wyndaele[1], Dr. Jean-Francois de Marneffe[2], Dr. Daire Cott[2], Ms. Stefanie Sergeant[2], Dr. Arantxa Maestre Caro[3], Prof. Stefan De Gendt[1] (1. KU Leuven, 2. imec, 3. Graphenea)

2:30pm **Co-deposition of B and P on Si(001):H for Ultraprecise Bipolar devices**

» Dr. James Owen[1], Mr. Robin Santini[2], Dr. Ehud Fuchs[2], Dr. John Randall[2], Mr. Hamed Alemansour[3], Prof. S. O. Reza Moheimani[4] (1. Industry, 2. Zyvex Labs, 3. UT Dalllas, 4. UT Dallas)

2:45pm **Mathematical and computational metrology of multiscale and hierarchical surfaces**

» Mr. George Papavieros[1], Ms. Theodora Kyttari[2], Dr. Vassilios Constantoudis[1], Dr. Evangelos Gogolides[3] (1. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 2. Institute of Nanoscience and Nanotechnology NCSR Demokritos, 3. NCSR Demokritos)

3pm **π-π Interactions Mediated Pyrene based Ligand Enhanced Photoresponse in Hybrid Graphene/PbS Quantum Dots Photodetectors**

» Dr. Chiara Ingrosso[1], Dr. Ahn Seungbae[2], Dr. Anna Panniello[1], Dr. Marinella Striccoli[1], Dr. Giuseppe Valerio Bianco[3], Prof. Angela Agostiano[4], Prof. Maria Lucia Curri[4], Prof. Oscar Vazquez Mena[2] (1. CNR-IPCF S.S. Bari, 2. NanoEngineering Department University of California, San Diego, 3. CNR-NANOTEC S.S. Bari, 4. Dip. di Chimica, Università di Bari,)

3:15pm **Gas phase MacEtch: unparalleled high aspect ratio (10'000:1) silicon nanostructures**

» Dr. Lucia Romano[1], Mr. Zhitian Shi[2], Dr. Konstantins Jefimovs[2], Dr. Joan Vila-Comamala[2], Prof. Marco Stampanoni[1] (1. ETH Zurich and Paul Scherrer Institute, 2. Paul Scherrer Institute)

2pm **B4 -**

Session B4: Technologies for micro and nano photonics I

Sala 500

Chaired by: Prof. Liam O'Faolain and Prof. Sergio Ferrero

2pm **Enhancing the second harmonic generation from nonlinear crystals by plasmonic nanostructures**

» Dr. Emre Gürdal[1], Dr. Anke Horneber[1], Prof. Alfred J. Meixner[1], Prof. Dieter P. Kern[1], Dr. Dai Zhang[1], Prof. Monika Fleischer[1] (1. University of Tübingen)

Continued from **Wednesday, 22 September**

2:15pm

LSPR sensing of pesticides using 2D plasmonic nanostructures

» Dr. Massimo Rippa[1], Dr. Ambra Vestri[1], Dr. Valentina Marchesano[1], Dr. Radoslaw Kolkowski[2], Prof. Joseph Zyss[3], Prof. Jun Zhou[4], Dr. Domenico Sagnelli[1], Dr. Lucia Petti[1] (1. Institute of Applied Sciences and Intelligent Systems "E. Caianiello" of CNR, Pozzuoli (Na), 80078, Italy, 2. Center for Nanophotonics, AMOLF, Amsterdam, Netherlands, 3. Institut d'Alembert, Université Paris Saclay, Gif sur Yvette, France, 4. Institute of Photonics, Faculty of Science, Ningbo University, Ningbo, China)

2:30pm

Nano-engineering unlocks the potential of SiC for photonics

» Prof. Haiyan Ou[1] (1. DTU Fotonik, Technical University of Denmark)

3pm

Three-dimensional bilayer cantilever waveguides enabling broadband chip-to-fiber coupling

» Ms. Celeste Qvotrup[1], Mr. Zhe Liu[1], Ms. Camille Papon[1], Prof. Leonardo Midolo[1], Mx. Andreas Wieck[2], Dr. Arne Ludwick[2], Prof. Peter Lohdahl[1] (1. Niels Bohr Institute, Copenhagen University, Denmark, 2. Lehrstuhl fur Angewandte Festkorperphysik, Ruhr-Universitat Bochum, Universitatsstrasse, Bochum, Germany)

3:15pm

Anderson localization of light in slotted photonic crystal waveguides

» Dr. Guillermo Arregui Bravo[1], Dr. Ryan Cecil Ng[2], Mr. Marcus Albrechtsen[1], Prof. Clivia Marfa Sotomayor Torres[2], Prof. Søren Stobbe [1], Dr. Pedro David García Fernández[2] (1. DTU Fotonik, Technical University of Denmark, 2. Catalan Institute of Nanoscience and Nanotechnology (ICN2))

2pm

C4 -

Session C4: Interactions with biosystems

Sala Londra

Chaired by: Prof. Andrea Lamberti and Dr. Marco Lazzarino

2pm

Biocompatible pressure sensing diaphragms for long-term medical implants

» Ms. Ann-Kathrin Klein[1], Dr. Claus Burkhardt[2], Dr. Boris Stamm[3], Dr. Alexander Kaya[3], Prof. Andreas Dietzel[1] (1. Institute for Microtechnology, Technische Universität Braunschweig, 2. NMI Natural and Medical Sciences Institute at the University of Tübingen, 3. NanoScale Systems, Nanoss GmbH)

2:15pm

Mechanical Stability and Skin Penetration of In-Plane Silicon Microneedles

» Ms. Stephanie Ingemann Bisgaard[1], Dr. Long Quang Nguyen[1], Dr. Katrine Lindholm Bøgh[2], Prof. Stephan Sylvest Keller[1] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Food - The National Food Institute Technical University of Denmark)

2:30pm

Hybrid 2-photon lithography for wafer-scale nanofluidic chip fabrication

» Mr. Oliver Vanderpoorten[1], Mr. Quentin Peter[2], Dr. Pavan Challa[2], Mr. Ali Nawaz Babar[2], Prof. Balpreet Ahluwalia[1], Prof. Ulrich Keyser[2], Prof. Jeremy Baumberg[2], Prof. Clemens Kaminski[2], Prof. Tuomas Knowles[2] (1. The arctic University of Tromsø, UiT, 2. University of Cambridge)

2:45pm

Sequential cyclic compression profiles applied on cancer cells in a flexible microdevice

» Ms. Sevgi Onal[1], Prof. Maan M. Alkaisi[1], Dr. Volker Nock[1] (1. University of Canterbury)

3pm

Acoustic isolation of extracellular vesicles - From uL/min to mL/min

» Dr. Alex Broman[1], Dr. Andreas Lenshof[1], Dr. Mikael Evander[2], Dr. Lotta Happonen[1], Dr. Anson Ku[1], Dr. Johan malmstrom[1], Prof. Thomas Laurell[1] (1. Lund University, 221 00, Lund, Sweden, 2. AcouSort AB, 223 81 Lund, Sweden)

3:30pm

Poster Session - Even numbers - Advanced Patterning

Continued from **Wednesday, 22 September**

PA2-Incorporation of X-ray Contrast Agent into Microcontainers Used for Oral Drug Delivery

» Mr. Rolf Bech Kjeldsen[1], Dr. Lasse Højlund Eklund Thamdrup[1], Dr. Mahdi Ghavami[1], Dr. Line Hagner Nielsen[1], Dr. Kinga Zór[1], Prof. Anja Boisen[1] (1. Technical University of Denmark)

PA4-Development of STI etching process to reduce the carbon footprint

» Dr. Aniello Gaudino[1], Dr. Luigi Calabrese[2] (1. STMicroelectronics, 2. Politecnico di Torino)

PA6-Advanced Nanolithography for Low-noise Josephson Parametric Amplifiers

» Ms. Daria Ezenkova[1], Ms. Anastasiya Pishchimova[1], Mr. Dmitriy Moskalev[1], Mr. Nikita Smirnov[1], Mr. Anton Ivanov[1], Ms. Tatiana Konstantinova[2], Dr. Ilya Rodionov[1] (1. FMN Laboratory, Bauman Moscow State Technical University and Dukhov Automatics Research Institute (VNIIA), 2. FMN Laboratory, Bauman Moscow State Technical University)

PA8-PRECISE CAPILLARY-ASSISTED NANOPARTICLE ASSEMBLY IN REUSABLE TEMPLATES

» Mr. Henry S.C. Yu[1], Dr. Ana Conde-Rubio[1], Dr. Giovanni Boero[1], Prof. Jürgen Brugger[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL))

PA10-Fabrication of flexible two-stage through-hole electrodes using the transfer method

» Mr. Furuta Atsuhiro[1], Prof. Jun Taniguchi[1] (1. Tokyo University of Science)

PA12-Two-step lithography process via UV-Nanoimprint Lithography and Electron beam lithography for Optical devices

» Ms. Saaya Sennzaki[1], Dr. Takao Okabe[1], Prof. Jun Taniguchi[2] (1. Department of Applied Electronics, Faculty of Advanced Engineering, Tokyo University of Science, 2. Tokyo University of Science)

PA14-Fabrication of vertical micro- and nano-pillar arrays using plasma etching for biosensor and optical applications

» Ms. Joana Marques Cerdeira[1], Dr. Zhong Ren[1] (1. Oxford Instruments Plasma Technology)

PA16-Microfluidic chip for efficient bacteria capture and enrichment

» Ms. Danyang Li[1], Mr. Li Chen[2], Ms. Wenwen Jia[3] (1. 13093770060@163.com, 2. CL2009@cqu.edu.cn, 3. jww_1997@163.com)

PA18-Microfluidic System of SUEX Dry Film Photoresist for Electrical Impedance Spectroscopy

» Mr. Yuan Cao[1], Dr. Julia Floehr[2], Prof. Uwe Schnakenberg[1] (1. Institute of Materials in Electrical Engineering, RWTH Aachen University, Aachen, 52074, Germany, 2. Helmholtz-Institute for Biomedical Engineering, RWTH Aachen University Hospital, Aachen, 52074, Germany)

PA20-Fabrication of rose-petal-effect surface using moth-eye structure and roll-press process

» Mr. Kazuki Fujiwara[1], Mr. Hiroyuki Sugawara[2], Prof. Jun Taniguchi[1] (1. Tokyo University of Science, 2. GEOMATEC Co., Ltd.)

PA22-80 K Cryogenic stage development for ice lithography

» Dr. Rubaiyet Haque[1], Mr. Affan Waafi[1], Dr. Anpan Han[1] (1. Technical University of Denmark)

PA24-Ice lithography using W(CO)6 ice

» Dr. Rubaiyet Haque[1], Mr. Affan Waafi[1], Dr. Anpan Han[1] (1. Technical University of Denmark)

PA26-Efficient and cost-effective cryo-stage for ice lithography

» Mr. Yasir Ghiasi[1], Mr. Affan Waafi[1], Dr. Rubaiyet Haque[1], Dr. Anpan Han[1] (1. Technical University of Denmark)

Continued from **Wednesday, 22 September**

PA28-Reducing damage of photoresist in optical contact photolithography by using Teflon coated photomasks

» Mr. Henk-Willem Veltkamp[1], Mr. Meint de Boer[1], Mrs. Yiyuan Zhao[1], Dr. Remco Wiegerink[1], Mr. Huib van Vossen[1], Mr. Peter Linders[1], Mr. Gerard Roelofs[1], Prof. Joost Lötters[2] (1. MESA+ Institute for Nanotechnology / University of Twente, 2. MESA+ Institute for Nanotechnology / University of Twente / Bronkhorst High-Tech BV)

PA30-Measurements of attracting surface forces in nanoelectromechanical systems

» Mr. Thor Weis[1], Mr. Marcus Albrechtsen[1], Mr. Konstantinos Tsoukalas[1], Mr. Ali Nawaz Babar[1], Prof. Søren Stobbe[1] (1. DTU Fotonik, Technical University of Denmark)

PA32-Optimization process for the fabrication of ultra-low loss PECVD silicon nitride-on-insulator waveguides

» Dr. Yannick Bleu[1], Dr. Camille Petit-Etienne[1], Dr. Laurène Youssef[1], Dr. Jonathan FAUGIER-TOVAR[2], Dr. Quentin WILMART[2], Dr. Erwine Pargon[1] (1. Univ. Grenoble Alpes, CNRS, CEA/LETI-Minatec, Grenoble INP, LTM, F-38054 Grenoble, France, 2. Univ. Grenoble Alpes, CEA, LETI, F-38000 Grenoble, France)

PA34-Selective direct laser writing of interdigitated pyrolytic carbon microelectrodes

» Mr. Emil Ludvigsen[1], Prof. Jenny Emnéus[2], Dr. Dirch Petersen[3], Prof. Stephan Sylvest Keller[1] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Bioengineering, Department of Biotechnology and Biomedicine, Technical University of Denmark, 3. DTU Energy, Department of Energy Conversion and Storage, Technical University of Denmark)

PA36-Monte Carlo simulation of the resist masks for scalable superconducting qubits

» Ms. Anastasiya Pishchimova[1], Ms. Daria Ezenkova[1], Ms. Tatiana Konstantinova[2], Ms. Elizaveta Malevannaya[1], Mr. Alexei Matanin[1], Mr. Eugene Zikii[1], Dr. Ilya Rodionov[1] (1. FMN Laboratory, Bauman Moscow State Technical University and Dukhov Automatics Research Institute (VNIIA), 2. FMN Laboratory, Bauman Moscow State Technical University)

PA38-EOS 72 – Chemically amplified resist with outstanding alkali stability

» Dr. Mandy Grube[1], Dr. Benjamin Schille[1], Mr. Matthias Schirmer[1], Dr. Bodo Fuhrmann[2], Prof. Georg Schmidt[2], Dr. Judith Hohmann[3] (1. Allresist GmbH, 2. MLU Halle, 3. Institute of Microstructure Technology (IMT), Karlsruhe Institute of Technology (KIT))

PA40-Optical properties of asymmetric bowtie nanoantennas

» Mr. hao hu[1] (1. +33 783160413)

PA42-Direct patterning of methylammonium lead bromide perovskites by thermal imprint

» Dr. Andre Mayer[1], Mr. Tobias Haeger[1], Mr. Manuel Runkel[1], Mr. Johannes Staabs[1], Mr. Johannes Rond[1], Prof. Patrick Goerrn[1], Prof. Thomas Riedl[1], Prof. Hella-Christin Scheer[1] (1. University of Wuppertal)

PA44-Nanoparticles-assisted Bosch process to fabricate silicon nanowires with strong superhydrophobicity and superior absorptance

» Mr. Zengxing Zhang[1], Prof. Kaiying Wang[1] (1. University of South-Eastern Norway)

PA46-Nanofabrication of randomly distributed transmission hole array for diffraction imaging in soft X-ray

» Mr. Xujie Tong[1], Mr. Chengyang Mu[2], Ms. Yijie Li[2], Prof. Yifang Chen[2] (1. School of Information Science and Technology, Fudan University, 2. Fudan University)

PA48-Fabrication of Specimens for Tensile Testing at the Micro- and NanoScale

» Dr. Jaroslav Lukes[1], Dr. Eric Hintsala[2], Dr. Ude Hangen[3] (1. Bruker BNSM, 2. Bruker NIBU, 3. Bruker Nano GmbH)

PA50-SiO2 sputtering by low energy ions

» Dr. Dmitry Lopaev[1] (1. Skobeltsyn Institute of Nuclear Physics, Moscow State University)

Continued from **Wednesday, 22 September**

PA52-Beam shaping with 3D-printed diffractive optical elements

» Dr. Einstom Engay[1], Ms. Nuria del Castillo Iniesta[1], Mr. Alexandre Wetzel[1], Prof. Rafael Taboryski[2], Dr. Ada-Ioana Bunea[1] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. DTU Nanolab)

PA54-X-ray-induced photo-process for functional nano/microstructures and materials in Ni aqueous liquid solutions

» Dr. Akinobu Yamaguchi[1], Mr. Shunya Saegusa[1], Dr. Ikuya Sakurai[2], Prof. Ikuo Okada[2], Dr. Mari Ishihara[3], Prof. Yuichi Utsumi[1] (1. University of Hyogo, 2. Nagoya University, 3. Hyogo Prefectural Institute of Technology)

PA56-Fabrication of Interdigitated Photoresist-Derived Pyrolytic Carbon Microelectrodes using Maskless Lithography

» Mr. Nicolai Støvring[1], Prof. Jenny Emnéus[2], Dr. Arto Heiskanen[1], Prof. Stephan Sylvest Keller[3] (1. Technical University of Denmark, 2. DTU Bioengineering, Department of Biotechnology and Biomedicine, Technical University of Denmark, 3. DTU Nanolab, Technical University of Denmark)

PA58-Ultra-high aspect ratio X-ray gratings by conformal pulsed Au electroplating

» Dr. Konstantins Jefimovs[1], Mr. Zhitian Shi[1], Dr. Lucia Romano[1], Prof. Marco Stampanoni[2] (1. Paul Scherrer Institute, 2. ETH Zurich)

PA60-Replication of biomimetic, multilevel undercut nanostructures using UV-based Nanoimprinting

» Dr. Michael Mühlberger[1], Mr. Stephan Ruttloff[2], Dr. Dieter Nees[2], Mr. Amiya Moharana[2], Dr. Maria Belegratis[2], Mr. Philipp Taus[3], Prof. Heinz Wanzenboeck[3], Ms. Sonja Kopp[1], Mr. Patrick Schuller[3], Mr. Anton Tsenov[3], Mr. Markus Schinnerl[3], Dr. Mostafa Shawrav[4], Dr. Michael Haslinger[1], Dr. Adrian Prinz[5], Dr. Daniel Fechtig[1] (1. Profactor GmbH, 2. JOANNEUM RESEARCH Forschungsgesellschaft mbH, 3. TU Wien, 4. ams AG, 5. Stratec Consumables GmbH)

PA62-Atlas 46 – novel negative tone photoresist similar to SU-8 with a temperature sensitive removal option

» Dr. Benjamin Schille[1], Dr. Armaghan Fakhfouri[2], Mr. Matthias Schirmer[1], Dr. Maik Gerngroß[1], Dr. Mandy Grube[1], Dr. Andreas Winkler[2] (1. Allresist GmbH, 2. Leibniz Institute for Solid State and Material Research (IFW))

PA64-Flexible Graphene – based inkjet – printed heaters

» Mr. Dimitris Barmpakos[1], Prof. Vassiliki Belessi[2], Mr. Rayner Schelwald[3], Prof. Grigoris Kaltsas[1] (1. microSENSES Laboratory, Department of Electrical and Electronics Engineering, University of West Attica, 2. Department of Graphic Design and Visual Communication, Graphic Arts Technology Study Direction, University of West Attica, 3. Filmetrics, A KLA Company)

PA66-Terahertz Polarization Modulation with 3D helix metamaterial

» Mr. Yonggang Piao[1], Dr. Zhongyang Bai[2], Mr. Haowei Sun[2], Prof. Youguang Zhang[2], Prof. Tianxie Nie[1], Prof. Xiaojun Wu[2], Prof. Lianggong Wen[1] (1. School of Integrated Circuit Science and Engineering, Beihang University, 2. School of Electrical Information Engineering, Beihang University)

PA68-Angiogenesis biomarkers detection on a polymeric 3D printed device

» Dr. Gianluca Palmara[1], Dr. Alessandro Chiadò[2], Dr. Annalisa Chiappone[1], Prof. Fabrizio Pirri[1], Dr. Ignazio Roppolo[1], Dr. Francesca Frascella[1] (1. Politecnico di Torino, 2. Applied Science and Technology Department, Politecnico di Torino, Torino, 10129, Italy)

PA70-Stability Considerations for Isolated and Dense High Aspect Ratio Nanopillars Replicated by UV Nanoimprint Lithography

» Mr. Oliver Maier[1], Dr. Michael Haslinger[2], Dr. Michael Mühlberger[2], Mr. Markus Pribyl[3], Mr. Philipp Taus[3], Prof. Heinz Wanzenboeck[3], Dr. Elena Guillen[2] (1. Pr, 2. Profactor GmbH, 3. TU Wien)

PA72-Impacts of different carrier wafers during Cl2 Inductively Coupled Plasma etching on the GaN surface and the Al2O3/GaN interface

» Dr. Thibaut Meyer[1], Dr. Sarah Boubenia[1], Dr. Bassem Salem[1], Dr. Camille Petit-Etienne[1], Dr. Erwine Pargon[1] (1. Université Grenoble Alpes, CNRS, LTM, F-38000 Grenoble, France)

Continued from **Wednesday, 22 September**

PA74-Focused Ion Beam Milling of Silicon by LMIS and LMAIS sources: comparison between Au+ and Ga+ processes.

» Mr. Damiano Giubertoni[1], Dr. Shyamal Mondal[1], Mr. Alessandro Cian[1], Mr. Mario Barozzi[1], Mr. Elia Scattolo[1], Mr. Roberto Canteri[1], Dr. Lia Emanuela Vanzetti[1], Dr. Achim Nadzeyka[2], Dr. Bjoern Wittmann[2], Dr. Torsten Richter[2], Dr. Pierluigi Bellutti[3] (1. FBK, Bruno Kessler Foundation, 2. Raith gmbh, 3. Fondazione Bruno Kessler)

PA76-Simulation and process design of direct-write laser grayscale exposure on thick photosensitive positive resists

» Ms. Gerda Ekindorf[1], Mr. Dominique Collé[1], Dr. Peter Heyl[1], Mr. Daniel Ritter[2], Mr. Thomas Michels[2] (1. Heidelberg Instruments, 2. GenISYS GmbH)

PA78-Superhydrophobic nanostructured metallic surfaces for enhanced heat transfer

» Mr. Panagiotis Sarkiris[1], Dr. Kosmas Ellinas[2], Dr. Evangelos Gogolides[3] (1. National technical University of Athens, Athens, 15780, Greece, 2. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 3. NCSR Demokritos)

PA80-Edge-contact MoS2 transistors made by thermal scanning probe lithography

» Dr. Ana Conde-Rubio[1], Dr. Xia Liu[1], Dr. Giovanni Boero[1], Prof. Jürgen Brugger[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL))

PA82-Shallow slopes without steps, a challenge for direct writing lithography

» Dr. Helmut Schift[1], Mr. Marvin Dunau[2], Mr. Jan Erjawetz[2], Mr. Dominique Collé[3] (1. Paul Scherrer Institut, 2. Paul Scherrer Institute, 3. Heidelberg Instruments)

PA84-Smart design system for thermal nanoimprint process using hybrid deep learning

» Prof. Yoshihiko Hirai[1] (1. Osaka Pref. Univ.)

PA86-Single Pixel Line FIB milling of Plasmonic nanostructures in ultra-thin Au film by liquid metal alloy ion source species: Si++; Ge++; Au+ and Au++.

» Mr. Damiano Giubertoni[1], Mr. Alessandro Cian[2], Dr. Rossana Dell'Anna[2], Dr. Javier Rodríguez-Álvarez[3], Mr. Albert Guerrero[4], Dr. Giancarlo Pepponi[2], Dr. Xavier Borrisé[5], Prof. Arantxa Fraile Rodríguez[3], Prof. Xavier Batlle[3], Prof. Amilcar Labarta[3], Prof. Francesc Perez-Murano[6] (1. FBK, 2. FBK, Bruno Kessler Foundation, 3. Departament de Física de la Matèria Condensada, Universitat de Barcelona, 4. Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC), 5. Institut Català de Nanociència i Nanotecnologia, Bellaterra (Barcelona), 6. Institute of Microelectronics)

PA88-Extending the field of view of holographic two-photon fabrication by employing a three-mirror scan head

» Dr. Marco Pisanello[1], Dr. Di Zheng[1], Dr. Antonio Balena[1], Dr. Filippo Pisano[1], Prof. Massimo De Vittorio[1], Dr. Ferruccio Pisanello[1] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies)

PA90-The effect of stiffness on mechanical bactericidal efficacy of UV nanoimprint lithography patterned polymeric surfaces

» Ms. Sophie Lohmann[1], Dr. Abinash Tripathy[1], Dr. Athanasios Milionis[1], Ms. Anja Keller[1], Prof. Martin Loessner[1], Prof. Dimos Poulikakos[1] (1. ETH Zurich)

PA92-3D printed micro-bioreactors for the study of biofilms in porous media

» Mr. Christos Papadopoulos[1], Dr. Laurent Malaquin[2], Dr. Yohan Davit[1] (1. Institut de Mécanique des Fluides de Toulouse, 2. LAAS-CNRS)

PA94-Nano hotplate fabrication by combining EBL and FIB techniques

» Dr. Zhifu Feng[1], Dr. Andrea Gaiardo[2], Mr. Damiano Giubertoni[3], Mr. Alessandro Cian[4], Dr. Pierluigi Bellutti[2], Prof. Vincenzo Guidi[5] (1. Fondazione Bruno Kessler Institute, 2. Fondazione Bruno Kessler, 3. FBK, 4. FBK, Bruno Kessler Foundation, 5. Ferrara University)

Continued from **Wednesday, 22 September**

PA96-Design of a simplified microfabrication process to obtain vertical structures from planar flexible substrates

» Mr. João Serra[1], Dr. Djibril Faye[2], Dr. João Ventura[3], Dr. Paulo Aguiar[4], Dr. Susana Cardoso de Freitas[5], Dr. Diana Leitão[2] (1. Instituto Superior Técnico, Universidade de Lisboa, 2. Instituto de Engenharia de Sistemas e Computadores – Microsistemas e Nanotecnologias (INESC MN), 3. Instituto de Física de Materiais Avançados, Nanotecnologia e Fotónica, Universidade do Porto (IFIMUP), 4. Instituto de Investigação e Inovação em Saúde da Universidade do Porto (i3S), 5. Universidade de Lisboa)

PA98-Substrate removal technique in wet undercut etching of semi-polar (20-21) InGaN laser structures by the incorporation of un/relaxed sacrificial layer single quantum well

» Dr. ARWA SAUD ABBAS[1], Prof. Ahmed Alyamani[2], Prof. Shuji Nakamura[3], Prof. Steven P. DenBaars[3] (1. Materials Department, University of California, Santa Barbara (UCSB), CA, U.S.A. & ational Center for Nanotechnology and Advanced Materials, King Abdulaziz City for Science and Technology (KACST), Riyadh, KSA, 2. National Center for Nanotechnology and Advanced Materials, King Abdulaziz City for Science and Technology (KACST), Riyadh, KSA, 3. Materials Department, University of California, Santa Barbara (UCSB), CA, U.S.A. & Department of Electrical and Computer Engineering, University of California, Santa Barbara (UCSB) , CA, U.S.A.)

PA100-A new level of nanometer traceability in localization microscopy

» Dr. Craig Copeland[1], Dr. Ron Dixson[1], Dr. Andrew Madison[2], Dr. Adam Pintar[1], Dr. Robert Ilic[2], Dr. Samuel Stavis[3] (1. National Institute of Standards and Technology (NIST), 2. National Institute of Standards and Technology, 3. NIST)

PA102-Point pattern analysis of nanostructure positions: Effects of SEM image processing parameters on the Nearest Neighbour Index

» Mr. Argyris Mavrogonatos[1], Ms. Efi-Maria Papia[1], Dr. Panagiotis Dimitrakellis[2], Dr. Vassilios Constantoudis[1] (1. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 2. Institute of Nanoscience & Nanotechnology, NCSR Demokritos)

3:30pm **Poster Session - Even Numbers - Micro and Nano Devices for Life Sciences and Chemistry**

PB2-Lighting Jewells: HCS-SPIM platform for parallel growth and live imaging of hundreds of Organoids

» Dr. Anne Beghin[1], Dr. Gianluca Grenci[1], Dr. Remi Galland[2], Dr. Jean-Baptiste Sibarita[2], Prof. Virgile Viasnoff[1] (1. Mechanobiology Institute, National University of Singapore, 2. Interdisciplinary Institute for Neuroscience)

PB4-Molecular Scale Spatio-Chemical Control of the Activating-Inhibitory Signal Integration in NK Cells

» Mrs. Esti Toledo[1], Dr. Guillaume Le Saux[1], Prof. Mark Schvartzman[1], Mr. Viraj Bhingardive[1] (1. Ben Gurion University in the Negev)

PB6-Development of Polypyrrole/Gold Nanoparticle Composite Electrode for Electrochemical Sensor

» Mr. Hiroki Kawakami[1], Prof. Tso-Fu Mark Chang[2], Prof. Masato Sone[2], Mr. Yu-An Chien[2], Prof. Takamichi Nakamoto[3], Mr. Yuki Ito[3], Dr. Ting Chiu Wan[1], Dr. Parthojit Chakraborty[1], Prof. Chun-Yi Chen[2] (1. Institute of Innovative Research, Tokyo Institute of Technology, Kanagawa 226-8503, Japan, 2. Tokyo Institute of Technology, 3. Tokyo Institute of Technology, Kanagawa 226-8503, Japan)

PB8-In-Situ and Real-Time optical Measurement System for Characterizing the Quality of Water Bodies

» Mr. Thomas Posnicek[1], Mr. Karlheinz Kellner[1], Dr. Martin Brandl[1] (1. Danube University Krems)

PB10-Bias stress study on Electrolyte-Gated Organic Field-Effect Transistors microarray for in liquid biosensing.

» Mr. Matteo Segantini[1], Dr. Matteo Parmeggiani[2], Dr. Alberto Ballesio[1], Dr. Francesca Frascella[1], Dr. Gianluca Palmara[1], Prof. Matteo Cocuzza[1], Prof. Fabrizio Pirri[1], Dr. Simone Luigi Marasso[1] (1. Politecnico di Torino, 2. Istituto Italiano di Tecnologia)

PB12-Plateau–Rayleigh Instability Induced Self-Assembly of Nano-Cubes in Stretched DNA Molecules

» Dr. Peng Zhang[1], Mr. ZIQIANG YANG[1], Prof. SIGURDUR THORODDSEN[1], Prof. ENZO Di Fabrizio[2] (1. King Abdullah University of Science and Technology, 2. Politecnico di Torino)

Continued from **Wednesday, 22 September**

PB14-Development of an electrochemical sensor for the detection of Listeria monocytogenes using loop mediated isothermal amplification.

» Ms. Ane Rivas Macho[1], Dr. Unai Eletxigerra[2], Dr. Santos Merino[2], Mr. Antton Sanjuan[3], Dr. Mounir Bouali[3], Dr. José Luis Vilas[4], Dr. Felipe Goñi[5], Dr. Garbiñe Olabarria[5] (1. GAIKER, Technology Center, Basque Research and Technology Alliance, 2. Surface Chemistry and Nanotechnologies Unit, Tekniker, Eibar 20600, 3. Mondragón Unibertsitatea, Arrasate-Mondragón, 4. Grupo de Química Macromolecular, Departamento de Química Física, Facultad de Ciencia y Tecnología, Universidad del País Vasco, Leioa, 5. Gaiker, GAIKER Technology Centre, Basque Research and Technology Alliance)

PB16-Nanoparticle gas sensors for commercial-pesticide identification

» Dr. Evangelos Skotadis[1], Dr. Evangelos Aslanidis[1], Mr. Nikos Kalatzis[2], Dr. Fotis Chatzipapadopoulos[2], Dr. Nikos Marianos[2], Prof. Dimitris Tsoukalas[1] (1. NATIONAL TECHNICAL UNIVERSITY OF ATHENS, 2. Neuropublic S.A.)

PB18-Flexible SAW microfluidic device as wearable pH sensor based on ZnO nanoparticles

» Mr. Luigi Piro[1], Dr. Leonardo Lamanna[1], Dr. Francesco Guido[1], Dr. Antonio Balena[1], Mr. Massimo Mariello[1], Dr. Francesco Rizzi[1], Prof. Massimo De Vittorio[2] (1. Istituto Italiano di Tecnologia, 2. Istituto)

PB20-Nanoparticles for impedimetric biodetection on paper-based substrates

» Ms. Margo Hauwaert[1], Mr. Grégoire Le Brun[1], Mr. Josquin Vandeputte[1], Dr. Julien Mahy[1], Prof. Sophie Hermans[1], Prof. Jean-Pierre Raskin[1] (1. Université catholique de Louvain)

PB22-Artificial Basement Membrane Components Affect Dissemination and EMT Behavior of Ovarian Tumor 3D Spheroid in Vitro

» Mr. Changchong Chen[1], Dr. Ambroise Lambert[2], Yong Chen[3], Dr. Carole Aimé[1] (1. PASTEUR, Département de chimie, École Normale Supérieure, PSL University, Sorbonne Université, CNRS, 75005 Paris, France, 2. ERRMECe, Equipe de Recherche sur les Relations Matrice Extracellulaire-Cellules (EA1391), Université de Cergy-Pontoise, 95001 Neuville sur Oise Cedex, France, 3. Ecole Normale Supérieure)

PB24-Incorporating the electrochemical sensors into plastic microfluidic devices

» Dr. Zheng Mao[1], Mr. Feng Liang[1], Dr. Jian Shi[2], Dr. Li Wang[2], Dr. Juan Peng[1], Prof. Yong Chen[1] (1. PASTEUR, Département de chimie, École normale supérieure, PSL University, Sorbonne Université, CNRS, 2. MesoBioTech)

PB26-Human blood platelets adsorption on polymeric materials for liquid biopsy

» Mrs. Cecilia Pederzolli[1], Dr. Francesca Frascella[2], Prof. Natalia Malara[3], Dr. Cristina Potrich[1], Dr. Lorenzo Lunelli[1], Mr. Mario Barozzi[1], Prof. MariaLaura Coluccio[4], Dr. Simone Luigi Marasso[2], Dr. Valentina Bertana[2], Mr. Federico Piccoli[5], Dr. Attilio Fabio Cristallo[5], Dr. Adriano Anesi[5], Prof. Candido Fabrizio Pirri[2] (1. Fondazione Bruno Kessler, 2. Politecnico di Torino, 3. Università della Magna Graecia, 4. Università della Magna Graecia, 5. APSS Ospedale S. Chiara Trento)

PB28-3D structured biochip for label-free multi-analyte determinations at the PoN

» Dr. Grigoris Zisis[1], Dr. Georgios Papageorgiou[1], Mr. Vasilios Anastasiadis[1], Dr. Panagiota Petrou[1], Dr. Nikos Papanikolaou[1], Dr. Ioannis Raptis[1] (1. NCSR Demokritos)

PB30-A programmable culture platform for stimulation and in situ sensing of lung epithelial cells

» Dr. Nicolò Cacocciola[1] (1. Politecnico di Torino)

PB32-Novel Fabrication Method for Piezoelectric Microfluidic Cell Sorter Chips

» Mr. Hakan Merdan[1], Prof. Andrew Holmes[1] (1. Imperial College London)

Continued from **Wednesday, 22 September**

PB34-Production of platelets by using human pluripotent stem cells derived megakaryocytes and a microfluidic device with integrated conical-hole microfilter

» Dr. Boxin Huang[1], Dr. Xiaochen Huang[2], Dr. Aiwei Zhu[3], Mr. Feng Liang[1], Dr. Juan Peng[1], Dr. Jian Shi[1], Dr. Li Wang[1], Dr. Fernando Real[3], Dr. Morgane Bomsel[3], Prof. Yong Chen[1] (1. Ecole Normale Supérieure, 2. PASTEUR, Département de chimie, École normale supérieure, PSL University, Sorbonne Université, CNRS, 3. Lab Mucosal entry of HIV and mucosal Immunity)

PB36-Generation of platelet poor plasma for circulating cell-free mitochondrial DNA analysis on a centrifugal microfluidic platform

» Ms. Franziska Schlenker[1], Ms. Lena Karkossa[1], Dr. Nils Paust[2], Prof. Roland Zengerle[2], Dr. Stavros Giaglis[3], Prof. Ulrich Walker[3], Dr. Tobias Hutzenlaub[2], Dr. Peter Juelg[1] (1. Hahn-Schickard, 2. Hahn-Schickard and Laboratory for MEMS Applications, IMTEK-Department of Microsystem Engineering, 3. University Hospital of Basel, Department of Rheumatology)

PB38-Large sample volume management on centrifugal microfluidic cartridges

» Ms. Judith Schlanderer[1], Dr. Jan Lüddecke[1], Prof. Roland Zengerle[2], Dr. Nils Paust[2] (1. Hahn-Schickard, 2. Hahn-Schickard and Laboratory for MEMS Applications, IMTEK-Department of Microsystem Engineering)

PB40-Curved Optoelectronic Platform to Measure Retinal Action Potentials

» Dr. Rosalia Moreddu[1], Dr. Francesco De Angelis[1] (1. Istituto Italiano di Tecnologia, Genova, Italy)

3:30pm **Poster Session - Even Numbers - Micro and Nano Devices for Electronics, Photonics, Physical Applications & Energy**

PC2-Co-Electrodeposition of TiO 2 Nanoparticle Reinforced High Strength Ni Film Assisted by Supercritical Carbon Dioxide for Miniaturized Electronics

» Mr. Yu-An Chien[1], Prof. Chun-Yi Chen[1], Prof. Tso-Fu Mark Chang[1], Prof. Masato Sone[1] (1. Tokyo Institute of Technology)

PC4-Shock Tube Characterization of Air Blast Pressure Sensor Based on Ultra-Miniature Silicon Membrane and Piezoresistive Gauges

» Mr. Jérôme RIONDET[1], Dr. Antony Coustou[1], Dr. Bilel ACHOUR[1], Dr. Aurélie LECESTRE[1], Mr. Samuel CHARLOT[1], Dr. Maylis LAVAYSSIERE[2], Dr. Jérôme LUC[2], Mr. Alexandre LEFRANCOIS[2], Prof. Hervé AUBERT[1], Dr. Patrick PONS[1] (1. CNRS-LAAS, 2. CEA-DAM)

PC6-Mechanical Property of Gold Micro-Cantilevers for Application in Microelectronics and the Sample Geometry Effect

» Mr. Kazuya Fujita[1], Mr. Kosuke Suzuki[1], Prof. Chun-Yi Chen[1], Prof. Tso-Fu Mark Chang[1], Prof. Daisuke Yamane[2], Prof. Hiroyuki Ito[1], Prof. Katsuyuki Machida[1], Prof. Kazuya Masu[1], Prof. Masato Sone[1] (1. Tokyo Institute of Technology, 2. Ritsumeikan University)

PC8-Ink jettability comparison of particle-free silver carbonate & citrate for the development of wearable antenna for wireless body area network

» Ms. Morgan Stacey[1], Dr. Thomas Jones[1], Prof. Amin Abdolvand[1], Dr. Deepak Shamvedi[1], Dr. John Lowe[2] (1. University of Dundee, 2. Ceimig Ltd)

PC10-Pt/PET Composite Fiber Prepared by Supercritical CO2 Catalyzation for Wearable Device Applications

» Mr. Masaki Mitsumoto[1], Dr. Ting Chiu Wan[1], Prof. Chun-Yi Chen[1], Prof. Tso-Fu Mark Chang[1], Ms. Arisa Jinno[2], Dr. Hiromichi Kurosu[2], Mr. Yasushi Watanabe[3], Prof. Masato Sone[1] (1. Tokyo Institute of Technology, 2. Nara Women's University, 3. Showa Denko Materials Co., Ltd.)

PC12-Inkjet printing of temperature sensors from novel particle-free organometallic platinum inks

» Mr. Timothy Grant[1], Dr. Thomas Jones[1], Dr. John Lowe[2], Ms. Rosemary Rothwell[2], Prof. Amin Abdolvand[1] (1. University of Dundee, 2. Ceimig Ltd)

PC14-Effect of zinc oxide nanowire patterned area on flexible pressure sensors

» Mr. Muhammad Ammar Bin Che Mahzan[1], Dr. Graham Wood[1], Ms. Karina Jeronimo[1], Mr. Yulin Geng[1], Dr. Enrico Mastropaolo[1], Dr. Rebecca Cheung[1] (1. University of Edinburgh)

Continued from **Wednesday, 22 September**

PC16-Effect of Current Density on Mechanical Properties of Electrodeposited Gold Evaluated by Micro-Compression Test

» Mr. Taro Omura[1], Prof. Chun-Yi Chen[1], Prof. Tso-Fu Mark Chang[1], Prof. Daisuke Yamane[2], Prof. Hiroyuki Ito[1], Prof. Katsuyuki Machida[1], Prof. Kazuya Masu[1], Prof. Masato Sone[1] (1. Tokyo Institute of Technology, 2. Ritsumeikan University)

PC18-A microheometer based on pL-ferrofluid droplet deformation

» Mr. Danyil Azarkh[1], Ms. Susan Babu[2], Ms. Anna K. Sternberg[3], Prof. Laura De Laporte[2], Prof. Irmgard Classen-Linke[3], Prof. Rudolf Leube[3], Prof. Uwe Schnakenberg[1] (1. Institute of Materials in Electrical Engineering 1 (IWE1), RWTH Aachen, 2. DWI - Leibniz-Institute for Interactive Materials, 3. Institute of Molecular and Cellular Anatomy (MOCA), Uniklinik RWTH Aachen)

PC20-Optical nonlinearities in photonic nanocavities with extreme sub-wavelength confinement

» Mr. Søren Engelberth Hansen[1], Dr. Babak Vosoughi Lahijani[1], Mr. Marcus Albrechtsen[1], Dr. Philip Trøst Kristensen[1], Prof. Jesper Mørk[1], Prof. Søren Stobbe[1] (1. DTU Fotonik, Technical University of Denmark)

PC22-Development of a flexible graphene-based gas sensor using picosecond laser ablation

» Prof. Chien-Ping Wang[1] (1. National Taipei University of Technology)

PC24-Systematic Study and Characterization of AlAs oxidation Process

» Mr. Giulio Tavani[1], Prof. Andrea Chiappini[2], Dr. Alexey Fedorov[3], Prof. Daniel Chrastina[1], Prof. Francesco Scotognella[4], Dr. Erfan Mafakheri[5], Prof. Stefano Sanguinetti[6], Dr. Monica Bollani[5] (1. L-NESS, Dipartimento di Fisica del Politecnico di Milano, 2. INF-CNR CSMFO Lab & FBK CMM, 3. IFN-CNR LNESS Laboratory, 4. Politecnico di Milano, 5. IFN-CNR, L-NESS, 6. Dipartimento di scienza dei materiali, Università di Milano-Bicocca)

PC26-Droplet Platform for Amyloid Fibril Growth and In-Situ Characterizations

» Dr. Peng Zhang[1], Prof. ENZO Di Fabrizio[2], Dr. Manola Moretti[1] (1. King Abdullah University of Science and Technology, 2. P)

PC28-Acoustic sensor with short-term adaptation mechanism for sound processing at sensor level

» Mr. Steve Durstewitz[1], Mr. Kalpan Ved[1], Prof. Martin Ziegler[1], Dr. Claudia Lenk[1] (1. Technische Universität Ilmenau)

PC30-Thermal oxidation assisted chemical mechanical polishing for low-loss 4H-SiC integrated photonic devices

» Mr. Xiaodong Shi[1], Mr. Weichen Fan[1], Mr. Yaoqin Lu[1], Mr. Ailun Yi[2], Prof. Xin Ou[2], Prof. Karsten Rottwitt[1], Prof. Haiyan Ou[1] (1. DTU Fotonik, Technical University of Denmark, 2. Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences)

PC32-Core-shell percolative nanodielectrics for high voltage integrated capacitors: comparative study on different carbon-coated metallic inclusions (Co, Ni & Cu)

» Mr. Cédric LAPEYRONIE[1], Dr. Marco ALFONSO[1], Dr. Bernard VIALA[2], Dr. Jean-Hervé TORTAI[1] (1. LTM-CNRS, 2. CEA-LETI Minatec, Université Grenoble-Alpes, F-38000 Grenoble, France)

PC34-MECHANICAL SENSORS WITH STRUCTURAL COLOURATION: A LOW-COST WAY TO SENSITIVE DETECTION

» Dr. Ferran Pujol-Vila[1], Dr. Pau Güell-Grau[2], Dr. Pedro Escudero[2], Dr. Carlos Pascual[3], Dr. Rosa Villa[2], Dr. Borja Sepúlveda[4], Dr. Mar Alvarez[2] (1. Institute of Microelectronics of Barcelona (IMB-CNM,CSIC), 2. Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), 3. ALBA Synchrotron, 08290 Cerdanyola del Valles, 4. Catalan Institute of Nanoscience and Nanotechnology (ICN2))

PC36-Conformal Platinum Coating of High Aspect Ratio MEMS by Atomic Layer Deposition for High Reflectivity Vertical Micro-Mirrors and Micro-Shutters

» Dr. Anton Lagosh[1], Dr. Benedikt Guldimann[2], Dr. Gergely Huszka[1], Dr. Hamed Sattari[1], Dr. Berit Ahlers[2], Dr. Philippe Giaccari[3], Dr. Grégoire Kerr[4], Dr. Peyman Rahnama[3], Dr. Takeshi Nishizawa[4], Prof. Niels Quack[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL), 2. European Space Research and Technology Centre, 3. Micos Engineering, 4. OHB System AG)

Continued from **Wednesday, 22 September**

PC38-Python-based electro-mechanical co-optimization of MEMS inertial sensors

» Mr. Rui Amendoeira Esteves[1], Dr. Chen Wang[2], Prof. Joana Vaz Pinto[3], Mr. Aojie Quan[1], Mr. Yuan Wang[4], Mr. Huafeng Liu[4], Prof. Michael Kraft[2] (1. KU Leuven, 2. University of Leuven, 3. i3N/CENIMAT, NOVA School of Science and Technology, 4. PGMF and School of Physics, Huazhong University of Science and Technology)

PC40-Highly flexible triboelectric nanogenerators based on directly electrospun nanofibers on MWCNT/PDMS composite electrodes

» Ms. Chaeeun Lee[1], Dr. Yeongjun Kim[1], Prof. Je Hoon Oh[1] (1. Hanyang University)

PC42-Electrical interfacing between inkjet-printed structures and patterned copper tracks on flexible substrate

» Mr. Dimitris Barmpakos[1], Mr. Apostolos Apostolakis[1], Mr. Aggelos Pilatis[2], Prof. George Patsis[1], Prof. Grigoris Kaltsas[1] (1. microSENSES Laboratory, Department of Electrical and Electronics Engineering, University of West Attica, 2. Department of Naval Architecture, University of West Attica)

PC44-Narrow Linewidths Ridge Waveguide AlGaAs Diode Lasers with Surface Gratings; Realisation and Device Examples

» Dr. Olaf Brox[1] (1. Ferdinand-Braun-Institut gGmbH, Leibniz-Institut für Höchstfrequenztechnik)

PC46-Nanomechanical sensors in partial wetting condition for biosensing applications

» Ms. Martina Conti[1], Dr. Laura Andolfi[2], Mr. Erik Betz-Guttner[1], Dr. Nicola Cefarin[2], Dr. Simone Dal Zilio[2], Dr. Marco Lazzarino[2] (1. Università di Trieste, 2. CNR-IOM)

PC48-Band-to-band tunnelling in two-dimensional van der Waals heterostructures

» Mr. Phanish Chava[1], Dr. Kenji Watanabe[2], Dr. Takashi Taniguchi[2], Prof. Manfred Helm[3], Dr. Artur Erbe[3] (1. Helmholt Zentrum Dresden-Rossendorf, Dresden, 2. National Institute for Materials Science, Tsukuba, 3. Helmholtz-Zentrum Dresden-Rossendorf)

PC50-Wavefront shaping applied to plasmonic fiber optics

» Dr. Liam Collard[1], Dr. Di Zheng[1], Dr. Filippo Pisano[1], Mr. MUHAMMAD FAYYAZ KASHIF[2], Dr. Marco Pisanello[1], Dr. Antonio Balena[1], Dr. Marco Grande[2], Dr. Ferruccio Pisanello[1], Prof. Massimo De Vittorio[1] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 2. Politecnico di Bari)

PC52-Fabrication of Vanadium-Dioxide for Thermal Tuning in Photonic Structures

» Mr. MUHAMMAD FAYYAZ KASHIF[1], Dr. Tiziana Stomeo[2], Dr. Francesco Guido[3], Dr. Maria Antonietta Vincenti[4], Dr. Irene Vassalini[4], Prof. Massimo De Vittorio[5], Prof. Antonella D'Orazio[1], Prof. Ivano Alessandri[4], Prof. Costantino De Angelis[4], Dr. Marco Grande[1], Prof. Domenico de Ceglia[6] (1. Politecnico di Bari, 2. Italian Institute of technology, 3. Istituto Italiano di Tecnologia, 4. University of Brescia, 5. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 6. University of Padova)

PC54-Fabrication and characterization of a soft-contact electroadhesion surface for controlling tactile perception

» Mr. Luigi Portaluri[1], Dr. Luciana Algieri[2], Dr. Konstantinos Pagkalis[2], Prof. Massimo De Vittorio[1], Prof. Michele Scaraggi[1] (1. Istituto Italiano di Tecnologia - Università del Salento, 2. Istituto Italiano di Tecnologia)

PC56-Influence of plasma induced surface roughness on the performance of triboelectric generator

» Ms. Stella Arvaniti[1], Mr. Apostolos Segkos[1], Mr. Achilleas Bardakas[1], Dr. Angelos Zeniou[1], Dr. Christos Tsamis[1] (1. Institute of Nanoscience and Nanotechnology, National Center for Scientific Research 'Demokritos', 15310 Athens, Greece.)

PC58-Laser induced graphene for flexible hybrid energy harvesting and storage devices

» Mr. Roberto Speranza[1], Mr. Marco Reina[1], Prof. Andrea Lamberti[1], Prof. Fabrizio Pirri[1] (1. Politecnico di Torino)

PC60-Low-temperature atomic layer deposition of hafnium oxide for gating applications

» Ms. Pragya Shekhar[1], Dr. Saquib Shamim[1], Mr. Volkmar Hock[1], Prof. Hartmut Buhmann[1], Dr. Johannes Kleinlein[1], Prof. Laurens W. Molenkamp[1] (1. Physikalisches Institut (EP3), Universität Würzburg, Würzburg, 97074, Germany)

Continued from **Wednesday, 22 September**

PC62-Ultrathin wire scanner for X-ray beam monitors

» Dr. Simone Dal Zilio[1], Dr. Marco Lazzarino[1], Dr. Silvia Nappini[1], Dr. Elena Magnano[1], Dr. Nicola Cefarin[1] (1. CNR-IOM)

PC64-Design and Finite Element Analysis of an Electrothermally Actuated Microgripper for Biomedical Applications

» Mr. Teferi Sitotaw Yallew[1], Mr. Alvise Bagolini[2], Dr. Maria F Pantano[1] (1. university of trento, 2. Fondazione Bruno Kessler)

PC66-Analysis of Hysteric Behaviour in Nonlinear Resonance of Silicon Nanoelectromechanical Resonators

» Mr. FANG BEN[1], Mr. James Fernando[1], Dr. Jun-Yu Ou[2], Dr. Yoshishige Tsuchiya[3] (1. School of Electronics and Computer Science,University of Southampton, 2. Optoelectronics Research Centre, University of Southampton, 3. School of Electronics and Computer Science, University of Southampton)

PC68-Dielectric Materials for Next Generation Nanoelectronics

» Prof. Arezki Benfdila[1] (1. Mouloud Mammeri University Tizi-Ouzou, BP 17 RP)

3:30pm **Poster Session - Even Numbers - Nanofabrication and Manufacturing for Functional Structures/Surfaces**

PD2-Omnidirectional Absorption of the Solar Light with Arrays of Subwavelength Compound Parabolic Light Concentrators

» Mr. Ashish Prajapati[1], Dr. Gil Shalev[1] (1. Ben Gurion University of the Negev)

PD4-Polymer Microneedles for Transdermal Theranostics and Vaccination

» Prof. Philip Prewett[1], Dr. Zahra Faraji Rad[2], Mr. Vahid Ebrahiminejad[2], Prof. Graham Davies[3] (1. Oxford Scientific Consultants Ltd, 2. University of Southern Queensland, 3. University of New South Wales)

PD6-Funnelling spontaneous emission into waveguides via epsilon near-zero metamaterials

» Mr. Marwan Channab[1], Dr. Federico Ferrarese Lupi[2], Mr. Irdi Murataj[1], Prof. Fabrizio Pirri[1], Dr. Angelo Angelini[2] (1. Politecnico di Torino, 2. INRiM)

PD8-Micro 3D printing for life sciences and microrobotics

» Dr. Ada-Ioana Bunea[1], Ms. Nuria del Castillo Iniesta[1], Ms. Ariadni Droumpali[1], Dr. Einstom Engay[1], Mr. Alexandre Wetzel[1], Prof. Rafael Taboryski[1] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark)

PD10-Nanofabricated patterns for the control of T cell receptor clustering

» Mr. Yuval Segal[1], Mr. ASHISH PANDEY[1], Ms. Sivan Tzadka[2], Mrs. Esti Toledo[3], Mr. Muhammed Iraqi[4], Dr. Olga Radinsky[4], Prof. Angel Porgador[4], Dr. Guillaume Le Saux[3], Prof. Mark Schvartzman[3] (1. Department of Materials Engineering, Ilse Katz Institute for the Nanoscale Science and Technology, Ben-Gurion University of the Negev, 2. Ben Gurion University of the Negev, 3. Ben Gurion University in the Negev, 4. Shraga Segal Department of Genetics, Immunology, and Cell Biology, Ben-Gurion University of the Negev)

PD12-Nanoimprinted multifunctional nanoprobes for a homogeneous immunoassay: a top-down fabrication approach

» Prof. Hubert Brueckl[1], Dr. Astrit Shoshi[1], Dr. Stefan Schrittwieser[2], Dr. Barbara Schmid[2], Ms. Pia Schneeweiss[1], Ms. Tina Mitteramskogler[3], Dr. Michael Haslinger[3], Dr. Michael Mühlberger[3], Dr. Joerg Schotter[2] (1. Danube University Krems, 2. AIT Austrian Institute of Technology, 3. Profactor GmbH)

PD14-Low-Temperature ALD Process Development of 200 mm wafer-scale MoS2 for Gas Sensing Application

» Ms. Rahel Neubieser[1] (1. Fraunhofer IMS, Duisburg)

PD16-Flexible chitosan-based vibrotactile actuators exploiting wrinkling instability

» Ms. Federica Vergari[1], Ms. Gaia de Marzo[1], Dr. Antonio Qualtieri[1], Dr. Vincenzo Mastronardi[1], Prof. Michele Scaraggi[1], Prof. Massimo De Vittorio[1] (1. Istituto Italiano di Tecnologia)

Continued from **Wednesday, 22 September**

PD18-Scalable disordered hyperuniform architectures

» Mr. Mohammed Bouabdellaoui[1], Dr. Zeinab Chehadi[1], Dr. Marco Salvalaglio[2], Prof. Axel Voigt[2], Prof. David Grosso[1], Ms. Chiara Barri[3], Dr. Erfan Mafakheri[4], Mr. Luca Fagiani[5], Prof. Francesca Intonti[6], Dr. Jean Benoit Cluade[1], Prof. Jerome Wenger[1], Prof. Pietro De Anna[7], Dr. Marco Abbarchi[1], Dr. Monica Bollani[4] (1. Aix Marseille University, 2. TU Dresden, 3. Politec, 4. IFN-CNR, L-NESS, 5. Politecnico di Milano, IFN-CNR, 6. LENS, University of Florence, 7. Institut des Sciences de la Terre, University of Lausanne)

PD20-A pumpless modular microfluidic platform based on capillarity and wettability for rapid diagnostics

» Mr. Behrouz Aghajanloo[1], Dr. Matteo Parmeggiani[2], Dr. Alberto Ballesio[3], Dr. Simone Luigi Marasso[4] (1. Isfahan University of Technology, 2. Istituto Italiano di Tecnologia, 3. Politecnico di Torino, 4. CNR-IMEM)

PD22-Design and fabrication of a compact evolved 3D printed metamaterial-based patch antenna for 5G communications

» Ms. Ilaria Marasco[1], Mr. GIOVANNI NIRO[1], Dr. Vincenzo Mastronardi[2], Dr. Francesco Rizzi[2], Prof. Antonella D'Orazio[1], Prof. Massimo De Vittorio[2], Dr. Marco Grande[1] (1. Politecnico di Bari, 2. Istituto Italiano di Tecnologia)

PD24-Topological magnetotransport properties of micron-scale CoSi Hall bars fabricated by focused ion beam milling

» Dr. Alan Molinari[1], Mr. Heinz Schmid[1], Dr. Marcus Schmidt[2], Dr. Vicky Suess[2], Dr. Marilyne Sousa[1], Dr. John Bruley[3], Dr. Sergueï Tchoumakov[4], Dr. Adolfo Grushin[4], Dr. Johannes Gooth[2], Dr. Bernd Gotsmann[1] (1. IBM Research Europe - Zurich, 2. Max Planck Institute for Chemical Physics of Solids, 3. IBM Thomas J Watson Research Center, 4. Institut Neel)

PD26-Study on spin-orbit-torque induced magnetization modulation using planar Hall effect in cross-shaped multilayer wires

» Dr. Akinobu Yamaguchi[1], Dr. Nobuko Matsumoto[2], Dr. Wataru Yoshikawa[2], Dr. Yasuhisa Fujii[2] (1. University of Hyogo, 2. KRI inc.)

PD28-MWCNT/PDMS – Based Dry Electrode for a Wearable Electroencephalogram Acquisition

» Ms. Maria Brites Atalaia Rosa[1], Mr. Mathieu Baijot[1], Dr. Frederik Ceyssens[1], Dr. Nadezda Kuznetsova[1], Prof. Michael Kraft[2] (1. KU Leuven, 2. University of Leuven)

PD30-Multifunctional nanoparticles for biosensing and medical imaging

» Dr. Stefan Schrittwieser[1], Dr. Michael Haslinger[2], Ms. Tina Mitteramskogler[3], Dr. Michael Mühlberger[2], Dr. Astrit Shoshi[4], Prof. Hubert Brueckl[4], Dr. Martin Bauch[1], Dr. Theodoros Dimopoulos[1], Ms. Barbara Schmid[1], Dr. Joerg Schotter[1], Dr. Moritz Eggeling[1], Mr. Christian Derntl[1] (1. AIT Austrian Institute of Technology, 2. Profactor GmbH, 3. P, 4. Danube University Krems)

PD32-Development of a Lab on a Chip for viral RNA analysis

» Mrs. Eve Verpoorten[1], Mrs. Licia Perri[1], Dr. Valentina Bertana[1], Dr. Giulia Massaglia[2], Dr. Marzia Quaglio[1], Dr. Simone Luigi Marasso[1] (1. Politecnico di Torino, 2. polite)

PD34-Shifting the paradigm of focused-ion-beam machining from super-resolution to ultrahigh-throughput

» Dr. Andrew Madison[1], Dr. John Villarrubia[1], Dr. Kuo-Tang Liao[1], Dr. Joshua Schumacher[1], Dr. Kerry Siebein[1], Dr. Robert Ilic[1], Dr. J. Alexander Liddle[1], Dr. Samuel Stavis[2] (1. National Institute of Standards and Technology, 2. NIST)

PD36-Photothermal investigation of micro electrode arrays decorated with plasmonic nanostructures

» Dr. Rustamzhon Melikov[1], Dr. Giulia Bruno[1], Dr. Francesco Tantussi[1], Dr. Michele Dipalo[2], Dr. Francesco De Angelis[3] (1. Italian Institute of technology, 2. Istituto Italiano di Tecnologia, 3. Istituto Italiano di Tecnologia, Genova, Italy)

PD38-Control of optical properties of polymeric surfaces via plasma processing in a new-type of plasma reactor.

» Dr. Angelos Zeniou[1], Dr. Evangelos Gogolides[2], Mr. George Papavieros[1], Dr. Vassilios Constantoudis[1] (1. Institute of Nanoscience and Nanotechnology, NCSR Demokritos, 2. NCSR Demokritos)

Continued from **Wednesday, 22 September**

PD40-Nanopatterning photonic neural implants towards wavevector-encoded optical monitoring of deep brain regions

» Dr. Filippo Pisano[1], Dr. Antonio Balena[2], Mr. MUHAMMAD FAYYAZ KASHIF[3], Dr. Marco Pisanello[1], Dr. Liam Collard[1], Dr. Di Zheng[1], Mrs. Samuela Maria Andriani[1], Mrs. Cinzia Montinaro[1], Mr. Marco Bianco[1], Dr. Barbara Spagnolo[1], Dr. Leonardo Sileo[1], Prof. Antonella D'Orazio[4], Dr. Marco Grande[5], Prof. Massimo De Vittorio[6], Dr. Ferruccio Pisanello[1] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 2. Istituto Italiano di Tecnologia, 3. Politecnico di Bari, Dipartimento di Ingegneria dell'Innovazione, 4. Politecnico di Bari, 5. Politecnico, 6. Istituto)

PD42-Vertical Graphene Lubricant-infused Surface for Continuous Dropwise Condensation

» Mr. Cheuk Wing Edmond Lam[1], Dr. Abinash Tripathy[1], Dr. Diana Davila[2], Mr. Matteo Donati[1], Dr. Athanasios Milionis[1], Prof. Chander Shekhar Sharma[3], Prof. Dimos Poulikakos[1] (1. ETH Zurich, 2. IBM Research - Zurich, 3. Indian Institute of Technology, Ropar, India)

PD44-Fabrication of mesoporous silicon membranes passivated with atomic layer deposited metal oxides

» Ms. Clara Whyte Ferreira[1], Ms. Roselien Vercauteren[1], Prof. Laurent Francis[1] (1. Institute of Information and Communication Technologies, Electronics and Applied Mathematics, UCLouvain)

PD46-Microelectrode arrays integrated with hollow microfluidic nanocylinders enable localized drug delivery and large scale electrophysiological recordings

» Dr. Francesco Tantussi[1], Dr. Giulia Bruno[2], Dr. Giuseppina Iachetta[1], Dr. Giovanni Melle[1], Dr. Nicolò Colistra[1], Dr. Michele Dipalo[1], Dr. Francesco De Angelis[3] (1. Istituto Italiano di Tecnologia, 2. Italian Institute of technology, 3. Istituto Italiano di Tecnologia, Genova, Italy)

PD48-Controlling surface roughness of nanolaminate CrN/W2N coatings by modulating the constituent layers thickness

» Mr. Marco Beltrami[1], Dr. Simone Dal Zilio[2], Dr. Gregor Kapun[3], Dr. Catalin Dacian Ciubotaru[2], Dr. Marco Lazzarino[2], Prof. Orfeo Sbaizero[1] (1. Dipartimento di Ingegneria e Architettura, Università di Trieste, Trieste 34127, Italia, 2. CNR-IOM, Istituto Officina dei Materiali-Consiglio Nazionale delle Ricerche, Trieste 34149, Italia, 3. Center of Excellence on Nanoscience and Nanotechnology, Ljubljana, 1000, Slovenia)

PD50-Extreme Aspect Ratio Metamaterials for Sensing and Space Exploration

» Dr. Richard Norte[1] (1. Delft University of technology)

PD52-Photoluminescence mechanisms of citric acid-derived, N-doped Carbon Quantum Dots for sensing applications

» Mr. Apostolos Segkos[1], Dr. Eleni Alexandratou[2], Dr. Elias Sakellis[1], Dr. Nikolaos Boukos[1], Prof. Spyridon Gardelis[3], Prof. Konstantinos Kordatos[4], Dr. Christos Tsamis[5] (1. Inst. of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, 15310, Greece, 2. Division of Electromagnetics, Electrooptics and Electronic Materials, School of Electrical Engineering, NTUA, Athens, 15780, Greece, 3. Department of Physics, National and Kapodistrian University of Athens, Athens, 15784, Greece, 4. Dept. of Chemical Sciences, School of Chemical Engineering, NTUA, Athens, 15780, Greece, 5. NCSR Demokritos)

PD54-Paper-based stacked reverse electrodialysis cells for energy generation from salinity gradient

» Mr. Ramy Moumneh[1], Mr. Romain Hanus[1], Mr. Grégoire Le Brun[1], Prof. Jean-Pierre Raskin[1], Prof. Laurent Francis[1] (1. Université catholique de Louvain)

PD56-Conductive –Atomic Force Microscopy (C-AFM) with Active Cantilevers

» Prof. Teodor Gotszalk[1], Ms. Ewelina Gacka[1], Mr. Bartosz Pruchnik[1], Mr. Dominik Badura[1], Prof. Thomas Froehlich[2], Prof. Roland Füßl[3], Prof. Eberhard Manske[2], Prof. Ivo Rangelow[2] (1. Wroclaw University of Science and Technology, 2. Technical University of Ilmenau, 3. Technical University of I)

Continued from **Wednesday, 22 September**

PD58-Artificial synaptic devices based on SiO2 and a Pt nanoparticle layer to suppress crack formation on flexible substrates

» Mr. Charalampos Papakonstantinopoulos[1], Dr. Panagiotis Bousoulas [1], Prof. Dimitris Tsoukalas[1] (1. NATIONAL TECHNICAL UNIVERSITY OF ATHENS)

PD60-Dielectric metasurfaces for gas sensing

» Dr. Glen Kelp[1], Ms. Liga Britala[1] (1. University of Tartu, Institute of Physics)

PD62-nano-FTIR and correlation nanoscopy on organic and inorganic nanostructures

» Dr. Philip Schaefer[1] (1. nanoscale analytics (neaspec), attocube systems AG)

PD64-Slippery hydrophobicity for liquid impact resistance

» Dr. Prasenjit Kabi[1], Dr. Vikaramjeet Singh,[1], Dr. Priyankan Datta[1], Prof. Manish Kumar Tiwari[1] (1. University College London)

PD66-Perpetuating drop-wise condensation on slippery hydrophobic surfaces

» Dr. Prasenjit Kabi[1], Dr. Vikaramjeet Singh,[1], Dr. Priyankan Datta[1], Prof. Manish Kumar Tiwari[1] (1. University College London)

PD68-METAMORPHOSIS OF NANOSTRUCTURED LENSES: HYBRIDIZATION AND FREE-FORM METALENSES FOR TOTAL ANGULAR MOMENTUM CONTROL

» Prof. Filippo Romanato[1], Dr. Pietro Capaldo[1], Dr. Gianluca Ruffato[1] (1. Department of Physics and Astronomy 'G. Galilei', University of Padova - CNR IOM National Laboratory)

PD70-Demonstration of a diffraction-based optical diffuser: inspiration from the Morpho butterfly's nanostructure - Invited Poster MNC2020, Young Author's award

» Dr. Kazuma Yamashita[1], Dr. Kentaro Kunitsu[1], Dr. Takuma Hattori[2], Dr. Yuji Kuwahara[2], Prof. Akira Saito[2] (1. Department of Precision Engineering, Osaka University, Suita, Osaka 565-0871, Japan, 2. Department of Precision Engineering, Osaka University, Suita, Osaka 565-0871, Japan; RIKEN SPring-8 Center, Sayo-gun, Hyogo 679-5148, Japan)

Thursday, 23 September

8:30am

A5 -

Session A5: Electron & Ion beam technologies

Auditorium

Chaired by: Dr. Cornelis W Hagen and Dr. Filippo Pisano

8:30am

Direct-writing of advanced nano-superconductors and devices using Focused Ion Beams - MNE Young Investigator Award 2020

» Dr. Rosa Córdoba[1] (1. Institute of Molecular Science (ICMol), University of Valencia, Spain)

9am

Towards the fabrication of silicon nanowire quantum devices by focused ion beam implantation

» Dr. Jordi Llobet[1], Dr. Christian Pinto-Gomez[2], Mr. David Bricio[3], Prof. Joan Bausells[4], Dr. Xavier Borrisé[5], Prof. Francesc Perez-Murano[6] (1. Intitute of Microelectronics of Barcelona IMB-CNM-CSIC, 2. Institute of microel, 3. Institute of Microelectronics of Barcelona (IMB-CNM, CSIC), 4. Institute of Microelectronics of Barcelona, 5. Institut Català de Nanociència i Nanotecnologia, Bellaterra (Barcelona), 6. Institute of Microelectronics)

Continued from **Thursday, 23 September**

9:15am **Metal-waveguide crossings for quantum photonic integrated circuits**

» Ms. Arianne Brooks[1], Prof. Leonardo Midolo[2], Ms. Asli Uguru[3], Prof. Peter Lohdahl[2], Dr. Nir Rotenberg[4], Mr. Zhe Liu[2], Dr. Arne Ludwick[5], Dr. Andreas Wieck[5], Prof. Rüdiger Schott[6] (1. Niels Bohr Insitute, University of Copenhagen, 2. Niels Bohr Institute, Copenhagen University, Denmark, 3. Niels Bohr Institute, University of Copenhagen, 4. Queens University, 5. Lehrstuhl fur Angewandte Festkorperphysik, Ruhr-Universitat Bochum, Universitatsstrasse, Bochum, Germany, 6. Eidgenössische Technische Hochschule Zürich)

9:30am **Shot-filling effects in nanometer-scale electron-beam lithography**

» Mr. Marcus Albrechtsen[1], Dr. Babak Vosoughi Lahijani[1], Prof. Rasmus Ellebæk Christiansen[2], Dr. Vy Thi Hoang Nguyen[3], Ms. Laura Nevenka Casses[1], Mr. Søren Engelberth Hansen[1], Dr. Philip Trøst Kristensen[1], Prof. Nicolas Stenger[1], Prof. Ole Sigmund[2], Prof. Henri Jansen[3], Prof. Jesper Mørk[1], Prof. Søren Stobbe[1] (1. DTU Fotonik, Technical University of Denmark, 2. Department of Mechanical Engineering, Technical University of Denmark., 3. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark)

9:45am **Electron-beam lithography on JSR deep ultraviolet resists**

» Mr. Damien Maillard[1], Dr. Zdenek Benes[1], Dr. Niccolo Piacentini[1], Prof. Luis Guillermo Villanueva[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL))

10am **Nanoscale patterns in copper-oxide superconductors created in a helium ion microscope**

» Prof. Wolfgang Lang[1], Mr. Bernd Aichner[1], Mr. Max Karrer[2], Ms. Katja Wurster[2], Dr. Vyacheslav Misko[3], Dr. Meirzhan Dosmailov[4], Prof. Johannes Pedarnig[5], Prof. Franco Nori[6], Prof. Reinhold Kleiner[2], Prof. Edward Goldobin[2], Prof. Dieter Kölle[2] (1. University of Vienna, 2. University of Tübingen, 3. Vrije Universiteit Brussel, 4. Al-Farabi Kazakh National University, 5. Johannes Kepler University Linz, 6. RIKEN Cluster for Pioneering Research)

10:15am **Fabrication of the Maxwell Fisheye Lens for Quantum Optics**

» Mrs. Hila Nadler[1] (1. Weizmann Institute of Science)

8:30am **B5 -**

Session B5: Technologies for Metasurfaces

Sala 500

Chaired by: Dr. Marco Grande and Prof. Haiyan Ou

8:30am **Polarization-dependent metasurface for beam shaping and imaging applications**

» Dr. Einstom Engay[1], Mr. Dewang Huo[2], Dr. Radu Malureanu[3], Dr. Ada-Ioana Bunea[1], Prof. Andrei Lavrinenko[3] (1. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 2. c Institute of Modern Optics, Harbin Institute of Technology, 3. DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark)

8:45am **Plasmonic porous metamaterials enable optical stimulation of action potentials combined with electrophysiological recordings on microelectrode arrays**

» Dr. Giulia Bruno[1], Dr. Giovanni Melle[2], Dr. Giuseppina Iachetta[2], Dr. Andrea Barbaglia[2], Dr. Rustamzhon Melikov[3], Dr. Michele Dipalo[2], Dr. Francesco De Angelis[4] (1. Italian Institute of technology, 2. Istituto Italiano di Tecnologia, 3. IIT, 4. Istituto Italiano di Tecnologia, Genova, Italy)

9am **Silicon based Metalenses for tight focusing of light**

» Prof. Liam O'Faolain[1] (1. Centre for Advanced Photonics and Process Analysis, Munster Technological University, Cork, Ireland & Tyndall National Institute, Cork, Ireland)

9:30am **Characterization of greyscale direct write lithography process for fabrication of diffractive lenses**

» Dr. Diogo Aguiam[1], Mrs. Joana D. Santos[1], Mr. Carlos Silva[2], Dr. Fabio Gentile[3], Mr. Carlos Ferreira[2], Ms. Inês S. Garcia[1], Dr. João Gaspar[1] (1. International Iberian Nanotechnology Laboratory (INL), 4715-330 Braga, Portugal, 2. ALGORITMI Center, University of Minho, 4800-058 Guimarães, Portugal, 3. Centro de Tecnologia e Desenvolvimento Bosch, 4701-970 Braga, Portugal)

Continued from **Thursday, 23 September**

9:45am **Design and fabrication strategies of complex plasmonic structures for trapping and sensing applications**
» Mr. Marco Riccardi[1], Dr. Christian Santschi[1], Prof. Olivier J. F. Martin[1] (1. Nanophotonics and Metrology Laboratory, Swiss Federal Institute of Technology Lausanne (EPFL))

10am **Hyperbolic Dispersion Metasurfaces and Fano Resonance Optical Coatings for Chiroselective Biosensing**
» Dr. GIUSEPPE STRANGI[1] (1. Department of Physics, Case Western Reserve University, 10600 Euclid Avenue, Cleveland, USA & CNR-NANOTEC Istituto di Nanotecnologia and Department of Physics, University of Calabria, Italy.)

8:30am **C5 -**
Session C5: Technologies for micro and nano Photonics II
Sala Londra
Chaired by: Dr. Lara Natta and Dr. Ferruccio Pisanello

8:30am **Self-driven molecular ferroelectric photodetectors**
» Mr. Mingsheng Xu[1], Ms. Xiaojie Zhou[1], Ms. Yichen Cai[1], Dr. Laigui Hu[1], Prof. Ran Liu[1], Dr. Wenchong Wang[2] (1. Fudan University, 2. University of Muenster)

8:45am **X-ray grating interferometry imaging with fan-shaped source grating**
» Mr. Zhitian Shi[1], Dr. Konstantins Jefimovs[1], Dr. Lucia Romano[1], Dr. Joan Vila-Comamala[1], Prof. Marco Stampanoni[2] (1. Paul Scherrer Institute, 2. ETH Zurich)

9am **Integration of GaAs waveguides on Silicon for quantum photonics**
» Mrs. Atefeh Shadmani[1], Mr. Zhe Liu[1], Ms. Camille Papon[1], Ms. Beatrice Lio[1], Dr. Nickolas Volet[2], Prof. Martijn Heck[2], Mx. Andreas Wieck[3], Mx. Arne Ludwig[3], Prof. Peter Lodahl[1], Prof. Leonardo Midolo[1] (1. Niels Bohr Institute, Copenhagen University, Denmark, 2. Department of ECE, Aarhus University, Denmark, 3. Lehrstuhl fur Angewandte Festkorperphysik, Ruhr-Universitat Bochum, Universitatsstrasse, Bochum, Germany)

9:15am **Microfabricated SiN membrane applied as a free-standing waveguide for refractive index sensing**
» Mr. Giacomo Manzato[1], Dr. MC Giordano[2], Dr. Marco Centini[3], Dr. F Buatier de Mongeot[2] (1. Dipartimento di Fisica, Università di Genova, Via Dodecaneso 33, I-16146 Genova, Italy, 2. Dip. di Fisica, Università di Genova, Via Dodecaneso 33, 16146 Genova, Italy, 3. Dipartimento di Scienze di Base ed Applicate per l'Ingegneria, Sapienza Università di Roma, Via Antonio Scarpa 16, 00161 Rome, Italy)

9:30am **Dynamic metaphotonics for structural colors and holographic displays - MNE Young Investigator Award 2020**
» Prof. Junsuk Rho[1] (1. Pohang University of Science and Technology (POSTECH))

10am **Self-assembled Ge-on-Si microcrystals for single photon detection**
» Mr. Andrea Barzaghi[1], Mr. Saleh Firoozabadi[2], Mr. Fabio Signorelli[1], Dr. Marco Salvalaglio[3], Dr. Roberto Bergamaschini[4], Dr. Andrea Ballabio[1], Mrs. Virginia Falcone[1], Mr. Varun Shankar Chejarla[2], Dr. Andreas Beyer[2], Dr. Marco Albani[4], Dr. Joao Valente[5], Prof. Axel Voigt[3], Prof. Douglas J. Paul[5], Prof. Leonida Miglio[4], Prof. Francesco Montalenti[4], Prof. Kerstin Volz[2], Prof. Alberto Tosi[1], Prof. Giovanni Isella[1] (1. Politecnico di Milano, 2. Philipps-Universität Marburg, 3. TU Dresden, 4. Università di Milano-Bicocca, 5. University of Glasgow)

10:15am **Fuzzy graphene microelectrodes enable intracellular recordings of cellular action potentials thanks to ultrafast laser irradiation**
» Dr. Michele Dipalo[1], Dr. Sahil Rastogi[2], Dr. Laura Matino[1], Mr. Raghav Garg[2], Dr. Giuseppina Iachetta[1], Dr. Francesca Santoro[1], Dr. Itzhaq Cohen-Karni[2], Dr. Francesco De Angelis[3] (1. Istituto Italiano di Tecnologia, 2. Carnegie Mellon University, 3. Istituto Italiano di Tecnologia, Genova, Italy)

10:30am **Coffee Break**

11am **A6 -**
Session A6: Technologies for organic/biological matter
Auditorium
Chaired by: Dr. Marco Pisanello and Dr. Francesco Rizzi

Continued from **Thursday, 23 September**

11am

Novel Concept of Micro Patterned Micro Titer Plates Fabricated via UV-NIL for Automated Neuronal Cell Assay Read-Out

» Dr. Mirko Lohse[1], Dr. Manuel Thesen[1], Dr. Anja Haase[2], Dr. Martin Smolka[2], Dr. Ana Ayerdi Izquierdo[3], Dr. Nerea Briz Iceta[3], Dr. Isbaal Ramos[4], Dr. Clarissa Salado[4], Dr. Arne Schleunitz[1] (1. micro resist technology GmbH, 2. JOANNEUM RESEARCH Forschungsgesellschaft mbH, 3. Tecnalia, 4. Innoprot)

11:15am

Micropatterned cellulose films for flexible electrodes of medical implants

» Mrs. Mahyar Joodaki[1], Prof. Bert Müller[1], Dr. Helmut Schift[2], Dr. Bekim Osmani[1] (1. Biomaterial Science Center, Department of Biomedical Engineering, University of Basel, 2. Paul Scherrer Institut)

11:30am

Regulation of bacterial adhesion by hierarchical topographical surfaces

» Dr. Santos Merino[1], Dr. Aritz Retolaza[1], Dr. Jorge Ramiro[1], Dr. Sofia Alves[1], Dr. Achille Francone[2], Dr. Nikos Kehagias[2], Dr. Jose María Marimón[3], Prof. Nuno Neves[4], Dr. Joana Vieira de Castro[4], Dr. Ainara Arana[3] (1. TEKNIKER, 2. Catalan Institute of Nanoscience and Nanotechnology (ICN2), 3. Biodonostia Health Research Institute, Microbiology Department Donostia University Hospital, 4. 3B's Research Group, I3Bs-Research Institute of Biomaterials, Biodegradables and Biomimetics)

11:45am

Multifunctional Micro and Nanodevices for the Regulation of Cell Function

» Dr. Guillaume Le Saux[1], Dr. Avishay Edri[2], Dr. Uzi Hadad[3], Mr. Yossi Keydar[1], Mrs. Esti Toledo[1], Ms. Ming-Chung Wu[4], Prof. Jean-Cheng Kuo[4], Prof. Angel Porgador[2], Prof. Mark Schvartzman[1] (1. Department of Materials Engineering, Ilse Katz Institute for the Nanoscale Science and Technology, Ben-Gurion University of the Negev, 2. Shraga Segal Department of Genetics, Immunology, and Cell Biology, Ben-Gurion University of the Negev, 3. Ilse Katz Institute for the Nanoscale Science and Technology, Ben-Gurion University of the Negev, 4. Institute of Biochemistry and Molecular Biology, National Yang Ming Chiao Tung University)

12pm

Reusable Millimeter Size Bone Tissue Replicas With Sub-15 nm Feature Size on A Biocompatible Polymer

» Dr. Alessandra Zanut[1], Dr. Xiangyu Liu[2], Dr. Giuseppe Maria de Peppo[1], Dr. Elisa Riedo[1] (1. Tandon School of Engineering, New York University, 2. Tandon School of Engineering, New York Univesity)

11am

B6 -

Session B6: Wearable technologies

Sala 500

Chaired by: Prof. Andrea Lamberti and Dr. Filippo Pisano

11am

High resolution meandering metal patterns enabled by nano-bridge stencil

» Mr. Yi-Chiang Sun[1], Dr. Giovanni Boero[1], Prof. Jürgen Brugger[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL))

11:15am

Metal-nanowire/elastomer based triboelectric nanogenerator for energy harvesting and tactile sensing from human body motions

» Dr. Biswajoy Bagchi[1], Dr. Priyankan Datta[1], Ms. Carmen Salvadores Fernandez[1], Prof. Manish Kumar Tiwari[1] (1. University College London)

11:30am

Design Strategy for Mechanically Transformative Electronics, Sensors, and Implantable Devices

» Dr. Sang-Hyuk Byun[1], Prof. Jae-Woong Jeong[1] (1. Korea Advanced Institute of Science and Technology (KAIST), Daejeon, 34141, Republic of Korea)

12pm

Novel Nanoengineered Ultra-High Barrier Organic/Inorganic Multilayers for Compliant Implantable Bioelectronics

» Dr. Massimo Mariello[1], Dr. Kyungjin Kim[2], Dr. Matthias Van Gompel[3], Mrs. Kangling Wu[1], Prof. Stephanie Lacour[2], Dr. Yves Leterrier[1] (1. Ecole Polytechnique Fédérale de Lausanne (EPFL), 2. Ecole, 3. Comelec SA)

12:15pm

Microstructure geometry based capacitive shear stress sensors for slip detection

» Mrs. Inci Ruya Temel[1], Dr. Andrea Adami[1], Dr. Leandro Lorenzelli[1] (1. Fondazione Bruno Kessler)

Continued from **Thursday, 23 September**

11am

C6 -
Session C6: Implantable devices
Sala Londra
Chaired by: Prof. Matteo Cocuzza and Dr. Tiziana Stomeo

11am

Transparent Neural Interfaces for Multimodal Probing Brain Circuits
» Dr. Jeonghoon Kim[1], Dr. Madison Wilson[1], Dr. Xin Liu[1], Dr. Mehrdad Ramezani[1], Prof. Duygu Kuzum[1] (1. Electrical and Computer Engineering, University of California, San Diego, La Jolla, 92093 CA, USA)

11:30am

Fibertrodes: a FIB based fabrication approach for interfacing brain activity with neglectable photoelectric noise
» Dr. Barbara Spagnolo[1], Prof. Rui Peixoto[2], Dr. Leonardo Sileo[1], Dr. Marco Pisanello[1], Dr. Filippo Pisano[3], Prof. John Assad[4], Prof. Bernardo L. Sabatini[4], Prof. Massimo De Vittorio[5], Dr. Ferruccio Pisanello[6] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 2. University of Pittsburgh, 3. I, 4. Harvard Medical School, 5. Istituto, 6. Istituto Italiano di Tecnologia)

11:45am

Anisotropic Reactive Ion Etching of Titanium Using SF6/O2/Ar plasma
» Ms. Rim Ettouri[1], Dr. Thomas Tillocher[1], Mr. Philippe Lefaucheux[1], Mr. Bertrand Boutaud[2], Ms. Jodie Phung[2], Mr. Hadrien Philippe[2], Prof. Rémi Dussart[1] (1. GREMI, CNRS-University of Orleans, 45067 Orléans, 2. MISTIC SAS)

12pm

Neural probes merging semiconductor scalability with polymeric-like bendability for low damage acute in vivo neural network interrogation
» Mr. Vittoriono Lanzio[1], Prof. Stefano Cabrini[2] (1. The Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, United States of America / Department of Applied Science and Technology, Politecnico di Torino, Torino, 10129, Italy, 2. Lawrence Berkeley National Laboratory)

12:15pm

Towards Diamond Electrode Arrays for Neuroscience
» Mr. Nicolas Bertram[1], Dr. Bingdong Chang[2], Dr. Rune W. Berg[3], Dr. Anpan Han[4] (1. Department of Neuroscience, University of Copenhagen, 2. DTU Nanolab - National Centre for Nano Fabrication and Characterization Technical University of Denmark, 3. University of Copenhagen, 4. Department of Mechanical Engineering, Technical University of Denmark.)

12:30pm

Lunch Break

1:45pm

A7 -
Session A7: Advanced Photon Lithography
Auditorium
Chaired by: Prof. Luciano Scaltrito and Dr. DIMITRIOS KAZAZIS

1:45pm

Advancing the photolithography for more Moore
» Dr. Yasin Ekinci[1] (1. Paul Scherrer Institute)

2:15pm

Two-photon fluorescence-assisted laser ablation of non-planar metal surfaces: fabrication of optical apertures on tapered fibers for optical neural interfaces
» Mr. Marco Bianco[1], Dr. Antonio Balena[2], Dr. Filippo Pisano[2], Dr. Marco Pisanello[2], Dr. Leonardo Sileo[1], Prof. Bernardo L. Sabatini[3], Prof. Massimo De Vittorio[2], Dr. Ferruccio Pisanello[2] (1. Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 2. Istituto Italiano di Tecnologia, 3. Massachusetts General Hospital and Harvard Medical School)

2:30pm

Implementation of phase mask pinholes as spatial filters for laser interference lithography
» Ms. Giovanna Capraro[1], Mr. Michael Möller[2], Mr. Tobias Abel[1], Dr. Jens Bolten[2], Prof. Max Christian Lemme[1] (1. AMO GmbH, RWTH Aachen, 2. AMO GmbH)

2:45pm

Opto-Fluidic 3D printing platform for micro-environment and tissue engineering
» Mr. victor fournie[1], Mrs. Sandrine Assie-Souleille[2], Dr. Julie Foncy[2], Dr. Remi courson[2], Ms. louisa Boyer[2], Dr. Pierre Joseph[2], Dr. Gozde Eke-Cevik[2], Mr. xavier dollat[2], Dr. Julien Roul[2], Dr. Emmanuelle Trevisiol[3], Mr. Arnaud Reitz[1], Dr. Laurent Malaquin[2] (1. Fluigent, 2. LAAS, 3. TBI)

Continued from **Thursday, 23 September**

1:45pm **B7 -**
Session B7: Late Abstracts
Sala 500
Chaired by: Dr. Ferruccio Pisanello and Prof. Dieter P. Kern

1:45pm **A single-chain stimuli-responsive polymer as a novel electrochemical sensing platform - MNE Young Investigator Award 2021**
» Prof. Edward Song[1] (1. University of New Hampshire)

2:15pm **Polymer Supports for Protein Dynamic Studies at X-ray Free Electron Lasers**
» Dr. Celestino Padeste[1], Ms. Melissa Carrillo[1], Ms. Agnieszka Karpik[1], Dr. John Beale[1] (1. Paul Scherrer Institut)

2:30pm **On-chip microscale 3D printing of gold via locally confined electrodeposition**
» Dr. Patrik Schürch[1], Mr. David Osenberg[2], Dr. Paolo Testa[1], Dr. Jakob Schwiedrzik[2], Dr. Wabe Koelmans[1] (1. Exaddon, 2. Empa Thun)

2:45pm **"Phase nanoengineering" via thermal nanolithography: nanopatterning magnetism and beyond**
» Dr. Edoardo Albisetti[1], Dr. Silvia Tacchi[2], Dr. Raffaele Silvani[2], Mr. Davide Girardi[1], Dr. Simone Finizio[3], Dr. Sebastian Wintz[3], Dr. Joerg Raabe[3], Prof. Giovanni Carlotti[4], Prof. Riccardo Bertacco[1], Prof. Elisa Riedo[5], Prof. Daniela Petti[1] (1. Politecnico di Milano, 2. CNR-IOM, 3. PSI, 4. Università di Perugia, 5. New York University)

1:45pm **C7 -**
Session C7: Interacting with cells and bacteria
Sala Londra
Chaired by: Dr. Barbara Spagnolo and Dr. Francesco Rizzi

1:45pm **Living bacteria directly embedded into electrospun nanofibers: design of new anode for-bioelectrochemical systems**
» Dr. Giulia Massaglia[1], Dr. Adriano Sacco[2], Dr. Angelica Chiodoni[2], Prof. Fabrizio Pirri[1], Dr. Marzia Quaglio[1] (1. Politecnico di Torino, Center for sustainable future Technologies (IIT, CFST@Polito), 2. Center for sustainable future Technologies (IIT, CFST@Polito))

2pm **Elaboration of nanoneedle arrays via nanosphere lithography and two top-down approaches: Application to intracellular detections of neurodegenerative diseases' biomarkers.**
» Mr. Paul MOUSTIEZ[1], Mr. Dmitri YAREKHA[1], Dr. Yannick COFFINIER[1] (1. CNRS-IEMN)

2:15pm **Recent Developments in Cantilever Technology for High-Speed AFM**
» Prof. Georg Fantner[1] (1. EPFL)

2:45pm **Selective cell adhesion on 3D scaffolds via photo-induced DNA functionalization**
» Dr. Enrico Domenico Lemma[1], Ms. Roberta Tabone[1], Mr. Kai Richler[1], Dr. Ann-Kathrin Schneider[1], Prof. Christof Niemeyer[1], Dr. Claudia Bizzarri[1], Prof. Martin Bastmeyer[1] (1. Karlsruhe Institute of Technology)

3pm **Coffee Break**

3:30pm **Plenary 5: Paolo Vineis**
Auditorium
Chaired by: Dr. Ferruccio Pisanello and Prof. Anja Boisen

Technical developments on the study of the health impact of environmental exposures
» Paolo Vineis (Imperial College London (UK))

4:15pm **Plenary 6: Zhenan Bao**
Auditorium
Chaired by: Dr. Ferruccio Pisanello and Prof. Anja Boisen

Skin-inspired organic electronics
» Zhenan Bao

Continued from **Thursday, 23 September**

5pm	**Closing Concert** *Auditorium*
5:45pm	**Closing Remarks** *Auditorium*

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