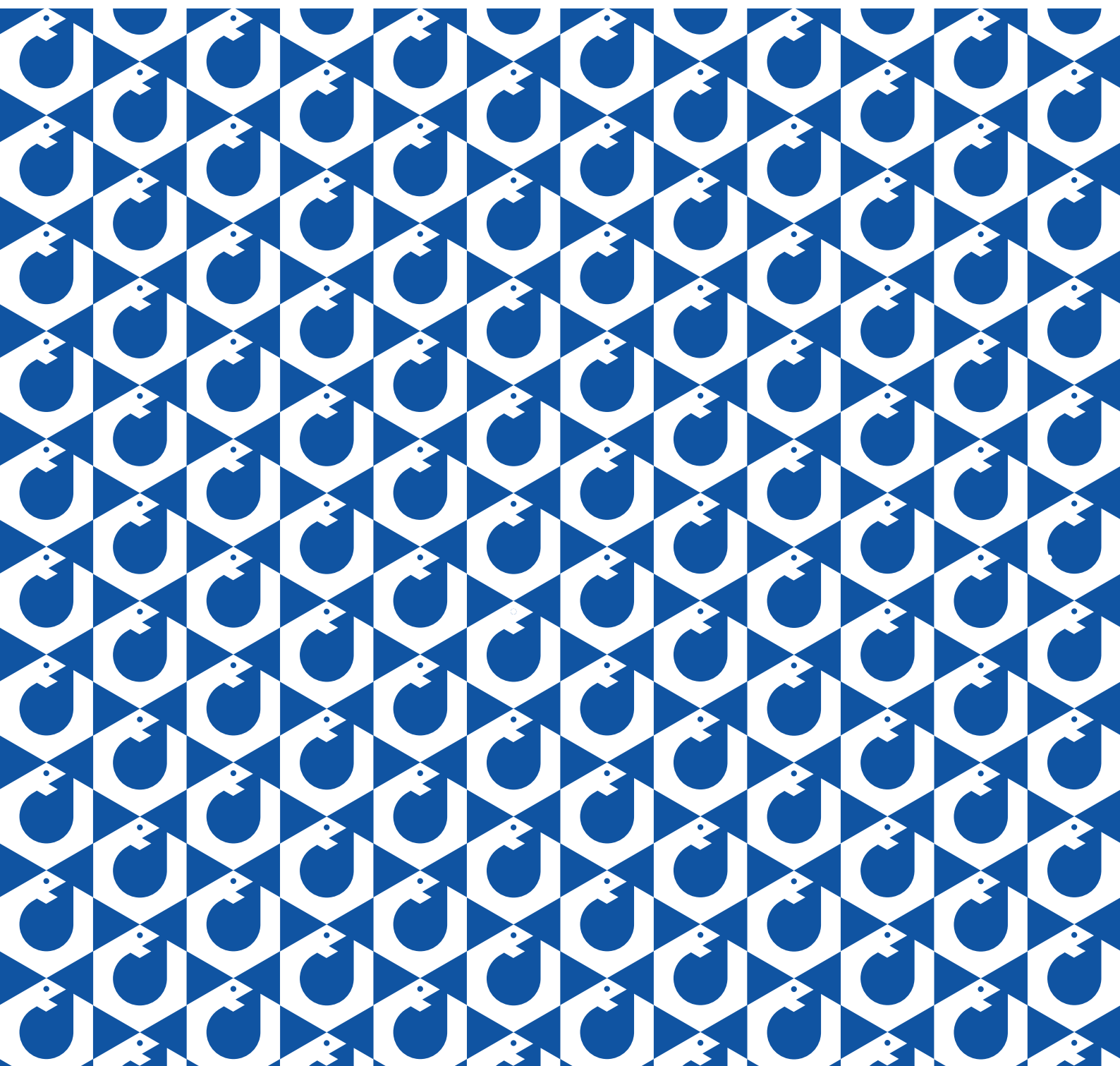


2021

Medicinal Chemistry and
Chemical Biology in Europe





EFMC-ISM

International Symposium on Medicinal Chemistry

Virtual Event

Aug. 29-Sept. 2, 2021

SESSIONS AND SESSION COORDINATORS

CHEMICAL BIOLOGY

CARBOHYDRATE RECOGNITION AND DRUG DESIGN

Alexander Titz, *Helmholtz Institute for
Pharmaceutical Sciences, DE*

CHEMICAL APPROACHES TO STEM CELL DIFFERENTIATION (ICBS Session)

Colin Pouton, *Monash University, AU*

CHEMICAL PROBES FOR TARGET DISCOVERY AND VALIDATION

Gyorgy Keseru, *Hungarian Academy of Sciences, HU*

MOLECULAR IMAGING TOOLS FOR CHEMICAL BIOLOGY

Valle Palomo, *CIB, ES*

PHOTOCHEMISTRY IN DRUG DISCOVERY: PHOTOPHARMACOLOGY, PHOTOTOXICITY AND SYNTHESIS (ACSMEDI Session)

Timothy Henderson, *MSD, US* & Amjad Ali, *MSD, US*

SMALL MOLECULES TARGETING RNA FUNCTION AND PROCESSING

Maria Duca, *University of Côte d'Azur, FR*

TARGET DECONVOLUTION STRATEGIES IN DRUG DISCOVERY

Paul Brennan, *University of Oxford, UK*

DRUG DISCOVERY PROJECTS

ADDRESSING NEGLECTED AND EMERGING VIRAL DISEASES WITH SMALL MOLECULES (AFMC Session)

Esin Aki-Yalçın, *Ankara University, TR*

BREATHING LIFE INTO INHALED DRUG DISCOVERY: CHALLENGES AND BREAKTHROUGHS TO THE CLINIC (ACSMEDI Session)

Nicole Goodwin, *GSK, US*

CHEMICAL TOOLS AND DRUG DISCOVERY FOR NEUROINFLAMMATION (EuChemS Session)

Sonsoles Martin-Santamaria, *Biological Research
Center, ES*

NEW STRATEGIES AND AGENTS FOR TARGETING GRAM-NEGATIVE PATHOGENS

Vicky Steadman, *Selcia, UK*

NEXT GENERATION DRUGS FOR HEART FAILURE

Alleyn Plowright, *Wren Therapeutics, UK*

RECENT ADVANCES IN ANTICANCER DRUG DISCOVERY

Roberto di Santo, *Sapienza University of Rome, IT*

TARGETING FIBROTIC DISEASES WITH SMALL MOLECULES

Christian Kutruff, *Boehringer Ingelheim, DE*

TISSUE AND CELL SPECIFIC DRUG DELIVERY (EUFPS Session)

Sébastien Papot, *University of Poitiers, FR*

TECHNOLOGIES

APPLICATION OF ARTIFICIAL INTELLIGENCE IN DRUG DISCOVERY PROJECTS

Christopher Swain, *Cambridge MedChem
Consulting, UK*

BIOCATALYSIS & LATE STAGE FUNCTIONALISATION

Radka Snajdrova, *Novartis, CH*

CRYO-EM AS AN EMERGING TOOL FOR SMALL-MOLECULE DRUG DISCOVERY

Jean-Paul Renaud, *Urania Therapeutics, FR*

EXPANDING CHEMICAL SPACE THROUGH AI - LINKING SYNTHESIS PREDICTION AND AUTOMATION

Ola Engkvist, *AstraZeneca, SE*

INNOVATIVE SYNTHESIS FOR MEDICINAL CHEMISTRY

Cristina Nevado, *University of Zurich, CH*

NOVEL STRATEGIES AND METHODS FOR DRUG DISCOVERY AND DEVELOPMENT (CPA Session)

Ke Ding, *Jinan University, CN*

PRODRUG STRATEGIES IN DRUG DESIGN AND DISCOVERY

Bernd Clement, *University of Kiel, DE* & Jarkko
Rautio, *University of Eastern Finland, FI*

OPEN SESSIONS

- FIRST TIME DISCLOSURES (I & II)
- EMERGING TOPICS
- LATE BREAKING NEWS

CONFIRMED PLENARY LECTURES

- Phil Baran, *The Scripps Research Institute, US*
- Karin Briner, *Novartis, US*
- Jean-Paul Clozel, *Idorsia, CH*
- Stefan Knapp, *Goethe University Frankfurt, DE*

EFMC AWARD LECTURES

THE NAUTA PHARMACOCHEMISTRY AWARD FOR MEDICINAL CHEMISTRY AND CHEMICAL BIOLOGY

Ad P. Ijzerman, *Leiden University, NL*

THE UCB-EHRlich AWARD FOR EXCELLENCE IN MEDICINAL CHEMISTRY

Malin Lemurell, *AstraZeneca, SE*

THE PROUS INSTITUTE-OVERTON AND MEYER AWARD FOR NEW TECHNOLOGIES IN DRUG DISCOVERY

Gisbert Schneider, *ETH Zürich, CH*

EFMC PARTNER PRIZES

THE IUPAC-RICHTER PRIZE LECTURE

John E. Macor, *Sanofi, US*

THE KLAUS GROHE AWARD

Stephan A. Sieber, *Technical University Munich, DE*

EFMC PRIZE LECTURES

EFMC PRIZE FOR A YOUNG MEDICINAL CHEMIST IN INDUSTRY

EFMC PRIZE FOR A YOUNG MEDICINAL CHEMIST IN ACADEMIA

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Submit your abstract now!

Oral Communication & free Poster
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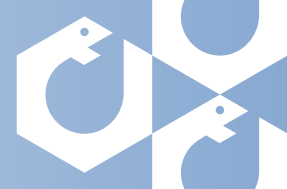
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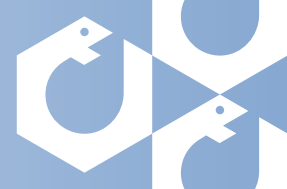


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Editorial

Dear colleagues,

It is with a sense of honour that I write this first editorial as President of the European Federation for Medicinal Chemistry and Chemical Biology (EFMC). My first words go to Yves Auberson, for his inspirational presidency that brilliantly strengthened EFMC activities, and whose advice will continue to be appreciated in the coming years. I would also like to take this opportunity to welcome Gianluca Sbardella as the new member of the EFMC Executive Committee (EC). I very much look forward to working with Gianluca and the other EC members in the upcoming year: Yves Auberson (Past President), Anders Karlén (Secretary), Antoni Torrens (Treasurer), Luc Van Hijfte and Franz von Nussbaum, with the support of Henk Timmerman as EFMC Advisor. A special welcome word goes to Kristina Goncharenko, chairwoman of the EFMC Young Scientists Network (YSN), who recently accepted our invitation to support the EC as delegate of the EFMC-YSN. I also want to thank Matt Tozer, now leaving the EC, for his long-lasting contribution to EFMC.

I would also like to thank Brigitte Lesur (France), Peter Molevend (The Netherlands), Matilde Marques (Portugal) and Gunars Duburs (Latvia) for their years-long contribution to the EFMC Council and welcome their successors, Sébastien Papot, Iwan de Esch, Maria Emilia Sousa and Raivis Zalubovskis, respectively. I extend a warm welcome to Gabriele Costantino (Italy), who is returning to the EFMC Council following the election of Gianluca Sbardella to the EC.

Finally, let's welcome our new Corporate Members – GlaxoSmithKline and WuXi Apptec – and say thank you to all those who financially support the EFMC, its mission to advance the science of medicinal chemistry and chemical biology, as well as our activities for young scientists. EFMC greatly appreciates their commitment.

Serving the medicinal chemistry and chemical biology community as EFMC President is both a privilege and a unique challenge. I look forward to developing the strategic vision established by the Council and EC during the workshop that took place in 2019 in Basel, and work to meet the needs of our National Adhering Organisations (NAOs) and their members. Supporting the activities of the working groups (Best Practices in Medicinal Chemistry, Chemical Biology, EU Policy) and EFMC-YSN, as well as

expanding high-quality training opportunities for students, will be at the centre of my action as President, to ensure the preparedness of EFMC in facing future challenges.

Let's now have an overview of the most important events of 2020 and the activities planned by our Federation for 2021.

A REVIEW OF 2020

As you will read in the event report on page 18 and 25, the EFMC had to adapt its activities in light of the coronavirus pandemic. While facing the necessity to postpone all our physical events by one year, EFMC was able to offer the community a stage to share science thanks to all those who had worked in preparing the high-quality programmes.

The **EFMC Virtual Week** took place on September 7-11, 2020 including the EFMC-ISMCS First Time Disclosures & Late Breaking News session, a virtual poster session and the virtual edition of the 7th EFMC Young Medicinal Chemists' Symposium (EFMC-YMCS). With a combined attendance of more than 1.300 participants, we showed that the spirit of endeavour and community remains defiantly undimmed by global events.

EFMC-YSN also decided to launch their own event, **MedChemBioOnline**, a series of webinars mixing science, soft-skills trainings and round-table discussions. The success of the initiative, that included five webinars with an average of 500 participants, has motivated the YSN team to continue offering it throughout 2021.

EFMC is most grateful to Prof. Karl-Heinz Altmann (EFMC-ISMCS 2020 Chair), Yves P. Auberson (EFMC President 2018-2020), Dennis Gillingham & Christina Lamers (EFMC-YMCS 2020 Chairs), Kristina Goncharenko (EFMC-YSN Chair) as well as all the other committee members and members of the EFMC-YSN for their continuous support.

The **16th EFMC Short Course** on [New Opportunities in GPCR Drug Discovery](#), scheduled to take place in Spring 2020 also had to be postponed. We hope to organise it in fall 2021 and allow the participants to gather in-person for this intensive three-day course in the privileged location of the Oud Poelgeest Castle in Oegstgeest, The Netherlands. I thank the course organisers, György Keserü & Rob Leurs as well as the local organisers, Henk Timmerman & Laura Heitman, for their understanding, resilience and support.



The EFMC working groups provided again valuable contributions in diverse areas, with the appreciated help from many participants. I invite you to have a closer look at the report on their activities on pages 11 to 14 of this Yearbook.

LOOKING SERENELY BACK AT THE PAST...

To celebrate its golden jubilee, the EFMC decided to collect all available data about its history and compile it in a series of articles published with the support of ChemMedChem. With the contribution of Henk Timmerman in collecting his “Memoirs of the First 50 Years of the European Federation for Medicinal Chemistry” and the extraordinary archivist efforts of Edmond Differding in gathering and writing both “50 Years European Federation for Medicinal Chemistry (EFMC) – The Ascent of Medicinal Chemistry in Europe” and “Trends in Drug Discovery over Five Decades – The European Federation for Medicinal Chemistry International Symposium on Medicinal Chemistry (EFMC–ISMC)”, the EFMC is now able to look with pride over its history – forever written in stone.

...AND TOWARDS A BRIGHT AND INCLUSIVE FUTURE

EFMC, as a learned society, is firmly committed to representing its members in a way that reflects the diversity of its community. It encourages diversity of views, and participation in its initiatives and scientific events independently of gender, nationality, personal characteristics or circumstances.

Over the past decades, EFMC increased the proportion of EFMC-ISMC session chairs & speakers to align with the increasing percentage of women in medicinal chemistry and related disciplines, which now averages between 35% and 40% in Europe. Importantly, female scientists represent 37% of the session chairs in the programme of the 2021 EFMC-ISMC in Basel. Likewise, EFMC aims to achieve a similar percentage of male and female speakers. EFMC also promotes the nomination of female scientists in its committee and working groups.

Supporting the diversity of our community goes beyond gender balance, and is of course not the responsibility of EFMC alone. We encourage all the medicinal chemistry and chemical biology community to support these efforts, starting in their own professional environment.

A REJUVENATED VISUAL IDENTITY TO MATCH OUR AMBITIONS

To close 2020 on a positive note and launch 2021 under, we hope, good auspices, the EFMC unveiled its reshaped logo and new visual identity. After 50 years of existence and with the most recent artworks dating back from a decade ago, it was time for EFMC to shake off some dust and take a leap into the digital era, opening a new chapter of its history.

Those who know our Federation will still be able to recognise themselves in this more dynamic and sleeker version of our beloved logo, but the major change lays in the words: **E**uropean **F**ederation for **M**edicinal Chemistry and **C**hemical Biology. Because we strongly believe both disciplines to be part of a continuum ranging from developing tools to interrogate biology, to discovering and delivering innovative drug candidates, it was only natural for the EFMC to represent both communities indistinctively.

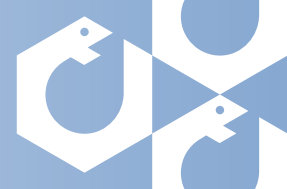
Finally, EFMC will once again confer the [EFMC Prizes for Young Medicinal Chemists or Chemical Biologist in Academia and Industry](#), to acknowledge the scientific accomplishments of established scientists or rising stars. But because we feel that excellence and merits should be recognised from the early stage, the EFMC also renewed its support towards the [EFMC-YSN PhD Prize](#), whose winner will receive financial support to attend EFMC-ISMC 2021. The various calls are open until January 31, 2021 and I encourage everyone to submit nominations.

We will also continue providing updates on EFMC activities through our monthly newsletter [MedChemWatch](#), via the [EFMC LinkedIn group](#), our [Twitter](#), [Facebook](#) and [Instagram](#) accounts (talk to us at @euromedchem). Our website www.efmc.info has been redesigned for increased interactivity, and is always updated with the latest information, including a meeting calendar and a job portal.

Let me close by wishing you all the best for a healthy, successful and happy 2021, both in your professional and personal life.

With my best personal regards,

Rui Moreira
EFMC President



Reflections on 2018-2020

Dear friends and colleagues, dear members of the medicinal chemistry and chemical biology community,

It has been a privilege to serve and lead EFMC as its president for the last three years. Looking back, I am proud to see how EFMC has changed and what it has achieved. This is the doing of a very dynamic, diverse and dedicated team of medicinal chemists and chemical biologists, with whom I had the pleasure to interact closely.

Working as president-elect with the previous EFMC president, Koen Augustyns, was an excellent opportunity to learn and prepare for this role. Koen was always supportive and allowed me to seed, under his presidency, some of the initiatives I wanted to implement later.

Medicinal chemistry is a discipline that evolves quickly. An important duty as president is to recognize and rapidly integrate these changes in the activities of the federation. Besides ensuring a smooth operation of EFMC, I decided to focus on two domains where EFMC had to become more assertive, to effectively adapt to changes and better serve its community.

The first of them deals with communication and integration, while the second focuses on the changing nature of medicinal chemistry and scientific quality. On top of this, and rather unexpectedly, many changes became necessary following the SARS-CoV-2 pandemic. While this tested EFMC's established processes, the federation proved amazingly flexible, and it adapted quickly.

COMMUNICATING AND INTEGRATING

Active communication is key for a learned society, to inform the members of its scientific community, its partners, and promote its activities. Communication must go both ways, and also provide EFMC with an understanding of the needs and wishes of medicinal chemists and chemical biologists, at all stages of their career. With these objectives in mind, we formed a new Communication Team, in a format enabling the participation of younger scientists. It rapidly succeeded in rejuvenating EFMC's communication style, while keeping it close to its members by using a mix of established communication channels and social media.

Another project close to my heart was the creation of the **EFMC Young Scientists Network (EFMC-YSN)**, a concept which was finalized in February 2019 during a work-

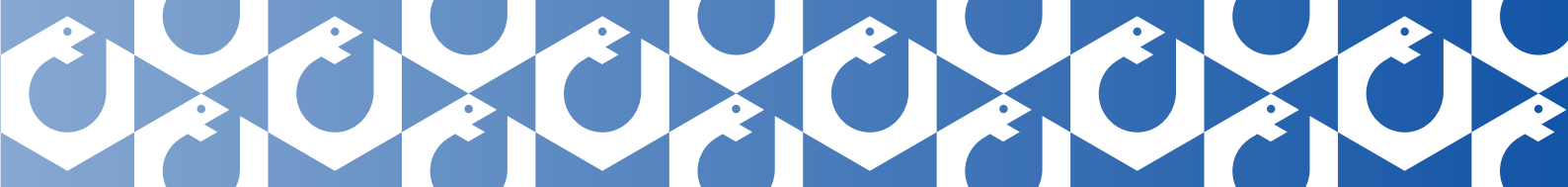
shop in Basel. The intent was to ensure that EFMC's activities took into account the needs of early career scientists, providing them with networking opportunities, and the possibility to involve themselves and influence EFMC's initiatives. It also enabled EFMC to address the change in gender balance taking place in the community. This proved to be an immediate success, with the YSN soon merging with the communication team, taking responsibility for the organization of the EFMC-Young Medicinal Chemist Symposium, and engaging the community in multiple activities. The chair of the EFMC-YSN, Kristina Goncharenko, has now joined EFMC's Executive Community as the YSN delegate.

EFMC was founded 50 years ago, and we had planned a number of celebrations for its 50th anniversary, which unfortunately had to be postponed. Still, it was an opportunity to publish the history of EFMC and discuss its recent evolution in a series of articles, written in collaboration with Henk Timmermann and Edmond Differding. They give an interesting perspective on the evolution of medicinal chemistry in Europe over five decades, and show how EFMC adapted to the changes in our community. Besides the evolution of scientific topics, several trends are apparent, with a clearly increased participation of scientists from academia (from ca. 30% until 1996 to 53% of ISMC participants in 2018), more women in the community (from 9% in 1980 to 35% in 2018), and young scientists becoming much more active in shaping the community. These are clear indications that our discipline is expanding, and includes an increasingly diverse scientific membership.

We also took the opportunity of the 50th anniversary to reaffirm **EFMC's core values** of promoting equal opportunities, honesty, fairness, transparency, and aiming at an inclusive representation of all its members in EFMC activities. EFMC acts with the highest degree of professionalism and ethical values, stands up for the principles it promotes, and strives to have a positive influence in the scientific community. It encourages a diversity of views, and participation in its initiatives and scientific events independently of gender, nationality, personal characteristics or circumstances.

ACCOMPANYING THE CHANGING SCOPE OF MEDICINAL CHEMISTRY

From a scientific point-of-view, low-molecular weight drugs have a bright future, while new modalities and chemically optimized biologics create new opportunities for **expanding the realm of medicinal chemistry**. New strategies



and technologies, including outsourcing, miniaturization and automation, imaging and machine learning to cite a few, will shape research in the years to come.

The (re)integration of chemical biology in the scope of EFMC, was initiated with Koen Augustyns in 2017 as I was still president-elect. Chemical biology is a broad discipline: EFMC considers the activities of chemical biology that deal with the design and synthesis of biologically active molecules, and their use to characterize biological systems, as part of a scientific continuum with medicinal chemistry. The scope of EFMC therefore includes the development, characterization and use of chemical probes to study cellular processes, the optimization of chemical molecules into drug candidates, as well as the development of clinical imaging tracers for diagnostic purposes.

The creation of the Chemical Biology Working Group played an active role in achieving these objectives, including a more visible inclusion of chemical biology in EFMC events, an active partnership with the International Chemical Biology Society, and an agreement with the Swiss Chemical Society to co-organize the International Symposium for Chemical Biology, starting with the 2023 edition. Maria Duca has recently taken over the leadership of this working group.

Finally, these efforts culminated in EFMC changing its name... from EFMC to EFMC, now the **E**uropean **F**ederation for **M**edicinal Chemistry and **C**hemical Biology.

DEALING WITH THE UNEXPECTED

While the 2019 **EFMC-ACSMEDI** Medicinal Chemistry Frontiers took place as planned in Krakow, as well as the 2019 **EFMC-ASMC** (Advances in Synthetic and Medicinal Chemistry symposium) in Athens, the 2020 **EFMC-ISM** in Basel had to be postponed, due to the COVID pandemic. It was replaced by virtual events, accelerating the digitalization of EFMC and the development of virtual meetings. The First-time Disclosure session took place online, followed by a poster session and the **EFMC-YMCS** (Young Medicinal Chemists' Symposium), which broke loose from its physical limitations and attracted an enormously increased attendance – way beyond what it could handle before. Around the same time, the YSN took advantage of its growing experience to create the **MedChemBioOnline** series, which are also amazingly successful.

Physical meetings will eventually return, but it is likely that they will come back in a different form, maybe mixing physical and virtual sessions. While physical meetings will remain

a precious resource for networking and scientific exchange, virtual meetings have the advantage of engaging a larger community, reducing the cost of participation, and being more environmentally benign.

Despite all this, many activities continued as planned, including those of the **Best Practices** working group, initiated by Jean Quancard, which has released its first two webinars on chemical probes and phenotypic drug discovery, a treasure trove of quality information on these complex topics.

The **EU Policy** working group, led by Anders Karlen, co-organized with EuChemS a workshop in Brussels on Parkinson's disease, alongside members of the European Parliament, and representatives from the European Commission and the European Food Safety Agency (EFSA). More recently, it led the involvement of EFMC in the foundation of EurSci4Health, an initiative that will ensure the recognition of medicinal chemistry, and strengthen its advisory role on scientific policies for health within European institutions.

IT DOESN'T STOP HERE

We achieved a lot over the last three years, but this is not all. I have full confidence in the future of EFMC: We see the rise of a younger and more diverse community, and exciting new avenues opening up in medicinal chemistry and chemical biology. We also see a higher level of networking and scientific exchange, leading to enhanced creativity and scientific interactivity. This is a fertile soil for high quality science and continued success.

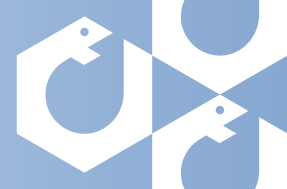
I would like to thank the many friends and partners who contributed to this journey, including EFMC's Executive Committee and Council members, the contributors to the YSN and working groups, Ly Differding and Briec Matagne for their constant support, our partners across the world, our sponsors, and all active participants who helped make our scientific events so lively and enjoyable.

I also wish much success to the new EFMC president Rui Moreira, whom I know will do very well further developing EFMC, and guiding it through the opportunities created during this challenging period.

Gratefully,

Yves P. Auberson

EFMC president 2018-2020



Corporate Members

EFMC offers any company the opportunity to become an official Corporate Sponsor. Corporate membership will help the EFMC with its objective of advancing the science of medicinal chemistry and chemical biology and can be achieved by paying an annual fee of 2.000€ to the EFMC.

Companies interested in becoming a Corporate Member should contact the Administrative Secretariat at administration@efmc.info.

CURRENT EFMC CORPORATE MEMBERS

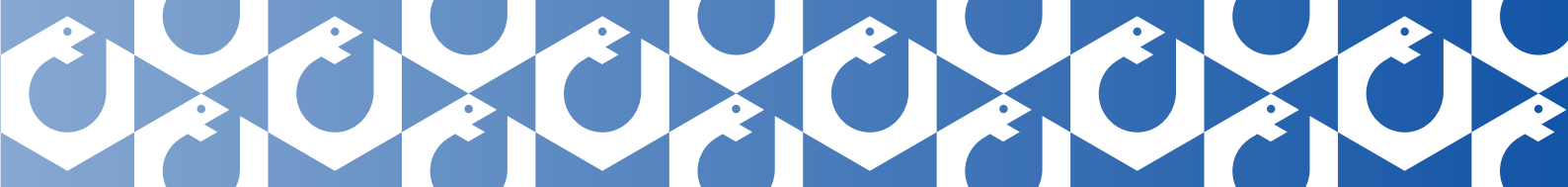


AWARD SPONSORS

EFMC is thankful to the organisations below for helping in its mission to advance the science of medicinal chemistry and chemical biology in acknowledging and supporting excellence in the fields.

The EFMC Awards are distributed biennially at the occasion of EFMC's flagship meeting, the EFMC International Symposium on Medicinal Chemistry.





Executive Committee

The EFMC Executive Committee (EC) consists of seven members: the President, the President Elect or the Past President, the Secretary, the Treasurer and three additional members. All members of the EC, except the President and the Past President, are elected via secret ballot by the EFMC Council during a Council meeting. After a term of one year, the President Elect will automatically become President. The members of the EC are not delegates of their respective countries. All details about the election process can be found in the statutes of the EFMC on the EFMC official website: www.efmc.info

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Faculty of Pharmacy
Av. Prof. Gama Pinto
1649-019 Lisbon, Portugal

Past President



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Member



Prof. Gianluca SBARDELLA
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Member

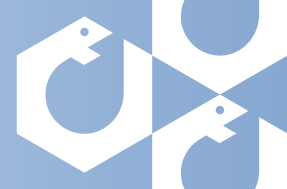


Dr Luc VAN HIJFTE
Symeres
Kerkenbos 1013
6546 BB – Nijmegen, The Netherlands

Member



Dr Franz VON NUSSBAUM
Nuvisan
Innovation Campus Berlin
Müllerstraße 178
13353 Berlin, Germany



Council

The Council consists of the members of the EC and one delegate of each National Adhering Organisation.

According to the statutes, the voting rights are allotted according to the following rules:

- *members of the EC: 1 vote,*
- *countries with up to 99 members: 2 votes,*
- *countries with 100-199 members: 3 votes,*
- *countries with 200-399 members: 4 votes,*
- *countries with 400-599 members: 5 votes,*
- *countries with 600-899 members: 6 votes,*
- *countries with more than 899 members: 7 votes.*

As for countries with more than one National Adhering Organisation, votes will be proportionally distributed among them, considering their respective memberships. The resulting number will be rounded off to the closest digit.

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Novartis, Switzerland

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Ghent University, Belgium

Medicinal and Bioorganic Chemistry Division of the Royal Flemish Chemical Society (KVCV)

Dr Luc VAN HIJFTE

Symeres, The Netherlands

EFMC Executive Committee

Dr Franz VON NUSSBAUM

Nuvisan, Germany

EFMC Executive Committee

Prof. Eylon YAVIN

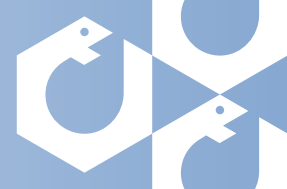
The Hebrew University of Jerusalem, Israel

The Medicinal Chemistry Section of the Israel Chemical Society

Prof. Raivis ZALUBOVSKIS

Latvian Institute of Organic Synthesis, Latvia

Latvian Academy of Sciences, Division of Chemical, Biological and Medical Sciences Section of Medicinal Chemistry



Advisory Board

The Advisory Board is a consulting body for the EFMC Executive Committee (EC) and provides advice on EFMC's policies, strategies and main initiatives. It is composed of well-recognized scientists in medicinal chemistry and chemical biology, and is chaired by the EFMC Past-President.

CHAIR

Yves P. AUBERSON

Novartis, Switzerland

ADVISORY BOARD MEMBERS

Maria Laura BOLOGNESI

University of Bologna, Italy

Karin BRINER

Novartis, United States

Herbert WALDMANN

Max Planck Institute of Molecular Physiology, Germany

Tony WOOD

GlaxoSmithKline, United Kingdom

To see the current and previous composition of the Advisory Board, please [click here](#).

Additional EC partners

Supporting the Executive Committee in managing EFMC. They are invited to EC meetings and provide advice in their areas of expertise:

Henk TIMMERMAN

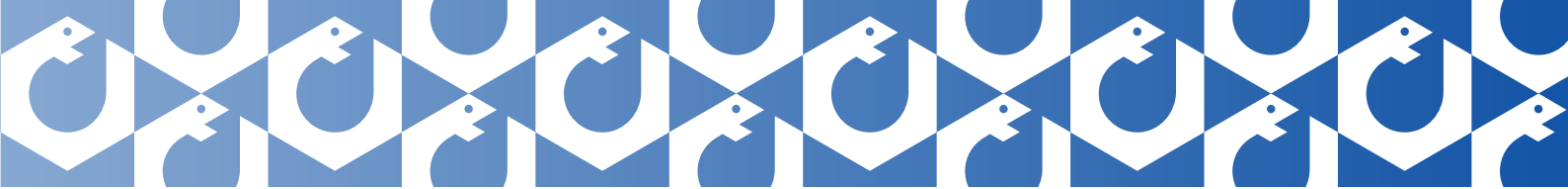
VU Amsterdam, The Netherlands

Advisor to the EC

Kristina GONCHARENKO

SpiroChem, Switzerland

Delegate of the EFMC Young Scientists Network



Influencing EU-Policy

The EU-Policy working group aims to highlight the role of Medicinal Chemistry and Chemical Biology as a key players for addressing global health issues, as well as to position the EFMC as an expert organisation in the discipline. Two specific goals have been identified:

- *To increase visibility, awareness and funding of Medicinal Chemistry and Chemical Biology*
- *To identify and recommend lobbying strategies at the EU, regional and national levels*

During the year, the EFMC EU Policy group has worked with EUEPS, EuChemS, APV, EPHAR, EUROTOX and FEBS, that together represent close to 200.000 researchers, to establish the European Science for Health (EurSci4Health) platform. EurSci4Health aims to promote innovative research and technologies, enabling affordable and transformational changes in healthcare, by mobilizing scientists and citizens. Its objectives are to advise scientific policies for health, within European institutions, in order to facilitate the integrated development, regulation and use of diagnostics, therapeutics and other health technologies. To promote its mission a one-day workshop with the title “Science for Health: the Agenda for 2021-2027” was organized on October 16, 2020. In short, a plenary session with speakers from the European Commission, European Parliament, Innovative Medicines Initiative and Efpia was followed by parallel break-out sessions covering Antimicrobial resistance, Global Health, Public Health, Innovative Pharmaceuticals & Manufacturing and finally Digital Health and Medical Devices. EFMC was responsible for organizing and moderating the Antimicrobial resistance session. Four lecturers were invited to give their view on the challenges to repopulate the antibiotic drug discovery pipeline. This was followed by a discussion and a written report indicating some key priorities for EurSci4Health to work with going forward.

CURRENT MEMBERSHIP

Anders KARLÉN (Chair)

Uppsala University, Sweden

Phil JONES

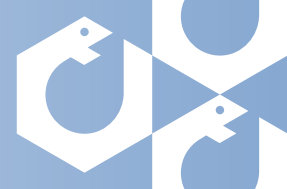
BioAscent Discovery, United Kingdom

Peter SJÖ

*Drugs for Neglected Diseases initiative (DNDi),
Switzerland*

Franz VON NUSSBAUM

Nuvisan, Germany



EFMC Chemical Biology Initiative

EFMC aims to advance science in the field of medicinal chemistry and chemical biology, while representing all members of this extended scientific community.

To this effect, EFMC has established contacts with several other learned societies. For medicinal chemistry, it has close links with the American Chemical Society and the Asian Federation of Medicinal Chemistry, as well as national organizations across the world. For chemical biology, EFMC closely collaborates with the International Chemical Biology Society (ICBS), and with the Life Science Division of EuChemS.

Most events organized by EFMC include both medicinal chemistry and chemical biology, for instance as dedicated parallel sessions in the program of the upcoming International Symposium on Medicinal Chemistry (EFMC-ISMC), on Aug 29 – Sept 2, 2021.

The signature in 2019 of an agreement with the Swiss Chemical Society was another important milestone in further balancing the weight of medicinal chemistry and chemical biology in EFMC's activities. Starting in 2023, both societies will co-organize the International Symposium in Chemical Biology (ISCB), a high-quality event that until now took place in Geneva, Switzerland. We are happy to confirm that both ICBS and LS-EuChemS have already accepted to participate in the first edition of this enhanced version of ISCB, adding their own weight to an exciting scientific program. Future EFMC-ISCBs will take place every second year, alternating with the EFMC-ISMC.

Over the last three years, EFMC developed a long-term vision for its role in medicinal chemistry and chemical biology, and implemented a strong strategy to reinforce the support of the community it represents. This has led to changes in the scope of EFMC activities, now better uniting the chemical biology and medicinal chemistry community. To highlight its extended commitment, and as part of EFMC's new visual identity, EFMC now becomes the **E**uropean **F**ederation for **M**edicinal Chemistry and **C**hemical Biology.

The Chemical Biology working group has been recently recomposed, and is now led by **Maria Duca (Université Côte d'Azur, France)**. We wish her much success in taking this initiative to the next level in 2021.

CURRENT MEMBERSHIP

Maria DUCA (Chair)

University of Côte d'Azur, France

Yves AUBERSON

Novartis, Switzerland

Dennis GILLINGHAM

University of Basel, Switzerland

Christian Adam OLSEN

University of Copenhagen, Denmark

Gianluca SBARDELLA

University of Salerno, Italy

Mario VAN DER STELT

University of Leiden, The Netherlands

Boris VAUZEILLES

Institut de Chimie des Substances Naturelles (ICSN), France

Olalla VAZQUEZ

Marburg University, Denmark



Best Practices

Have you ever wondered how medicinal chemists work in other companies or in academia? Are there important trends or new technologies that you may have missed?

Our group is working on creating educational material on best practices in Medicinal Chemistry to help answer these questions. The main target audiences are students and early career chemists but we hope it will also be valuable for experienced practitioners.

As medicinal chemistry is a rather large field, we decided to first focus on the early phase of drug discovery: generating high quality chemical starting points for optimization. This is a critical part of our drug discovery effort since the speed and success of a program highly depends on the quality of the starting points we find and select. Medicinal chemists have a key role to play in this early phase so the more we know about it, the more we can have an impact

This year, we have released the first two topics: “Validating chemical probes” and “Phenotypic Drug Discovery”. For both, we have created a set of slides containing the best practices as well as case studies. These are also available as webinars for you to watch. You can find all of this on the EFMC Youtube channel and website.

Stay tuned for the next topics to come: “Hit generation” and “Tactics for selecting the right chemical starting points”.

CURRENT MEMBERSHIP

Jean QUANCARD (Chair)

Novartis, Switzerland

Brian COX

University of Sussex, United Kingdom

Hannes KOOLMAN

Boehringer Ingelheim, Germany

Stefan LAUFER

University of Tübingen, Germany

Josef MESSINGER

Orion Corporation, Finland

Gianluca SBARDELLA

University of Salerno, Italy

Ingo HARTUNG

Merck, Germany

Stephanie GUERET

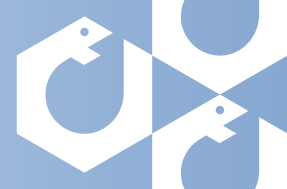
AstraZeneca, Sweden

Anders BACH

University of Copenhagen, Denmark

Russel CRAFT

Symeres, Netherlands



EFMC Young Scientists Network

It has been a busy year for the Young Scientists Network of the EFMC (EFMC-YSN). The coronavirus outbreak that hit us all shuffled the initial plans of the team who was preparing its major activities to take place during the XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISMC) in Basel last September.

As soon as Europe entered lockdown, the YSN started working on an idea to meet the current needs of the scientific community to continue interacting and sharing ideas and innovation, as well as providing early career scientists with opportunities to listen to outstanding scientists and expand their knowledge.

In a matter of weeks, the **MedChemBioOnline** event was born. Using the successful concept of the EFMC-YMCS, the event would mix high-quality science, soft-skills trainings and round-table discussions, broadcasted to the bigger number via the EFMC YouTube Channel. The very first edition, scheduled on May 26, was a resounding success, gathering more than 700 participants. Faced with such enthusiasm, the event soon became a monthly series that lasted until the summer break.

Relaunched in September and now scheduled to take place every two months, the EFMC-YSN MedChemBioOnline is still gathering more than 500 participants on average - while getting increasingly professional thanks to the effort of the team, and some generous corporate sponsors.

Aside from this major and most successful activity, the EFMC-YSN was happy to also announce the first recipient of the **EFMC-YSN Prize for a PhD**, aiming at rewarding excellence from the very early stage. This initiative will be continued in 2021 and we invite you to apply on www.efmc.info/ysn-phd-prize.

Finally, the team started to work on what will be its key activity for 2021: a **mentoring programme** and **e-learning platform**. Taking advantage of the recordings of MedChemBioOnline, the e-learning platform will gather a series of soft-skills training workshops and offer an open forum for early career researchers to exchange ideas and collaborate in developing their science, network and skills. The mentoring programme will on its side connect motivated mentees with experienced mentors, allowing them to get individual support and advices to succeed in the early stage of their career.

Interested to learn more? Visit www.efmc.info/ysn.

EFMC COMMUNICATION TEAM

Managed by the same young and motivated scientists hiding behind the EFMC Young Scientists Network, the Communication Team aims at developing the brand awareness and recognition of EFMC, using social media and diverse public activities. If you are interested to join, simply reach out to communication@efmc.info.

In these times of coronavirus outbreak, the team focused their efforts on sharing important news as well as lighter messages via the various social media of the EFMC: LinkedIn, Twitter (@EuroMedChem), Facebook and Instagram. We invite all those who are not yet following us to do so quickly, this is the place to be!

The team successfully launched the **EFMC Quizzes**, a series of three contests celebrating the 50th anniversary of EFMC. Participants were questioned about science facts and EFMC history, and competed to win one of the many goodieboxes.

The 3rd edition of the Annual **Photo Competition** was held this year entirely virtually through the EFMC Instagram Channel. Wannabe artists were invited to share their best picture on the thematic "back to the lab" as it took place in the summer period during which many countries around the globe softened their lockdown policies.

Building on their success, the team continued the series of interviews of medicinal chemists and chemical biologists, taking the time to interview the recently appointed EFMC Honorary Fellows or the 2020 awardees. These portraits aim to show all the various faces behind our fields and can be seen at www.efmc.info/iamamedicinalchemist.

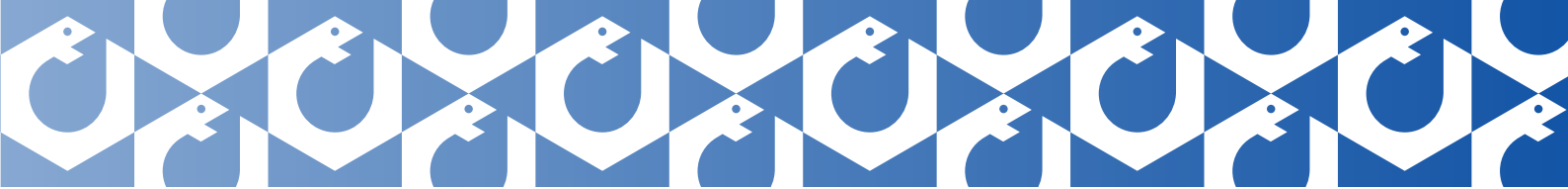
For the year to come, the team will be back with plenty of activities – so stay tuned on our social media channels or on the website www.efmc.info/activities!

FOLLOW THE EFMC ON SOCIAL MEDIA



FOLLOW THE EFMC YOUNG SCIENTISTS NETWORK ON SOCIAL MEDIA





MEET THE TEAM



Kristina GONCHARENKO
Spirochem, Switzerland (Chair)



Nadia AHMAD
Charles River, United Kingdom



Chiara BORSARI
University of Basel, Switzerland



Piia KOKKONEN
University of Eastern Finland, Finland



Caroline LANTHIER
University of Caen Normandy, France



Leire Iralde LORENTE
Business & Decision Life Science, Belgium



Michele MARI
University of Urbino Carlo Bo, Italy



Brieuc MATAGNE
EFMC, Belgium



Matic PROJ
University of Ljubljana, Slovenia



Filipa RAMILO GOMES
University of Lisbon, Portugal



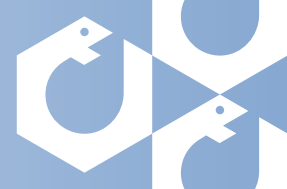
Luc VAN HIJFTE
Symeres, The Netherlands (EFMC EC Sponsor)



Pauline ZIPFEL
University of Caen Normandy, France



Clemens ZWERGEL
Sapienza University of Rome, Italy



MedChemWatch

Established in 2007 as the official newsletter of the EFMC, MedChemWatch has evolved throughout the years to reach its current form: a **monthly e-newsletter** providing readers with updates on the activities of the EFMC, its committees and working groups, literature spotlights, news from the National Adhering Organisations and partners, and with information on EFMC meetings and approved events.

Eager to provide enriched content, the Editorial Committee always welcomes suggestions and ideas from the community, and invites all readers to send feedback to administration@efmc.info.

EDITORIAL COMMITTEE

Nadia AHMAD

Charles River & EFMC-YSN, United Kingdom

Brieuc MATAGNE

EFMC, Belgium

Luc VAN HIJFTE

Symeres & EFMC, The Netherlands

Clemens ZWERGEL

Sapienza University of Rome & EFMC-YSN, Italy

Website

The EFMC website (www.efmc.info) is the one-stop-shop to learn about all the activities of the European Federation for Medicinal Chemistry and Chemical Biology, and of its National Adhering Organisations.

Whether you want to read the latest news or learn about the recent activities, learn more about the EFMC and its committees, consult the job portal, apply for a grant or submit a nomination for an award or a prize, the EFMC website will allow you to easily find the information.

The website also lists all the EFMC organised, sponsored and certified events, as well as the meetings of National Adhering Organisations and other partners. The regularly updated “[meeting calendar](#)” is thus the perfect tool to rapidly find the most important meetings related to medicinal chemistry and chemical biology.

SOCIAL MEDIA

Find and follow the EFMC on social media!





EuroMedChem Talents Collection

The European Federation for Medicinal Chemistry and Chemical Biology (EFMC), its Young Scientists Network (YSN) and ChemMedChem present the joint **EuroMedChemTalents Special Collection**.

This collaborative project is being done in line with the EFMC's 50th Anniversary in 2020 and ChemMedChem's 15th Anniversary in 2021, and celebrates our close cooperation through the recent years.

Taking the lead in this project are our guest editors Yves Auberson (EFMC President 2018/2020) and Filipa Ramilo Gomes (Instituto Superior Técnico, University of Lisbon & YSN Board Member).

Both ChemMedChem and the EFMC are aware of the great contributions of younger researchers in drug discovery today and how important it is to support this generation of research leaders. This Special Collection aims to showcase the latest work from these young scientists in Europe and place the spotlight on the researchers themselves through the author biographies. Contributing Authors featured are nominated by the EFMC or the ChemMedChem editors and board members. These authors are considered figures that will shape the future of research at the interface of chemistry, biology and medicine.

All articles will be published in regular issues of ChemMedChem (or possibly ChemBioChem), but all collected under the [EuroMedChem Talents](#) page for easy access. Articles in the collection will also be free to read for at least a year.

EFMC HISTORY

In addition to this, the EuroMedChem Talents collection is the opportunity for the EFMC to share its history with the greater community.

The first part of the EFMC History is the contribution of Henk Timmerman in collecting his [“Memoirs of the First 50 Years of the European Federation for Medicinal Chemistry”](#), a revisited and augmented version of those released in the EFMC newsletter “MedChemWatch” more than a decade ago.

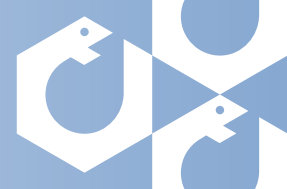
This essay is brilliantly completed by the extraordinary archivist efforts of Edmond Differding, who gathered and wrote the two following articles:

- [“50 Years European Federation for Medicinal Chemistry \(EFMC\) – The Ascent of Medicinal Chemistry in Europe”](#)
- [“Trends in Drug Discovery over Five Decades – The European Federation for Medicinal Chemistry International Symposium on Medicinal Chemistry \(EFMC–ISMC\)”](#)

But studying the past is only worth to better shape the present and the future, and this special edition highlights two of the main initiatives of the EFMC in this regard.

- [The creation and first two years of existence of the EFMC Young Scientists' Network.](#)
- [The efforts of the EFMC to support the medicinal chemistry and chemical biology continuum and helps the scientific community address this changing scope in a proactive manner.](#)

We are most grateful to ChemMedChem for its support and publishing these articles, and we hope that you will appreciate reading them as much as the authors had writing them.



EFMC-ISMVC Virtual Event 2020



The XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISMVC), scheduled to take place in Basel on September 6-10, 2020 was postponed due to the coronavirus pandemic. Instead, the European Federation for Medicinal Chemistry and Chemical Biology decided to hold a virtual event focusing on “First-Time Disclosures & Late Breaking News” at the original dates of the event.

Many scientists from all over the globe connected on September 7-8 to listen to the cutting-edge science presented by the 9 invited speakers, allowing them to learn about the latest developments while safely remaining at home.

The first day was chaired by the EFMC President, Dr Yves P. Auberson (Novartis, Switzerland). He welcomed the participants and briefly presented the Federation before passing the word to Prof. Karl-Heinz Altmann (ETH Zürich, Switzerland), chairman of the international organising committee, who introduced the scientific programme of the first session, consisting of the first-time disclosure of four clinical development compounds.

Dr Norbert Schmees (Nuvisan, Germany) presented the discovery of the Aryl hydrocarbon Receptor (AhR) antagonist BAY 2416964, a new clinical candidate for cancer immunotherapy. AhR is a key regulator of immunity, and AhR antagonists influence multiple immunomodulatory pathways. The lead series, identified by ultrahigh throughput screening of over 3 million compounds, was optimized to give potent and pure antagonists with good ADME and selectivity profiles, as well as high exposure after oral dosing, culminating in the discovery of BAY 2416964, which is currently undergoing Phase 1 studies.

Dr Matthew Perry (AstraZeneca, Sweden) gave a talk on the discovery of AZD8154, a dual PI3K γ δ inhibitor, as an inhaled treatment for asthma. HTS against PI3K γ resulted in highly selective inhibitors displaying an unprecedented binding mode, that could be optimized to dual acting inhibitors by introducing PI3K δ activity. AZD8154, which has a good selectivity vs. PI3K α & β , solubility-driven lung pharmacokinetics and low systemic exposure, has entered Phase 1 clinical studies.

Dr Andrew Dilger (Bristol Myers Squibb, United States) spoke on the discovery of BMS-986177/JNJ-70033093; a macrocyclic direct, active-site, reversible FXIa inhibitor for the prevention and treatment of thrombosis. Building on a long tradition in FXIa research at BMS and co-crystal studies of an earlier series of inhibitors bound to FXIa, they identified opportunities for the introduction of linkers that ultimately yielded macrocyclic compounds. Those displayed unique properties in terms of potency, selectivity, and PK profile. BMS-986177/JNJ-70033093 has been partnered with Johnson & Johnson and is currently undergoing Phase 2 studies.

Dr Atwood Cheung (Novartis, United States) gave a lecture on the discovery of icenticaftor (QBW251), a potent potentiator of the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) channel for the treatment of respiratory diseases such as COPD. High throughput screening identified a potent anthranilate hit, which was optimized to give the lead compound with a clean off-target profile, sufficient exposure in animal models, and a Non-GLP and GLP toxicology profile that enabled progression to FIH. Icenticaftor is currently undergoing Phase 2 studies in chronic obstructive pulmonary disease.



The second day was opened by Prof. Karl-Heinz Altmann (ETH Zürich, Switzerland), who spoke about the rich heritage of the hosting city and expressed the overall shared wish to be able to welcome all the participants in Basel, for them to be able to see it with their own eyes. Dr Yves P. Auberson (Novartis, Switzerland) then shortly presented the programme, with three first-time disclosures and two breaking news lectures.

Dr Naoyoshi Noguchi (Schoia Pharma, Japan) presented the discovery of SCO-267, a first-in-class GPR40 full agonist, as a promising candidate for the treatment of type 2 diabetes mellitus, obesity, and non-alcoholic steatohepatitis (NASH). Starting from a previously described compound with unfavorable physicochemical properties and insufficient agonist properties, a pharmacophore model guided the lead optimization towards compounds with a good balance between agonistic activity and lipophilicity. This led to the identification of SCO-267 with a potent GPR40 full agonistic activity, good oral bioavailability, and favorable in vitro/in vivo Tox profiles. The compound proved active in animal models of diabetes, obesity and non-alcoholic fatty liver disease, and is currently undergoing Phase 1 studies.

Dr Wooseok Han (Novartis, South Korea) disclosed the discovery of LTT462, a potent ERK inhibitor for the treatment of advanced solid tumors harboring MAPK pathway alterations. The project started with an aminopyridine scaffold that was identified by scaffold hybridization resulting from in house ERK chemical matter as well as another program. A structure-based design approach led to the identification of LTT462, a potent and selective ERK1/2 inhibitor with a long residence time and in vivo tolerability and efficacy against BRAF^{mut} xenograft models. LTT462 is currently being developed as a combination with LXH254 in Phase 1b/2a for the treatment of KRAS^{mut} or BRAF^{mut} NSCLC and BRAF^{mut} melanoma patients.

Dr Riccardo Giovannini (Boehringer Ingelheim, Germany) presented the first-time disclosure of BI 425809, a GlyT1 Inhibitor for the treatment of CNS diseases. Glycine is an essential co-activator of the NMDA-receptor, and inhibition of GlyT1 increases the glycine concentration in the synaptic cleft, potentially addressing hypofunction in glutamatergic pathways related to the NMDA receptor. A virtual screening approach followed by the synthesis of focused libraries around virtual hits, with a subsequent lead optimization, led to BI 425809, which has been investigat-

ed in clinical phase 2 studies for cognitive enhancement in Alzheimer's disease (primary endpoints not met) and in schizophrenia (endpoints met).

Dr Fredrik Zetterberg (Galecto Biotech, Sweden) gave an update on the previously disclosed GB1211, the first orally available Galectin-3 inhibitor to be taken into the clinic as a potential treatment for NASH. The starting point was the thiodigalactoside GB0139, a highly potent, inhaled Galectin-3 inhibitor undergoing Phase 2 studies. A strategy focusing on β D-galactopyranosides for specificity, with substitutions of the galactose to identify specific interactions, led to GB1211, the first orally available compound inhibiting Galectin-3, one of the key drivers in fibrosis. The compound is undergoing clinical Phase 1/2a testing.

The scientific programme was concluded by Dr Uwe Grether (F. Hoffman-La-Roche, Switzerland), who showed how industrial drug discovery and academic research can cross-fertilize each other, as illustrated by cannabinoid receptor 2 agonists that are progressing in preclinical studies.

Great science was also shared outside the main programme as the first virtual poster session of the EFMC took place on September 9. Hosted online in a virtual poster hall available for 24 hours, it gathered 210 posters and was opened to the 1.000+ participants who registered for the EFMC Virtual Week, including the virtual EFMC-ISMC, EFMC-YMCS and poster session.

Aside from the scientific programme, a virtual exhibition was also hosted. Many of the numerous exhibitors who had confirmed their participation in the EFMC-ISMC took the opportunity to present their product to the attendees. The organising committee is thankful to all exhibitors and sponsors who made this event possible.

An online event can't replace face-to-face interactions, and many participants probably missed the uplifting feeling of being among their peers in the auditorium, in the exhibition & poster hall, or simply while strolling along the narrow streets of the old city of Basel. Nonetheless, many interactions took place during the virtual week, allowing the community to participate in a well-needed exchange of ideas and scientific information.

The XXVI edition of the EFMC International Symposium on Medicinal Chemistry (EFMC-ISMC) is scheduled to take place on August 29-September 2, 2021.

EFMC Photo Contest 2020

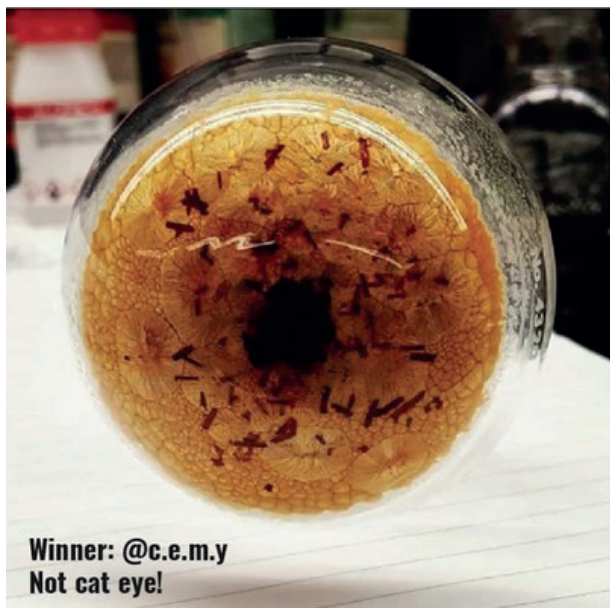
Enthusiastic after the success of the two previous editions, the EFMC Communication Team had big plans for 2020, with a competition that would celebrate the 50th anniversary of the EFMC – both online and at the flagship event of the year: the XXVI EFMC International Symposium on Medicinal Chemistry, scheduled to take place in Basel, Switzerland on September 6-10, 2020.

It was without counting the global pandemic that forced many of us into a lockdown, and pushed many companies and institutions to issue travel bans. As the events and activities of the EFMC shifted to the virtual world, so did the Photo Competition.

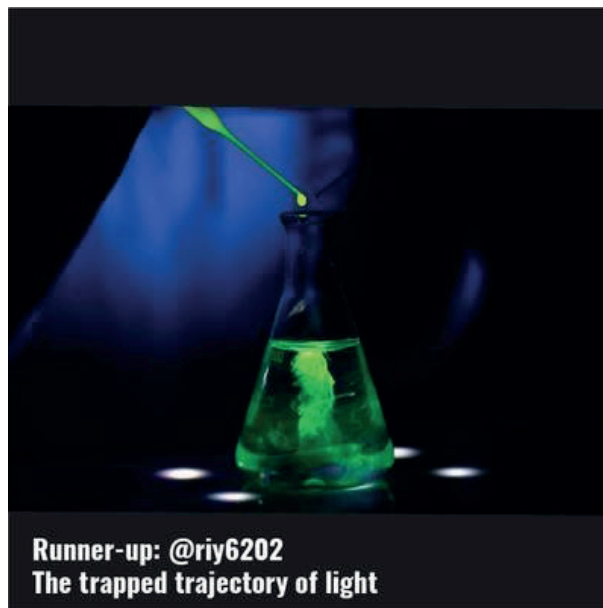
Celebrating (but in a responsible way) the summer period where many of us could go back to the lab, the competition carried this thematic and took place entirely on Instagram.

With more than 1.500 likes each, two pictures clearly ruled the competition!

WINNING PICTURES



Not cat eye!
 Cem Yamali, Turkey (Winner)



The trapped trajectory of light
 Pallabi Sengupta, India (Runner-up)

What about 2021? A new contest will be back with a thematic that, fingers crossed, will allow us to properly celebrate the golden jubilee of the EFMC!



EFMC Awards 2020

The Nauta Pharmacochemistry Award for Medicinal Chemistry and Chemical Biology, The UCB-Ehrlich Award for Excellence in Medicinal Chemistry and the Prous Institute - Overton and Meyer Award for New Technologies in Drug Discovery have been awarded in 2020*.

All 3 awards are given biennially and consist of a diploma, € 7.500 and an invitation to give a headline presentation at the EFMC International Symposium on Medicinal Chemistry.

THE NAUTA PHARMACOCHEMISTRY AWARD FOR MEDICINAL CHEMISTRY AND CHEMICAL BIOLOGY

The Nauta Pharmacochemistry Award for Medicinal Chemistry and Chemical Biology was established to honour the memory of Prof. Dr. W. Th. Nauta, whose activities have been very important for the advancement of medicinal chemistry in general, and the development of international organisational structures for this discipline. It has been awarded to:



Prof. Adriaan IJZERMAN

Leiden University, The Netherlands.

For his leading contributions as a pioneer of GPCR drug discovery and structural biology, and his support of the medicinal chemistry and chemical biology community. His research led to over 450 publications, many of them achieving high international visibility. An excellent mentor and lecturer, Ad IJzerman played an active role in the International LACDR School on Medicinal Chemistry. He also chaired the medicinal chemistry division of the Royal Netherlands Chemical Society, organised many scientific symposia, and led several international research networks.

THE UCB-EHRLICH AWARD FOR EXCELLENCE IN MEDICINAL CHEMISTRY

The UCB-Ehrlich Award for Excellence in Medicinal Chemistry was established to acknowledge and recognise outstanding research in the field of Medicinal Chemistry in its broadest sense. It has been awarded to:



Dr Malin LEMURELL

AstraZeneca, Sweden.

For her contribution to the discovery and development of several drug candidates and her leadership in medicinal chemistry. Her most recent contributions, while leading a 60-strong medicinal chemistry group at AstraZeneca to deliver on pipeline projects in the Cardiovascular, Renal and Metabolism disease area across multiple modalities, also include harnessing innovation in the fields of RNA targeting with small molecules, RNA imaging with fluorescent nucleotide probes, machine learning applications in drug discovery projects and new modalities.

THE PROUS INSTITUTE - OVERTON AND MEYER AWARD FOR NEW TECHNOLOGIES IN DRUG DISCOVERY

The Prous Institute-Overton and Meyer Award for New Technologies in Drug Discovery was established to encourage innovation and investigation in technologies related to drug discovery. It has been awarded to:

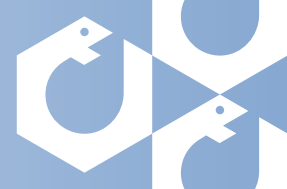


Prof. Gisbert SCHNEIDER

ETH Zürich, Switzerland.

For his pioneering work integrating machine learning into medicinal chemistry, drug discovery and chemical biology. His contributions spread across the whole drug discovery process, and introduced visionary concepts for concrete applications of computational methods. These are now broadly adopted in drug discovery and recognized as robust foundations for transformative advancements in the field.

* Due to the coronavirus pandemic, the 2020 ceremony has been postponed and the awards will be conferred at the occasion of the XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISMC 2021), scheduled to take place on August 29-September 2, 2021.



EFMC Honorary Fellows 2020

To mark its golden jubilee, the EFMC established a recognition programme, consisting of a **life-long title and associated medal**, to recognize the individuals who have provided outstanding support to the EFMC and contributed in strengthening the position of medicinal chemistry, chemical biology or related fields in Europe.

The first recipients have created and nurtured the mission and vision of EFMC during its first 50 years. All are former Presidents, but have been contributors beyond expectations, and remain active supporters of EFMC. Congratulations and thanks to:

- **Prof. Henk TIMMERMAN**
VU University, The Netherlands
- **Prof. Ferran SANZ**
University Pompeu Fabra, Spain
- **Prof. Roberto PELLICCIARI**
TES Pharma, Italy
- **Prof. Gerhard ECKER**
University of Vienna, Austria
- **Prof. Uli STILZ**
Novo Nordisk, United States
- **Prof. Koen AUGUSTYNS**
University of Antwerp, Belgium

Additionally, thanks to his contribution in launching the series of EFMC-YMCS events, we are happy to recognize also:

- **Dr Chris DE GRAAF**
Sosei Heptares, United Kingdom

The official ceremony will take place during the opening of the **XXVI EFMC International Symposium on Medicinal Chemistry** (EFMC-ISMC 2021), scheduled to take place from **August 29-September 2, 2021**.

More information and nomination
for the 2021 call can be found [here](#).



EFMC Prizes 2020

The [*EFMC Prize for a Young Medicinal Chemist or Chemical Biologist in Academia*](#) and the [*EFMC Prize for a Young Medicinal Chemist or Chemical Biologist in Industry*](#) have been established by the European Federation for Medicinal Chemistry and Chemical Biology to acknowledge and recognise an outstanding young scientist working in academia or in industry within Europe. The prizes are given annually and consist of a diploma, €1.000 and an invitation for a short presentation at an EFMC Symposium. Two nominees are also identified and acknowledged.

Due to the coronavirus pandemic, the 2020 Prize ceremony has been postponed and the Prizes will be conferred at the occasion of the XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISMC 2021), scheduled to take place on August 29-September 2, 2021.



EFMC PRIZE FOR A YOUNG MEDICINAL CHEMIST OR CHEMICAL BIOLOGIST IN INDUSTRY

The selection committee designated **Dr Giuseppe CECERE** (*F. Hoffmann-La-Roche, Switzerland*) as the winner of the 2020 EFMC Prize for a Young Medicinal Chemist or Chemical Biologist in Industry.

Dr Julien LEFRANC (*Bayer, Germany*) and **Dr Anneli NORDQVIST** (*AstraZeneca, Sweden*) have been recognised as the most meritorious runners-up.



EFMC PRIZE FOR A YOUNG MEDICINAL CHEMIST OR CHEMICAL BIOLOGIST IN ACADEMIA

The selection committee designated **Prof. Yimon AYE** (*EPFL, Switzerland*) as the winner of the 2020 EFMC Prize for a Young Medicinal Chemist or Chemical Biologist in Academia.

Prof. Andrea ABLASSER (*EPFL, Switzerland*) and **Dr Christoph RADEMACHER** (*MPICI, Germany*) have been recognised as the most meritorious runners-up.



EFMC -YSN PHD PRIZE

Newly created in 2020 as an initiative of the EFMC Young Scientists Network, the **EFMC-YSN PhD Prize** aims to recognise excellence and merits at the early stage. The Prize consists of a diploma, a free registration, and a 500€ travel grant to attend an EFMC Symposium.

The selection committee designated **Dr Victor Sebastian PEREZ** (*CSIC, Spain*) as the winner of the 2020 EFMC-YSN PhD Prize. **Mrs Marta SERAFINI** (*Università del Piemonte Orientale, Italy*) has been recognised as the most meritorious runner-up.

More information about the 2021

EFMC-YSN PhD Prize is available [here](#).

PRIZES

FOR A YOUNG MEDICINAL CHEMIST OR CHEMICAL BIOLOGIST IN ACADEMIA

To acknowledge and recognize an outstanding young medicinal chemist or chemical biologist working in Academia within Europe.

The **Prize** is given annually to a young medicinal chemist or chemical biologist (≤ 12 years after PhD), and consists of a diploma, €1.000 and an invitation to give a short presentation at the XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISM 2021) | August 29-September 2, 2021.

Two additional nominees will also be identified and acknowledged.

Applications should be done via the application form on www.efmc.info/prizes and should consist of:

- a one-page letter by the candidate including a short rationale for their application
- one page with his/her 5 most important publications
- a brief cv of the candidate
- abstract of potential oral presentation

FOR A YOUNG MEDICINAL CHEMIST OR CHEMICAL BIOLOGIST IN INDUSTRY

To acknowledge and recognize an outstanding young medicinal chemist or chemical biologist working in Industry within Europe.

The Prize is given annually to a young medicinal chemist or chemical biologist (≤ 12 years after PhD), and consists of a diploma, €1.000 and an invitation to give a short presentation at XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISM 2021) | August 29-September 2, 2021.

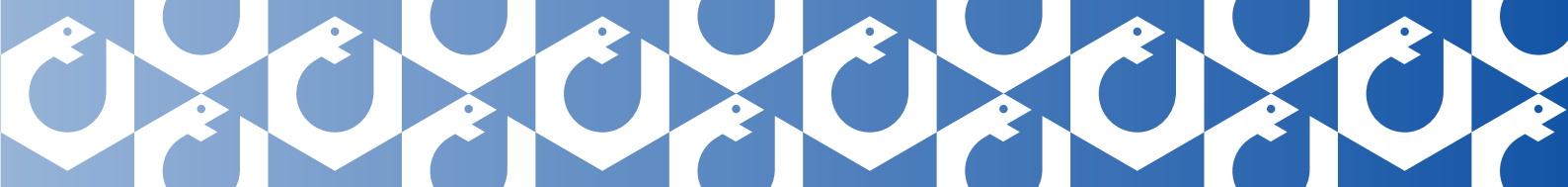
Two additional nominees will also be identified and acknowledged.

Nominations should be submitted by the candidate's supervisor via the submission tool on www.efmc.info/prizes and should consist of:

- a letter by the supervisor
- a brief cv of the candidate
- abstract of potential oral presentation

Deadline for Nominations is January 31, 2021

See www.efmc.info/prizes for full details



Virtual EFMC-YMCS 2020



Aiming to continue its mission of promoting interactions between young scientists, sharing scientific work with peers and rewarding excellence, the organising committee took the decision to run the **7th edition of the EFMC-YMCS** - initially planned to take place in Basel, Switzerland on September 10-11, 2020 - as a **virtual event**. They crystallized the essence of the meeting and delivered it to a greater number around the globe.

Although they will never replace the interactions of a physical conference, virtual events have the positive side of connecting more scientists and allowing them to easily share ideas with peers. More than 900 participants registered for this virtual edition of the event, making it the most successful edition to-date in number of attendees.

The virtual EFMC-YMCS 2020 was chaired by **Prof. Dennis Gillingham** and **Dr Christina Lamers**, both from the University of Basel, Switzerland. After the opening ceremony by the EFMC President, **Dr Yves P. Auberson** (Novartis, Basel), the programme started with the first keynote lecture on “*Trialkylphosphines in Chemical Biology*”, given by **Prof. Pablo Rivera Fuentes** (EPF Lausanne, Switzerland). The rest of the day went on with the first part of the competition, with oral communications by the winners of the young medicinal chemist meetings of United Kingdom, The Netherlands, Switzerland, Italy, Israel and Portugal.

The second day was opened, after a brief welcome note by Dr Christina Lamers, by **Prof. Angela Russel** (University of Oxford, United Kingdom) who gave an inspiring talk on “*Discovery of Small Molecules to Manipulate Cell Fate In Vivo: Towards New Therapies for Degenerative Diseases*”. The programme moved afterwards to the second part of the competition with lectures of national winners from Germany, Belgium, Serbia, Croatia and France.

Praised by the participants in the previous editions, the soft-skills trainings of the EFMC Young Scientists Networks (EFMC-YSN) were also part of the virtual programme: **Dr David Peralta** (Chemistry Europe, Germany) shared tips on “*Communicating Your Science Effectively*” and **Dr Virginia Ballotta** (Catalyze, Switzerland) gave a lecture on “*What if funding wasn't a barrier to innovation?*”

At the end of the event, the traditional Award ceremony was held, and several prizes were conferred to promising young scientists. **Jessica Reynolds (University of Oxford, UK)** received the 2020 EFMC-YMCS Presentation Prize sponsored by the EFMC and Idorsia for her presentation on the “*Design and Synthesis of Chemical Tools to Probe the Function of Trim33*” and the following scientists received an **EFMC Best Poster Prize**, sponsored by ChemMedChem/ChemBioChem:

- **P003 - Daniel Baillache (University of Edinburgh, UK)**
- **P008 - Anna Duran-Corbera (Institute for Advanced Chemistry of Catalonia, ES)**
- **P012 - Charlotte Sornay (University of Strasbourg, FR)**
- **P015 - Cosmin Butnarusu (Università degli Studi di Torino, IT)**
- **P082 - Verena Kunig (TU Dortmund, DE)**
- **P089 - Silvia Bonomo (Charles River Discovery, UK)**
- **P141 - Sofia Parrasia (University of Padova, IT)**
- **P168 - Greta Bagnolini (University of Bologna, IT)**
- **P206 - Daniel Kohnhäuser (Helmholtz center for Infection Research, DE)**

Many questions were asked and great science was shared during those two days...the only missing thing to make this event perfect was the opportunity to meet & greet during the networking reception and wander along the Rhine river for some bites and beers with newly found friends.

We take the opportunity to – once again – praise the organising committee for its amazing work and acknowledge the kind support of the EFMC and Industrial Sponsors, to whom we are thankful.

The 8th edition of the EFMC-YMCS is scheduled to take place on September 9-10, 2021, following the XXVI EFMC International Symposium on Medicinal Chemistry (EFMC-ISMC 2021). More information available on the regularly updated website www.efmc-ymcs.org

SHORT COURSE

16th EFMC Short Course on Medicinal Chemistry

NEW OPPORTUNITIES IN GPCR DRUG DISCOVERY

Fall 2021, dates to be announced
Oegstgeest, The Netherlands

Scope

This intensive course is intended for scientists working in the field, and the presentations will be given by senior scientists from industry and academia. The number of participants is limited to 35, to allow in depth discussion.

Course Outline

G-protein coupled receptors represent the largest class of drug targets, as they serve for about 30% of the known drugs, but many of them are still orphan.

In the last 15 years, however, we witnessed dramatic developments in the structural biology and pharmacology of GPCRs. High resolution X-ray and cryo-EM structures made the design of the GPCR ligands more rational. The widening knowledge on their signalling resulted in new concepts such as allosteric modulation, GPCR residence time and biased signalling currently tested in clinical trials.

This course will provide an introduction for medicinal chemists to this important target class including:

- concepts and methods applied in the structural biology, modelling, systems biology, pharmacology and medicinal chemistry of GPCRs;
- a series of medicinal chemistry case studies, including the discovery of molecular probes, tool compounds, clinical candidates and marketed drugs.

Course Organisers

György Miklós Keserü
*Research Centre for Natural Sciences, Hungarian
Academy of Sciences, Hungary*

Rob Leurs
Vrije Universiteit Amsterdam, The Netherlands

Local Organisers

Henk Timmerman
Vrije Universiteit Amsterdam, The Netherlands

Laura Heitman
University of Leiden, The Netherlands



National Adhering Organisations

Below you can find the list of the 27 National Adhering Organisations composing the European Federation for Medicinal Chemistry and Chemical Biology (EFMC).

More information can be found on the EFMC website:

<http://www.efmc.info/adhering-organisations-european-medicinal-chemistry>

Austria	Medicinal Chemistry Section of the Austrian Chemical Society
Belgium	Medicinal and Bioorganic Chemistry Division of the Royal Flemish Chemical Society (KVCV) Medicinal Chemistry Section of the Société Royale de Chimie (SRC)
Bosnia & Herzegovina	Organisation Pharmaceutical Research Institute of Bosnia & Herzegovina (Observing Member)
Croatia	Section of Medicinal/Pharmaceutical Chemistry of the Croatian Chemical Society
Czech Republic	Section of Synthetic Drug of the Czech Pharmaceutical Society
Denmark	The Danish Society for Medicinal Chemistry and Chemical Biology, a division of the Danish Chemical Society
Finland	Finnish Pharmaceutical Society, committee for medicinal chemistry
France	Société de Chimie Thérapeutique (SCT)
Germany	Division of Medicinal Chemistry of the German Chemical Society (GDCh) Section of Pharmaceutical/Medicinal Chemistry of the German Pharmaceutical Society (DPhG)
Greece	Hellenic Society of Medicinal Chemistry
Hungaria	Organic and Medicinal Chemistry Division (OMCD) of the Hungarian Chemical Society (HCS)
Israel	The Medicinal Chemistry Section of the Israel Chemical Society
Italy	Division of Medicinal Chemistry of the Italian Chemical Society (Società Chimica Italiana)
Latvia	Latvian Association for Medicinal Chemistry
Netherlands	Division Medicinal Chemistry & Chemical Biology, Royal Netherlands Chemical Society (KNCV-MCCB)
Poland	Polish Society of Medicinal Chemistry
Portugal	Division of Medicinal Chemistry of the Portuguese Chemical Society
Russia	Medicinal Chemistry Section of The D.I. Mendeleev Russian Chemical Society
Serbia	Division of Medicinal Chemistry of the Serbian Chemical Society
Slovenia	Section for Medicinal Chemistry of the Slovenian Pharmaceutical Society
Spain	Sociedad Española de Química Terapéutica
Sweden	The Swedish Academy of Pharmaceutical Sciences
Switzerland	Division of Medicinal Chemistry & Chemical Biology (DMCCB) of the Swiss Chemical Society
Turkey	Turkish Association of Medicinal and Pharmaceutical Chemistry
United Kingdom	The Biological and Medicinal Chemistry Sector (BMCS) of the Royal Society of Chemistry (RSC)





EFMC-YMCS
Young Medicinal
Chemists' Symposium
Virtual Event
September 9-10, 2021

8th EFMC Young Medicinal Chemists' Symposium

The EFMC Young Medicinal Chemists' Symposium is an initiative of the European Federation for Medicinal Chemistry and Chemical Biology (EFMC). This Symposium, organised in connection with EFMC-ISMCS 2021, has the aim of:

- Creating a network of young European investigators in medicinal chemistry and chemical biology
- Stimulating young investigators to share their scientific work with peers and inspiring leaders in the field
- Creating competition and excellence in the fields by selecting the European champion in medicinal chemistry and chemical biology

Programme

The Programme of the 8th EFMC Young Medicinal Chemists' Symposium will include:

opening and closing lectures by inspiring leaders in the field

oral communications by invited prize winners from national young medicinal chemist's and chemical biologists' meetings in Europe

flash poster presentations selected from submitted abstracts

a poster session open to any young researcher submitting an abstract

prizes

an optional programme of soft-skills training sessions will be given by the EFMC-YSN (Young Scientists Network)

Deadlines

May 11, 2021

Deadline for Oral Communication Submissions & Early Bird Registration

June 15, 2021

Deadline for Poster Submissions

International Organising Committee

SYMPOSIUM CHAIRS

Dennis Gillingham

University of Basel, Switzerland

Kristina Goncharenko

SpiroChem AG, Switzerland

MEMBERS

Dave Alker

David Alker Associates, United Kingdom

Maja Beus

University of Zagreb, Croatia

Christina Lamers

University of Basel, Switzerland

Laetitia Martin

Roche, Switzerland

Brieuc Matagne

LD Organisation, Belgium

Jessica Reynolds

University of Oxford, United Kingdom

Michal Shoshan

ETH Zürich, Switzerland

More information and on-line registration is available on www.efmc-ymcs.org

Spread the word on social media using [#EFMC_YMCS](https://twitter.com/EFMC_YMCS)





EFMC-ISM

International Symposium
on Medicinal Chemistry

Acropolis Nice

Nice, France

September 4-8, 2022

See you in Nice 2022!

www.efmc-ismc2022.org

INTERNATIONAL ORGANISING COMMITTEE

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Roberto Di Santo, *Sapienza University of Rome, IT*

Maria Duca, *University of Côte d'Azur, FR*

Rui Moreira, *University of Lisbon, PT*

Leena Otsomaa, *Orion, FI*

Pilar Manzano-Chinchon, *GSK, ES*

Tatjana Ross, *Merck, DE*

LOCAL ORGANISING COMMITTEE

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MEMBERS

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Rebecca Deprez-Poulain, *University of Lille, FR*

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Véronique Michelet, *University of Côte d'Azur, FR*

Nadia Patino, *University of Côte d'Azur, FR*

Raphael Rodriguez, *Institut Curie, FR*

Boris Vauzeilles, *Institut de Chimie des Substances Naturelles, FR*



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