

Newsletter IV (01.09.2023 - 31.12.2023)



NEWS



- **Dr Adam Szatkowski – our new Innovation Manager**

We are delighted to inform that in September 2023, Innovation Manager joined our Team !!!

Dr Adam Szatkowski, MBA, President of the Nanonet Foundation is an expert in the field of nanotechnology and business development. He has many years of experience in creating and developing R&D departments in companies operating in the field of high technologies, including: surface layer engineering, additive technologies, nanotechnologies, energy. Over the years of his career, he has cooperated with leading companies, advising on business strategy, supporting in obtaining financing for innovative projects and commercialization of technologies.

Investor and originator of several start-ups developing new technologies in the field of advanced materials.

Promoter of the development of the advanced materials industry in Poland:

- Coordinator of the Silesian Nano Cluster, the Key National Cluster,
- Vice-chairman of the Working Group for KIS 8 Advanced materials and nanotechnologies,
- Member of the Polish Committee for Standardization for nanotechnology and innovation,
- Member of the Silesian Innovation Council.

<https://www.linkedin.com/in/adam-szatkowski-54bb60b/>

- **The Researchers' Night of the Silesian University of Technology**

In October 2023, during the Silesian University of Technology Scientists' Night, we have our TEAM members involved in 3 stands.

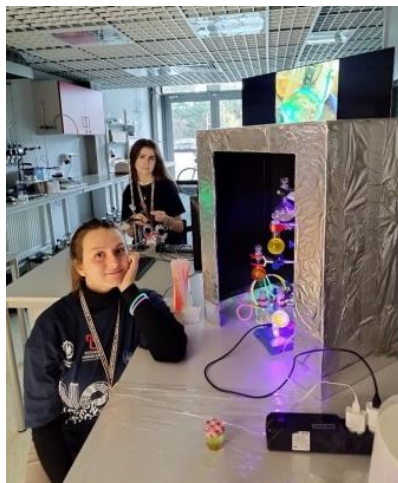
1. Chemistry in electronics - a few words about photoactive compounds
2. From a carbon nanotube to a nanoECG T-shirt
3. How to heal your brain?

Each stand was visited by almost 200 guest, who had a chance to listen to the details of advanced techniques of treatment of neurological diseases, as well as about fluorescent and electrochromic organic materials. Our "clay brain models", glow sticks and fluorescent paint were extremely popular, particularly among children. The nanoECG T-shirt was no less popular.

It was a colorful and exciting day.

See you next year!





- **First Experience Researcher has joined our Team**



Dr. Raja Sebastian joined our Team in October 2023. He is an expert in synthetic chemistry, supramolecular chemistry and nanomaterials and studying their structure-activity relationships (SARs). His research interests are focused on functional organic materials, porous organic frameworks, carbon nano(bio)materials and photo and electrocatalysis.

We are really happy to have him in our group!!! Welcome!!!

- **Scientists from ExCEED and CONE among the prestigious 2% of researchers**



Scientists from the Silesian University of Technology have been ranked among the most influential 2% of researchers in the world, according to the adopted citation indexes of their publications. Among them, four researchers are currently employed at CONE:

prof. dr hab. inż. Mieczysław Łapkowski

prof. Serge Cosnier

dr Yukesh Kannah Ravi

dr hab. inż. Katarzyna Krukiewicz, prof. PŚ

Congratulations to the authors recognised in the ranking!

- **Szymon Ruczka qualified for the final of the 3 Minute Thesis**

Our PhD student, Szymon Ruczka, a member of the NanoCarbon Group led by Prof. Slawomir Boncel, has been qualified for the final of the 3 Minute Thesis. Many congratulations to you! We'll keep our fingers crossed in the next rounds!

As Szymon himself tells us: "I decided to take part in the 3 Minute Thesis - Silesian Edition competition out of sheer curiosity and interest. I decided that the beginning of the second year of my PhD is the perfect time to try my skills against other speakers. The task was clear - to talk in simple and accessible terms about your work in the lab and how it affects your everyday life.

The competition was between 17 people and the committee could only select 10 finalists. Thanks to my preparation, I managed to describe the main objectives of my PhD in three minutes, point out the current state of knowledge and present the possible positive effects of my research.

"Super-slippery nanocarbon"-these two words were supposed to catch the viewer's attention and at the same time be a shortcut of the thinking of my dissertation topic.



- **Second Experience Researcher has joined our Team**



Dr Yadagiri Bommaramoni joined our Team in December 2023. He is an expert in design and synthesis of novel organic materials for organic photovoltaics, perovskite solar cell, sensor, and security applications. His research interests are focused on synthesis of π -conjugated organic materials, organic photovoltaics, perovskite solar cells, carbo- and Aza helicenes and cycloparaphenylenes.

We are really that he joined our group!!!! Welcome!!!!



 **SCIENTIFIC MEETINGS** 

- **ExCEED/CONE Workshop on 29th September 2023**

In the framework of our ExCEED project and as an CONE (Centre for Organic and Nanohybrid Electronics) inauguration, the 1st CONE/ExCEED workshop was held last Friday at Silesian University of Technology in Centre for New Technologies, Aula B, Konarskiego 22B, Gliwice, Poland. During this meeting, CONE researches as well as invited guests gave lectures. There was also plenty of time devoted to the discussion. The afternoon lectures were given via ZOOM platform.

It was a very fruitful meeting with many interesting and inspiring discussions.











 ExCEED ERA CHAIR SUT Project Number 952008	<p align="center"> ExCEED/CONE Workshop 29th September 2023 Centre for New Technologies, Aula B Silesian University of Technology Konarskiego 22B, Gliwice, Poland </p>	 Centre for Organic and Nanohybrid Electronics
Centre for New Technologies, Aula B		
10:15	Official start and welcome address Slawomir Boncel (Silesian University of Technology)	
10:30	Practical approaches to advanced transient photoluminescence Piotr Pander (Silesian University of Technology)	
11:15	Integrated approach on biomass-based bioenergy and value-added product recovery Yukesh Kannah Ravi (Silesian University of Technology)	
11:45	<i>Coffee break</i>	
12:15	Synthesis of organic luminescent materials for organic electronics applications Marilia Gabriela Belarmino Cabral (Silesian University of Technology)	
12:45	New bottom-up approach for synthesis of carbon nanotubes Anna Kolanowska (Silesian University of Technology)	
13:15	<i>Lunch break</i>	
Online lectures/ Centre for New Technologies, Aula B https://polsl-pl.zoom.us/j/94131626037?pwd=Rkd1N1JLYngvWTlqbzFZeHYxOERKQT09		
14:30	Photoemission spectroscopy investigation of molecular thin films and hybrid organic/inorganic interfaces Alberto Calloni (Politecnico di Milano)	
15:30	Atomic force microscopy and Raman spectroscopy combined to <i>in-situ</i> and real time investigation of electrochemical processes at the surface electrode Gianlorenzo Bussetti (Politecnico di Milano)	
16:30	Closing remarks Slawomir Boncel (Silesian University of Technology)	
16:35	Poster session and open discussion	

- The 7th edition of the InterNanoPoland conference with our panel entitled Organic, carbon and hybrid nanoelectronics



InterNanoPoland conference (<https://internanopoland.com/>) was held on 11-12.10.2023 in Katowice, Poland. It was an event that brings together the worlds of science and business. There were 7 thematic panels and 2 plenary lectures that provided knowledge and inspiration, over 200 participants representing various fields and areas related to nanotechnology and advanced materials, 30 companies from the nanotechnology and advanced materials industry that presented their innovative products and services, 8 investment funds and start-up support institutions, 20 scientific and research units that shared their research and achievements, 45 posters, B2B session for conference participants and finally networking gala where we all celebrated together!

During the second day of this event, we hosted a thematic panel entitled "Organic, Carbon, and Hybrid Nanoelectronics". During the meeting, outstanding enthusiasts and scientists shared their discoveries, experiences and views on this dynamically developing the field of nanotechnology.

Day 1	11th October 2023	Day 2	12th October 2023
	9:00	 Welcoming words By Dr Inż. Adam Szatkowski, MBA President in NANONET Foundation / Coordinator of the Silesian Nanotechnology Cluster	
	9:00 - 11:20	 Thematic panel: Organic, carbon and hybrid nanoelectronics By Silesian University of Technology, Centre for Organic and Nanohybrid Electronics Centre for Organic and Nanohybrid Electronics, ExCEED, Prof. dr hab. inż. Stawomir Banasiak Silesian University of Technology, Department of Organic Chemistry, Bioorganic Chemistry and Biotechnology	
	9:00 - 9:25	 Soluble two-dimensional donor-acceptor covalent organic frameworks and their electrochromism By Prof. Igor Perepichka Silesian University of Technology	
	9:25 - 9:50	 Adaptive down- and up-conversion By Prof. Dirk M. Guldi Friedrich Alexander Universität Erlangen Nürnberg	
	9:50 - 10:15	 Advanced nanocomposites for engineering and biomedical applications By Dr Sameer S Rathakumar Cranfield University	
	10:15 - 10:40	 Turning waste to gold By Prof. Hai M. Duong Department of Mechanical Engineering, National University of Singapore / University of Cui Long	
	10:40 - 11:05	 Approach to fully solution-processed organic electronics - role of interlayers By Dr hab. inż. Beata Łuszczynska, prof. PL Lodz University of Technology	
	11:05 - 11:20	 Pursuing the quest for better understanding of charge carrier dynamics in modern semiconductors By Dr eng. Artur P. Herman Wroclaw University of Science and Technology	




- Guest lecture by prof. Mohamed Chehimi**

SURFACE MODIFICATION WITH ARYL DIAZONIUM SALTS. METHODS AND APPLICATIONS

Prof. Mohamed Mehdi Chehimi

ITODYS Lab, Université Paris Cité & CNRS, Paris, France



PLACE: CNT 2010 B

DATE: OCTOBER, 27

TIME: 13:00

SITE: <https://orcid.org/0000-0002-6098-983X>

On October 27th in the Centre for New Technologies (CNT, Konarskiego 22B, Aula B), prof. Mohamed Chehimi gave a guest lecture entitled "Surface modification with aryl diazonium salts. Methods and applications".

Prof. Mohamed Mehdi Chehimi is Senior Research Director at French CNRS. His primary research fields are surface chemistry and XPS surface analysis of reactive and functional materials. Particularly, he is interested in developing thin polymer films and nanocomposites, and diazonium salts as coupling



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agents in materials science. He recently started a new research program on biochar-based materials production and applications in water and tropical disease treatments. He has near 400 research papers, 25+ book chapters and 3 patents to his credit, and edited six books and ten themed issues. His works were cited more than 15 000 time (H-index 63). Mohamed Mehdi Chehimi is ranked in Stanford University World's Top 2% Scientists 2022

The visit was organized by the Centre for Organic and Nanohybrid Electronics and co-financed as part of the implementation of the task in the pro-quality program regarding investment in the development of internationalization from the funds of the Excellence Initiative – Research University program.



- **Deep Tech Summit 2023: Innovative Fusion of Science, Business, and Technology**



We had the opportunity to participate in the Deep Tech Summit 2023 (<https://deeptechsummit.eu/>), which was held on 21-21.11.2023 in Warsaw, Poland. This was an extraordinary event that brought together all participants of the deep tech ecosystem in one place. This gathering brought together scientists, startup creators, and investors from various fields to collectively contemplate the future of technology and innovation.

The aim of Deep Tech Summit was ambitious – to bridge the worlds of technology, business, and science. It was an excellent opportunity to exchange ideas, establish new connections, and showcase innovative projects. Our team was represented by Prof. Sławomir Boncel, who presented a fascinating project he is involved in.



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Prof. Sławomir Boncel is one of the leading scientists in the field of deep tech, and his project generated immense interest among event participants. This is evidence that Poland has much to offer in the realm of modern technology and innovation.

Deep Tech Summit 2023 was not only a place for sharing knowledge and experience but also an excellent opportunity to build bridges between the worlds of science, business, and technology. We are delighted to have been part of this inspiring event and are ready to continue our work in advancing the deep tech ecosystem.



- **Workshops**

On 26.10.2023 Centre for Organic and Nanohybrid Electronics hosted a workshop for undergraduate and postgraduate students led by Prof. Mohamed Chehimi.

We learned that day how to turn our research findings into an interesting and engaging research publication. Professor Chehimi shared with us an editor's perspective on the process of creating a research article.

At the Centre, we focus on the development and learning not only of experienced staff, but also of those, who are taking their first steps in their scientific careers! If you are interested in the topic of advanced organic materials, join us!



- **Intellectual property and commercialization law training**

On Thursday (14.12.2023), our team was trained in intellectual property and commercialization law. The training covered topics such as:

1. The cycle of commercialization of scientific research results, means of commercialization of solutions developed in research projects, basic concepts
2. Key aspects of the first phase of preparation for the protection and commercialization of solutions emerging from research projects – Inventors and Applicants perspective
3. Selection and characteristics of intellectual property rights
4. Patent protection for inventions, patent strategies, prior-art search, examination of patentability, FTO searches
5. Possibility of obtaining protection in different territories
6. Inventors and Applicants rights — inventions developed in research units, in consortia, and in cooperation with entrepreneurs

It was a really informative meeting.



 Achievements 

- ECG T-shirt with nanotextronic carbon nanotube coating as a winner of the 3W Nano Start-up Challenge



The winner of the 3W Nano Start-up Challenge for innovative nanotechnology companies was the ECG T-shirt with nanotextronic carbon nanotube coating, which researchers from Prof. Boncel Nanocarbon Group are working on.

Congratulations ! We wish you more such successes !

- **Prof. Sergie Cosnier with new project**

Prof. Sergie Cosnier, employee of Centre for Organic and Nanohybrid Electronics, had received funding for the project 'Key role of electrode nanostructure design for ultrasensitive detection of cancer markers' in the Narodowe Centrum Nauki competition - OPUS 25!

The aim of the project is to develop a simple and fast method for ultra-sensitive detection of a thyroid cancer biomarker (thyroglobulin), using antibody-functionalised polymer nanoparticles and a nanostructured electrode with a three-dimensional structure.

We congratulate you and wish you further successes!

 Upcoming events 

- At the end of February 2024 we are organizing winter meeting in Polish mountains (Hotel Meta in Szczyrk). This will be international workshop provides an interdisciplinary forum for scientists working in the field of molecular and polymeric and carbon materials with emphasis on new phenomena in electronics and nanophotonics and in June 2024 we invite you to Gdansk, beautiful city located on the Baltic coast, where the international conference will be held



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