H2020-MSCA-ITN-2017 G.A. 764958

NANOSTEM-NANOCARB

JOINT TRAINING SCHOOL

An Interactive Online Event

ZOOM

Thursday 3rd – Friday 4th September 2020

Day 1: Thursday 3rd September 2020 (Time in BST)

09:30 – 09:40	"*Welcome remarks*" by Prof Marina Resmini (QMUL) and Dr Marco Monopoli (RCSI)
09:40 – 12:10	"*Paper submission process – how to submit a paper and peer review evaluation*" by Dr Annika Friberg (Development Editor for RSC Advances) * Refer to the external material attached at the end of this document as readings prior the talk * Part 1: 45' seminar; Part 2: 45' group activity led by Prof M. Resmini.
12:10- 13:30	**Lunch Break**
13:30 – 15:30	"*Paper writing – how to write a manuscript*" by Dr Ai Lin Chun (Director, *Science Storylab*; former editor at *Nature Nanotech*). Please bring paper/notebook + your favourite writing tool.
15:30 – 16:00	**Break**
16:00 -17:30	"*Paper writing – how to prepare Figures and write Captions*" by Dr Ai Lin Chun. Please bring paper/notebook + your favourite writing tool.

Day2: Friday 4th September 2020 (Time in BST)

09:30 – 11:00	"*Writing your PhD thesis: are you ready?*" by Dr Caroline Mysiorek and Prof Marie-Pierre Dehouck (Université d'Artois)
11:00 – 11:30	**Break**
11:30 – 12:30	Keynote: "*Big Pharma: Novel Strategies and Better Treatment Options for Patients*" by Dr Romano Kroemer.
12:30- 14:00	**Lunch Break**
14:00 – 15:00	"*What Proportion of Scientific Articles in Bionanoscience are Correct and Reproducible?*" – Dr Raphael Levy (University of Liverpool)
15:00 – 15:30	**Break**
15:30 – 16:30	Virtual Networking (breakout rooms max 5 people capacity) --- Career Strategies (choosing a career path and making the right choices towards it.)
16:30 – 17:30	**Breakout rooms for social interaction**

Organisers

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Speakers

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Participants

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Abbreviation	Organisation
QMUL	Queen Mary University of London, United Kingdom
CNC	Center for Neurosciences and Cell Biology, University of Coimbra, Portugal
UA	Universite D'artois, France
KI	Karolinska Institutet, Sweden
CHUC	Centro Hospitalar E Universitario De Coimbra, Portugal
HMGU	Helmholtz Zentrum Muenchen, Germany
MyBi	MyBiotech GmbH, Germany
UIBK	Universität Innsbruck, Austria
UoB	University of Birmingham, United Kingdom
UC	Universidade de Coimbra, Portugal
RCSI	Royal College of Surgeons, Ireland
UW	University of Warwick, United Kingdom
UniMi	University of Milan, Italy
CNR	Consiglio Nazionale Ricerche, Italy

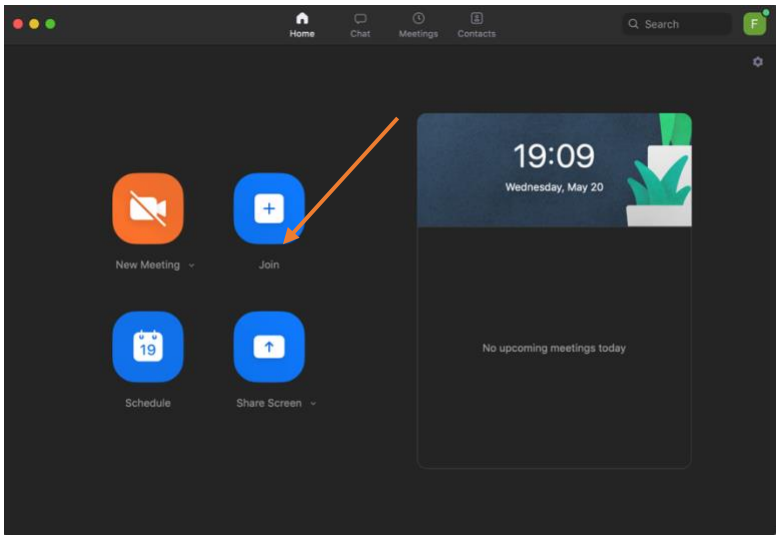
Ludger	Ludger, Ltd, United Kingdom
CIC BiomaGUNE	Centro de Investigación Cooperativa en Biomateriales, Spain
VITO	Flemish Institute for Technological Research, Belgium
MNI	Mario Negri Institute for Pharmacological Research, Italy
UniLiv	University of Liverpool, United Kingdom
IP	Institut Pasteur, France
CIDETEC	CIDETEC, Spain

Basic guideline for using zoom:

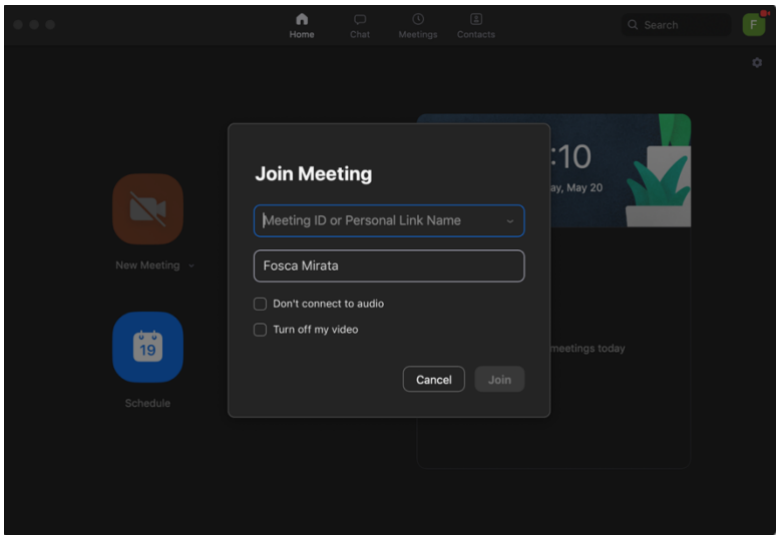
For a better and smoother experience, we highly recommend you use a laptop/desktop rather than a smartphone or a tablet. This way you can thoroughly enjoy the event and make sure to follow the presentation of our speakers. Also, for avoiding any technical issues, please download the free Zoom desktop application on your Mac/Windows machines.

1. How to join a meeting:

Follow this link and download "Zoom Client for Meeting". After downloading and installing the app on your machine, launch it open. A screen like this will appear:



Then click on "join" and you will be asked to provide a meeting ID and afterwards a password to join the meeting.

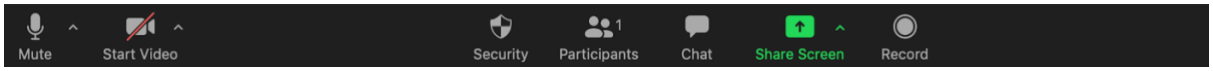


Please note that we will circulate Meeting ID and Password to all the participants by email on a date closer to the Summer School. You can also join the meeting by simply clicking on the link we will provide on the same email and open the previously downloaded Zoom app on your computer.

2. How to share the screen

The speakers will be required to share their screen to show their power point presentation.

Click on the green icon at the bottom of your screen to start sharing your presentations.



3. Breakout sessions

The group activity led by Prof. Resmini on Monday, the networking sessions "Career Strategies" and the "Virtual Networking for Social interaction" on Friday will be carried out using "breakout rooms" function on Zoom.

We will split the participants into virtual breakout groups at the beginning of the sessions – please accept the on-screen prompt to join the breakout room.

You will be communicated 60 seconds prior to the session ending and when groups are required to return to the main room.

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ABSTRACTS AND BIOS

Annika Friberg, Ph.D.

Development Editor for RSC Advances

Biography

Following a PhD in organic chemistry with Professor Torbjörn Frejd at Lund University, Sweden, Annika undertook a postdoc with Professor Kristina Luthman at Gothenburg University, Sweden. In 2008, Annika joined Krahbichler Intellectual Property Advisors as a patent attorney, handling patent applications related to chemistry and medical devices. In 2010, Annika returned to academia as an assistant researcher with Professor Jens Schouenborg working in the Neuronano Research Centre, Lund University, developing micro- and nanosized electrode brain implants. In 2017, Annika joined the Royal Society of Chemistry and is currently working as a development editor for the journal RSC Advances.

Abstract

The talk will give an overview of scientific publishing, covering information about article submission and peer review - along with our editors' top tips. Topics included are 'how to choose an appropriate journal for your work', a submission checklist, data requirements, peer review models, the manuscript life cycle as well as an overview of open access and preprints.

External Material

Click on the links below and take a few minutes to read the information prior attending the talk

How to publish your Research: This guide will help you create a high-quality article that will be a valuable addition to the scientific record.

How to review for the RSC: Our top 10 tips

Diversity landscape in chemical sciences: A report by the Royal Society of Chemistry

Is there a gender gap in chemical sciences scholar communication?

Is publishing in the chemical sciences gender biased? Driving change in research culture

Ai Lin Chun, Ph.D.

Director, Strategy & Consulting at Science Storylab

Biography

Ai Lin received her B.Sc in Chemistry from the University of San Francisco in 2001 and Ph.D. in Biomedical Engineering from Purdue University in 2006. Her research focused on improving adhesion of orthopaedic implant materials to bone tissue. In 2006, she joined Nature Research (a division of SpringerNature) as one of the founding editors of *Nature Nanotechnology*. She was responsible for biomedical content on the journal, handling primary research papers in the areas of nanomedicine, biomaterials, environmental, health and safety issues surrounding nanotechnology. She has commissioned, edited, and written numerous articles and editorials for the journal. Between 2014 and 2016, Ai Lin was elected as a member of the *World Economic Forum, Global Agenda Council for Nanotechnology*, where she joined a team of experts providing scientific intelligence on nanotechnology at the Forum. In 2017, she launched Science Storylab to share her experience and knowledge in scientific research, publishing, and communication. She has helped numerous researchers acquire funding, publish in high impact journals and is teaching science writing and oracy to academics and industry partners. Ai Lin loves science and teaching and is curious about the stories behind every face and project. She is a certified facilitator in the Lego® Serious Play® method and is based in Hong Kong.

About Science Storylab

Science Storylab was founded in 2017 based on the belief that science should be accessible and should matter to all. Drawing on >12 years of editorial experience in science publishing, we help outstanding research scientists in academia and industry acquire funding, write impactful research narratives and empower their teams. We provide best-in-class scientific writing and editing services, and training in scientific writing, publishing and communication. We are here to challenge your ideas and teach you the skills you need to present your science on paper and on stage so you can effectively mobilize your research for a common good.

Abstract

1) Writing your manuscript

Scientists and engineers must write and publish because scientific breakthroughs cannot change the world if they remained in our head or lab. Written research articles are a source of knowledge for many of us and we believe certain information we read because we trusted the work was done carefully and reported accurately. In this talk, we will discuss your role as an author and learn how to plan and put together a manuscript from a reader's point of view. You will learn the purpose of each section of a manuscript and understand how to write them using language that is accessible to specialists and non-specialists. Please come prepared to

take your own notes because note taking is good practice for planning a paper – it involves putting thoughts on paper and ordering information. Slides will not be shared, and the lecture will not be recorded.

2) Preparing figures and captions

Figures express an idea or present results that cannot be easily explained in words. Putting together figures and writing the accompanying captions is about communicating the message in your evidence with efficiency, clarity and precision. In this talk, we will learn ways to present data and improve the readability and impact of your figures. We will discuss the basic design principles relevant for visual elements in science and learn the best practices in figure caption writing. The talk aims to sharpen your visual literacy in colour and visual order. Please come prepared to take your own notes. Slides will not be shared, and the lecture will not be recorded.

Marie-Pierre Dehouck, Professor

Professor in physiology at University of Artois

Biography

Professor Marie-Pierre Dehouck is graduated as a physiologist and holds a PhD degree in Physiology from the University of Lille I and a Doctorate degree in Physiology from the Université d' Artois.

During her PhD studies, she set up an in vitro blood brain barrier (BBB) model, consisting in a coculture of bovine brain capillary endothelial cells and rat glial cells. This model represents a valuable tool; its characteristics are very close to the in vivo blood brain barrier and enables transport studies of endogenous molecules or drugs to the brain. This model is extendly used by pharmaceutical industry since the end of her PhD in 1990.

In 1999, she became Professor in Physiology at the Université d'Artois. Her research group investigates the thematic "modelling the BBB" which aims are development, characterization, standardization of physiological and pathological in vitro BBB models. Marie-Pierre Dehouck got involved in the FP7 European project EUSTROKE aiming to the modelling of the neurovascular unit. As part of this project, a three cell culture was developed including endothelial cells, glial cells and pericytes and enables studies of interactions between actors of the neurovascular unit.

Recently, thanks to a collaboration with Professor Lino Ferreira (Coimbra University, Portugal), her group has successfully developed a human in vitro BBB model using human stem cell isolated from umbilical cord blood which has been patented.

Caroline Mysiorek, Ph.D.

Associate Professor at Artois University

Biography

Caroline Mysiorek is associate professor in Artois University, at the Faculty of Sciences in Lens, France where she received her PhD in 2009. During her thesis, she was focused on the blood-brain barrier (BBB) and more precisely the in vitro characterization of the dysfunction of the BBB and its protection following ischemic stroke. Then, she went in Pr. Lydia Sorokin's lab (Muenster, Germany), for a post-doctoral position, to study the involvement of the extra-cellular matrix in the post-ischemic inflammatory processes among the neurovascular unit in the frame of the European Stroke Research Network (EUSTROKE, FP7). Recruited in 2010 at Artois University as associate professor, she continued her research on deciphering the cellular and molecular mechanisms responsible of the loss of integrity of the BBB following stroke before launching in 2013, a new thematic of research focusing on the role of the BBB in brain tumors in 2013. She obtained her habilitation in 2019.

Abstract

Writing your PhD thesis: are you ready?

The last year of a PhD is of high importance considering the challenge of achieving all the steps before the PhD defense. You have the impression that you just start your PhD yesterday; you still have a lot of experiment to do, a lot of questions to answer however you should start thinking of the manuscript. Between the requirements of your administration, the ones of the lab, your PI, writing an article teaching and also the preparation of the future, the last year is not the end but the beginning of your career!

The presentation will not aim at giving the ideal recipe of success and how to go through this last year without rebounds but more at giving some tips to start this year serenely.

Raphaël Lévy, Ph.D.

Senior Lecturer at University of Liverpool

Biography

Raphaël Lévy obtained a PhD in Physics (Strasbourg, France, 2002) studying the conformation of biopolymers adsorbed on surfaces using the atomic force microscope then moved to Liverpool to work as a postdoctoral researcher on the applications of nanoparticles in biology. After publishing articles on the functionalisation of gold nanoparticles with peptides, he obtained in 2006 a 5 year Fellowship (BBSRC David Phillips) to establish his independent research group in this field. In the following years, in collaboration with biologists and chemists, he made contributions to the design, optimization and characterization of nanoparticles,[1, 2, 3] the understanding of the interactions of nanoparticles with cells,[4,5] and the development of nanoprobes for the evaluation of cell therapy safety.[6,7]

In parallel, from 2009, he started to challenge a series of reports published in high profile journals (e.g. Nature Materials, JACS, PNAS, Science) which claimed that nanoparticles with a particular structure (itself an imaging artefact) had a number of extraordinary properties; this led to the publication of Stripy Nanoparticles Revisited after more than three years of peer review,[8] marking the beginning of a public controversy that lasted several years. The near impossibility of timely correction of the scientific record via traditional peer review led him to experiment alternative practices to generate a much-needed space for scientific discussion of disputable findings. This includes his blog (https://raphazlab.wordpress.com, over 300,000 views and over 100,000 visitors since launching in 2008), many contributions to www.PubPeer.com, Twitter and preprints,[9,10, 11]. He is using this combination of scientific communication tools in a second, still unfolding, controversy related to the SmartFlares (or Spherical Nucleic Acids). Those are nanoparticles that according to many high profile articles were supposed to detect mRNAs inside cells, but that have now been withdrawn from the market after his critiques and their commercial failure (see *RNA Detection Tool Debate Flares Up at ACS Meeting*, The Scientist, September 2018).

DOIs: **1**. 10.1021/nn204214x; **2**. 10.1021/nn204214x; **3**. 10.1039/B910657J; **4**. 10.1021/nn9006994; **5**. 10.1371/journal.pone.0121683; **6**. 10.1021/acsnano.6b03246; **7**. 10.7554/eLife.33140; **8**. 10.1002/smll.201001465; **9**. 10.1038/s41551-018-0218-x; **10**. 10.1101/029447; **11**. 10.5281/zenodo.3900212

Abstract

What Proportion of Scientific Articles in Bionanoscience are Correct and Reproducible?

In theory, science progresses through new experiments, but also replications, challenges and confrontation of ideas. In practice, no direct replications ever occur in bionanoscience, and whilst a few welcome scientific debates have emerged over the past few years (e.g. on targeting following Warren Chan's review), this remains the exception. Anyone who has tried to published critical or negative articles has stories to tell about that difficult enterprise. I certainly have a few. What do these anecdotes reveal about the possibility of correcting the scientific record? What proportion of scientific articles in bionanoscience are correct and reproducible? How much of our ideas regarding the properties of nanoparticles and their interactions with biological systems are founded on solid experiments as opposed to high impact papers that are cited hundreds of times but contain little evidence and are never reproduced? And, importantly, how can we improve the current state of our field. I don't pretend to have the answers to these questions, but I'll give it a try and I will be delighted to discuss them with you.

Romano Kroemer, PhD

Head of Business Performance Office, R&D Operations at Sanofi

Biography

Romano holds a PhD in Chemistry, a Habilitation in Computational Chemistry as well as an MBA. Accumulating over 20 years of experience in pharma industry (Sandoz/Novartis, Pharmacia/Pfizer, Sanofi) Romano has occupied posts with increasing responsibility, in research disciplines including drug design, structural biology & biophysics, scientific computing & data management, and computational systems biology. During his recent years at Sanofi, he was leading strategic initiatives for the whole of R&D, covering operational excellence, innovation, business performance, and the introduction of novel technologies related to digital & data science. Romano has also worked and taught at different universities (Innsbruck Austria, Oxford UK, Queen Mary University London UK,) and is the co-author of more than 70 peer-reviewed scientific publications.

Abstract

Big Pharma: Novel Strategies and Better Treatment Options for Patients

Starting from an overview of the major challenges in drug discovery and development an account is given of how to overcome these challenges through a multitude of approaches. Those include business model and strategy changes, as well as innovation regarding target identification and treatment modalities. The ever-increasing impact of digitalization and data sciences is highlighted as well.