

NEWSLETTER 2020, #11 – November

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[by SIBPA] Borse SIBPA - Biophysical Society Virtual Annual Meeting 2021

**La SIBPA bandisce n. 5 (cinque) Borse di Studio per partecipare al
"Biophysical Society Virtual Annual Meeting" February 22-26, 2021**

<https://www.biophysics.org/2021meeting>

L'ammontare di ciascuna Borsa è pari alle spese di iscrizione alla Biophysical Society, della registrazione al Meeting e di invio di un *abstract*. Sono previste 3 borse per la partecipazione come *Early Career (Available for up to six years from date of first professional degree, Master's or Doctorate)*, ciascuna dell'importo di 260 \$, e 2 borse per la partecipazione come *student (Available to undergraduate and graduate students pursuing a course of study in biophysics or in an allied scientific field)*, ciascuna dell'importo di 150 \$. Le spese dovranno essere documentate.

La/il richiedente deve: i) rientrare nella categoria del personale di ricerca non strutturato, ii) essere iscritta/o alla SIBPA e iii) avere avuto rapporti di lavoro (incluso borse di studio, assegni di ricerca, contratti o collaborazioni) con organismi di ricerca aventi sede legale e/o operativa sul territorio italiano, di durata complessivamente superiore a 4 mesi nei 12 mesi precedenti la data di scadenza del presente bando.

La fruizione della borsa è condizionata alla comprovata sottomissione e accettazione dell'*abstract*. Per le/i richiedenti attualmente non iscritte/i alla SIBPA, l'iscrizione alla Società può avvenire contestualmente alla presentazione della domanda di borsa previo pagamento della quota d'iscrizione annuale alla SIBPA.

Le/i Dottorande/i di Ricerca dovranno includere una lettera di presentazione del proprio supervisore. Ogni Laboratorio/Unità di Ricerca può fare domanda per una sola borsa SIBPA.

Le domande, corredate di un breve *curriculum vitae* e dell'*abstract* presentato, devono pervenire al Presidente della SIBPA, Prof. Cristiano Viappiani (cristiano.viappiani@unipr.it), entro il giorno **11 dicembre 2020**.

La selezione sarà a cura del Consiglio Direttivo della SIBPA e ai vincitori verrà comunicato l'esito finale entro il 21 dicembre 2020. In aggiunta alla documentazione delle spese, la vincitrice/il vincitore dovrà inviare copia pdf del poster/della comunicazione presentato/a al congresso.

Il Presidente

Cristiano Viappiani

[by SIBPA] SIBPA-IVSLA International School of Biophysics 2021: online with new dates



XXV INTERNATIONAL SCHOOL OF PURE AND APPLIED BIOPHYSICS on



Venice (I), Palazzo Franchetti,
18-22 January, 2021

Quantitative analysis of optical imaging for Medicine and Biophysics: foundations, applications and perspectives.

Due to Covid-19 pandemic restrictions, the school will take place on-line. No registration fee is requested. Upon registration, the applicants will receive the information to access the hosting platform.

The quantitative analysis of the huge amount of data produced by modern optical microscopy and spectroscopy techniques can dramatically improve our understanding of basic physiological phenomena and foster the application of innovative imaging approaches in medical diagnosis. The school will offer an overview of the foundations and applications of some of the most recent methods for quantitative analysis of data provided by modern optical and multimodal imaging, with a special focus on machine learning approaches. Technical details of the quantitative analysis will be discussed in lectures, and online informal discussion with the lecturers. The participation to the school is limited to 35 students.

Coorganized by:

Società Italiana di Biofisica Pura e Applicata e

Università di Milano-Bicocca
Milano



Institute Pasteur,
Paris



CNR, ISASI
Napoli



SCIENTIFIC COORDINATORS:

Giuseppe Chirico-UNIMIB (Italy);
Maddalena Collini-UNIMIB (Italy);
Pietro Ferraro-CNR- ISASI (Italy);
Cristophe Zimmer - Institute Pasteur (F)

DIRECTOR of the school:

Prof. Giorgio Giacometti - IVSLA and Uni. Padua (Italy)

SPEAKERS:

Margaux Bouzin, Milano (I)
Silvia Caponi, Perugia (I)
Gastone Castellani, Bologna (I)
Isabella Castiglioni, Milano (I)
Maddalena Collini, Milano (I)
Alberto Diaspro, Genova (I)
Pietro Ferraro, Napoli (I)
Enrico Gratton, Irvine (USA)
Nicola Gritti, Barcellona (E)
Jelle Hendrix, Hasselt (B)
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Francesco Pavone, Firenze (I)
Paolo Pozzi, Modena (I)
Demetri Psaltis, Lousanne (CH)
Gimmi Ratto, Pisa (I)
Laura Sironi, Milano (I)
Yoav Shechtman, Haifa (IL)
Stefan Stanciu, Bucharest (RO)
Ioannis Tsamardinos, Crete (GR)
Devrim Ünay, Izmir (TR)
Giuseppe Vicidomini (I)
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Additional info at: www.sibpa.it/index.php/scuola-internazionale-di-biofisica-sibpa-ivsla.

Please notice that the school will take place on-line. Upon registration the applicants will receive all the information about the hosting platform (Webex).

[CfPO] [EBSA] PhD studentship at University of Bath, UK on conformational dynamics of STING - funded for EU/International/UK students

Are you fascinated by the way that proteins can change shape? Do you want to find out how this can be affected by drug binding? Do you want an interdisciplinary PhD on a cancer immunotherapy drug target with an industrial placement at the global pharmaceutical company MSD? Then apply for this BBSRC-funded PhD at the University of Bath, UK: [Conformational dynamics of the immune regulator STING](#). Informal enquiries welcome to c.a.dodson@bath.ac.uk. **This studentship is funded for EU / International / UK students and all suitably qualified applicants (biological or physical science background) are very welcome to apply.**

Protein conformational dynamics – and the way in which these are influenced by small molecule ligands – are increasingly thought to underpin the mechanism of many biological processes. The protein STING (stimulator of interferon genes) regulates the interferon-mediated antiviral response and is activated by 2',3'-cyclic guanosine monophosphate-adenosine monophosphate (cGAMP) in response to cytosolic DNA. STING is also activated by the presence of some pathogenic bacteria. Upon activation, bound cGAMP is sequestered from bulk solution within the STING dimer interface by closure of a 20-residue lid region, coupled to larger-scale conformational change. There is currently much commercial interest in the development of STING agonists for use in anti-cancer immunotherapy, however the underlying biophysical behaviour of STING (timescale and drivers of conformational change) remains poorly understood.

This project will address this gap by developing a fluorescence assay to report on STING conformational change in solution. We will characterise STING conformation in the presence and absence of small molecule ligands and determine the timescale of conformational change. We will probe conformational heterogeneity by performing experiments at the single molecule level and will carry out modelling to relate protein conformation and dynamics to ligand residence time. Our experimental equipment can capture events on timescales ranging from nanosecond to hours.

The project will be supervised by Dr Charlotte Dodson at University of Bath (lead academic supervisor), Dr Katie Chapman at MSD (Merck Sharp Dohme; industrial supervisor) and Prof Jean van den Elsen (University of Bath; second academic supervisor). It is suitable for students with a biological or physical science background who are interested in the physical behaviour of proteins and drug-target interactions. As part of the PhD, you will undertake a 6 month placement in the MSD laboratories at the Francis Crick Institute in London.

Closing date for applications: **7th December 2020**

Key techniques: protein expression and labelling, single molecule fluorescence, mathematical modelling of equilibria, assay development, drug screening.

Key references:

Pan B-S, Perera SA, Piesvaux JA et al. (2020) Science 369:eaba6098 (STING and STING ligands)
Berger G, Marloye M, Lawler SE (2019) Trends Mol Med. 25:412-27 (STING in Cancer Immunotherapy)
Gilburt JAH, Sarkar H, ... Dodson CA (2017) Angew Chem Int Ed Engl. 56:11409-14; Gilburt JAH, Girvan P, ...Dodson CA (2019). Chem Sci. 10:4069-76 (experimental methodology)

The studentship is available for EU, International and UK students. Funding will cover the below for **all** students:

- a stipend (at the standard UKRI rate; £15,285 per annum for 2020-2021)
- research and training costs
- tuition fees (at the standard UKRI rate)

Please ignore any out of date advertising on DTP / University websites about eligibility. EU and International students are very welcome to apply, and – if successful – the scholarship will cover your fees in the same way as for a UK student.

Charlotte Dodson, PhD FHEA CChem, Lecturer in Drug Discovery, Department of Pharmacy & Pharmacology, University of Bath, Claverton Down, Bath BA2 7AY, Tel: +44 (0)1225 386428, E-mail: c.a.dodson@bath.ac.uk

[CfPO] [EBSA] Open positions for physics PhD students and postdocs

The Stavans lab (<https://www.weizmann.ac.il/complex/stavans/home>) has openings for PhD students and postdocs interested in various topics that include Systems Biology, pattern formation, circadian clocks in multicellular organisms and bacterial communities from a physics standpoint.

The lab is a highly interdisciplinary one, exposing members to a wide set of skills and techniques, including single-cell level fluorescence microscopy, sophisticated image analysis and mathematical modeling. The post-doctoral position is for 2 years with the possibility of renewal.

The Weizmann Institute of Science is a premier institution of world renown, enjoying a thriving community of international students and postdocs.

Some recent works from the lab include:

[Di Patti et al, PLoS Biol \(2018\)](#) ; [Tal et al PNAS \(2014\)](#)

Submit your application including cover letter (explaining background and motivation), CV and publication record via e-mail as one single PDF file to Prof. Joel Stavans (joel.stavans@weizmann.ac.il).

[CfPO] [EBSA] Post-doctoral position in experimental Biophysics

Czech Academy of Sciences
J. Heyrovský Institute of Physical Chemistry, v. v. i.
Dolejškova 2155/3, 182 23 Prague 8, Czech Republic

The J. Heyrovský Institute is a leading and prestigious research institution in the Czech Republic, known worldwide and with established international cooperation. The Institute is a center of fundamental research in physical chemistry and chemical physics, biophysics, theoretical chemistry and electrochemistry.

The *Department of Biophysical Chemistry* (group of Prof. Martin Hof) is looking for a researcher to contribute to a new interesting project on development of supported lipid bilayers, for a position as

Postdoc in experimental Biophysics

A four year postdoctoral position is available in a young, international and creative team with a collaborative atmosphere, in laboratories with leading-edge technology and equipment.

The aim of the project is to develop protocols for formation of new tethered lipid bilayer systems and to use them for elucidating the role of aggregation in the function of membrane proteins. In addition to membrane biophysics, the project comprises the development of new optical microscopy techniques (fluorescence as well as label free) and liquid cell technology for electron microscopy. The work involves collaboration with national universities and groups at University of Vienna, Leiden University and University of Göttingen.

Start date

1st January 2021

Qualifications

PhD or equivalent degree in natural sciences (biophysics, physics, chemistry or related field).
Good communication skills in written and spoken English.
Familiarity with membrane biophysics is an advantage.

We offer

Position for four years (01.2021 – 12.2024) with a brutto salary of 89,500 CZK (approx. 2550 Euro netto) plus yearly bonus, employee benefit package (e.g. contribution to culture, sport and children's activities; kindergarten,...) and flexible working hours. Travel to international collaborating groups and conferences.

The *Department of Biophysical Chemistry* has a friendly atmosphere of international colleagues with diverse backgrounds (physics, chemistry, physical chemistry, biochemistry and biology). J. Heyrovský Institute is located in Prague, a multicultural city with a picturesque historical center full of life and culture.

For further information please contact Mariana Amaro at amaro@jh-inst.cas.cz

The J. Heyrovský Institute is committed to equality in its workforce and therefore encourages applications from all qualified individuals regardless of gender or other personal background.

Interested candidates can send your CV, PhD certificate, motivation letter (with a brief summary of previous research activities), and names plus e-mail addresses of references to email recruitment@jh-inst.cas.cz (contact person Dominika Patrovská) till 9 December 2020. Please, write in the subject line of your email SC2020_001.

By submitting the application you confirm that all personal data you have sent to us are true.

[CfPO] [EBSA] post doc position in biophysics**University of Liège (Belgium) – Laboratory of Molecular Biophysics at Interfaces (Gembloux Agro-Bio Tech)**

Position open: Post-doctoral scientist (1-year contract) – biophysical investigation of the *in vitro* and *in silico* anti-SARS-CoV-2 activity of microbial secondary metabolites

As part of an FNRS founded project (Exceptional Research Project 2020), the successful candidate will join the Laboratory of Molecular Biophysics at Interfaces (Drs Magali Deleu and Laurence Lins, Gembloux Agro-Bio Tech). The project has multidisciplinary aspects, since it gathers molecular biology (Pr M. Garigliani), synthetic biology (Pr P. Jacques) and molecular biophysics (Drs M. Deleu and L. Lins).

Research description

During the lockdown the promoters of the project have started a collaboration to study the antiviral activity of microbial secondary metabolites on the SARS-CoV-2. They have identified a compound showing interesting activity but too high cytotoxicity. The main goals of the research are:

- to decrypt the antiSARS-CoV-2 mode of action of different natural variants of these compounds, via *in vitro*, cellular and biophysical approaches and to unravel the structure-activity relationships;
- based on the structure/activity relationships, to predict/select new derivatives of these microbial metabolite showing higher antiviral activity with less cytotoxicity.

Profile

Post-doctoral scientist with experience in molecular biophysics (fluorescence spectroscopy, Infrared spectroscopy, isothermal titration calorimetry,...) for the *in vitro* assays and molecular docking for the *in silico* part of the project). Expertise in biophysics with liposomes would be valuable.

Importantly, the candidate shall not have resided or carried out his/her main activity (job, studies...) in Belgium for more than 24 months during the last 3 years.

Candidates must have good working knowledge of English or French, a strong commitment to scientific research and an excellent academic record.

Good communication skills and ability to work in a multidisciplinary team.

Ability to organize and prioritize work duties.

Start date

4th of January 2021.

How to apply?

Candidates should submit an application before **07th of December 2020**: send your CV, PhD certificate, motivation letter (with a brief summary of previous research activities), and names plus

[CfPO] [EBSA] Postdoc opportunity

Are you an ambitious researcher looking for your next challenge? Do you have an established background in chemical biology in its broadest sense? Do you want to further your career in one of the UKs leading research intensive universities?

As Research Fellow in Chemical Biology you will join a BBSRC-funded team focused on developing and exploiting new tools to understand and perturb protein-protein interactions (PPIs) involving intrinsically disordered regions. You will assist the Investigators in delivering this large research programme by focussing on the design and synthesis of small-molecule chemical probes for disease relevant PPIs, with considerable emphasis on targets in oncology.

The post is associated with a major £5.4 million five-year collaborative research programme led by [Professor Andy Wilson](#), funded by the [Biotechnology and Biological Sciences Research Council \(BBSRC\)](#), and bringing together the [University of Leeds](#), the [University of Oxford](#), and project partners, [AstraZeneca](#) and [LifeArc](#). This large and diverse programme focuses on *Deciphering the function of intrinsically disordered protein regions in a cellular context* using The Aurora A kinase (Aurora A) as a target. Aurora A represents a key potential target for anticancer therapeutics development and plays a fundamental role in regulating cell division. The specific purposes of the role are to (i) develop reagents capable of inhibiting the interactions of Aurora A, (ii) use proteomics methods to dissect the cellular interactome of Aurora A.

You will be part of a large team based in [The Wilson](#), and [The Wright](#) groups in the [School of Chemistry](#) and the [Astbury Centre for Structural Molecular Biology](#) with access to a superb infrastructure for research in chemical biology, including synthetic laboratories, NMR equipment, X-ray crystallographic, mass spectrometry and biophysical techniques, together with state of the art online resources.

You will have a PhD (or have submitted your thesis prior to starting) in an area appropriate to the project, along with extensive knowledge of chemical proteomics and/or chemical probe development.

Location: Leeds - Main Campus

Faculty/Service: Faculty of Engineering & Physical Sciences

School/Institute: School of Chemistry

Category: Research; Grade: Grade 7

Salary: £33,797 to £40,322 p.a.

Working Time: 37.5 hours per week

Post Type: Full Time

Contract Type: Fixed Term (3 years due to grant funding)

Reference: EPSCH1022

Downloads: [Candidate Brief](#) <https://jobs.leeds.ac.uk/Upload/vacancies/files/18783/EPSC1022%20-Research%20Fellow%20in%20Chemical%20Biology.pdf>

You can apply online via: <https://jobs.leeds.ac.uk/Vacancy.aspx?ref=EPSC1022>

To explore the post further or for any queries you may have, please contact: [Professor Andrew J Wilson](#),

Professor of Organic Chemistry, School of Chemistry Tel: +44 (0)113 3431409 or email: a.j.wilson@leeds.ac.uk

[CfPO] [EBSA] Six Group Leader positions (EMBO - VU LSC) for genome editing technologiesLife Sciences
Center**SIX GROUP LEADER POSITIONS****AT VU LSC – EMBL FOR GENOME EDITING TECHNOLOGIES**

Life Sciences Center of Vilnius University, a partner institute of the European Molecular Biology Laboratory (VU LSC-EMBL Partner Institute), opens six new positions for principal investigators interested in strengthening basic research or developing innovative technology solutions in the CRISPR gene-editing field.

For successful applicants we offer competitive salary and an attractive starting package. The Center provides both state-of-the-art instrumentation and inspiring, motivating academic environment for the implementation of even the most ambitious scientific ideas.

More information can be found at: <https://www.gmc.vu.lt/en/jobs>

All questions regarding job positions, please address: recruitment@gmc.vu.lt

[CfPO] [EBSA] European Membrane (Hybrid) Meeting - April 7-9, 2021, Graz, Austria

We are happy to announce that the rescheduled EJTEMM meeting (<https://7th-european-membrane-meeting.uni-graz.at/en/>) will take place as planned in Graz, but as hybrid meeting. Hybrid means that the meeting will take place in Graz as planned, but there will be also the option to join virtually. You may for example to decide ahead that you will not be able to come and just register as virtual participant. Importantly, if you register as regular/student attendee and the meeting is forced to take place online only, or if you cannot come due to e.g. a quarantine, travel restrictions or medical circumstances, we will refund the paid amount up to the online-only fee (in this case we ask for a certificate from an official authority or medical doctor). This should give you a maximum of flexibility, but also security for planning. Note however, that we will preferentially select oral contributions from people registering as regular or student participant. If you do have any question, please do not hesitate to contact me.

Please also note that we will open the registration for the meeting December, 1st and that all deadlines (abstract submission, early registration, EBSA bursary application) are at the End of January.

Be well and hope to see you 2021 in Graz!, Georg Pabst

[Ebsa] [CONGR] EBSA Congress 2021 (Vienna 24-28 July)



13TH EUROPEAN BIOPHYSICS CONFERENCE

24–28 July 2021
VIENNA, AUSTRIA

<https://www.ebsa2021.org/>

Public Lecture
Ada Yonath
Nobel prize 2009
Weizmann Institute of Science
Israel

Plenary Lectures
Thomas Südhof
Nobel prize 2013
Stanford University, USA
Francesco Bezanilla
University of Chicago, USA
Maria Rodnina
MPI Göttingen, Germany
Raimond Dutzler
University of Zurich, Switzerland
Gerhard Hummer
Max Planck Institute, Germany
Karolin Luger
University of Colorado, USA
Carol Robinson (tbc)
University of Oxford, UK

Symposia
Protons on interface
Channels and Ca²⁺ signaling
Medical biophysics / Imaging
Membrane transporter & channels
Virus biophysics
Advanced optical microscopy
Mechanobiophysics
Light as a tool in biophysics
Biomimetic nanopores
Protein translocation, assembly and folding
Bioenergetics
Quantification of molecular forces
Membrane signal transduction
Cytoskeleton / Motor proteins
Membrane architecture and asymmetry
Membrane active peptides
Biomolecular simulations
Synthetic cell
Liquid-liquid phase separation and intrinsically disordered proteins
DNA architecture and gene regulation
Lipid-Protein interactions
Biosensors
Instruct-ERIC

Deadlines

1 Dec 2020	Start of registration and abstract submission
31 Mar 2021	End of abstract submission
30 Apr 2021	End of Early bird registration

[CfP] Call for Paper: [Sensors] - Special Issue "Microdevices and Sensors Based on Polymeric Materials for Human Health Applications"

https://www.mdpi.com/si/sensors/microdevices_sensors

**sensors**

an Open Access Journal by MDPI

**Microdevices and Sensors Based on Polymeric Materials for Human Health Applications**

Guest Editors:

Dr. Cristina Potrich

Fondazione Bruno Kessler (FBK) -
Center for Material and
Microsystems - Laboratory of
Biomarker Studies and Structure
Analysis for Health & CNR -
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Deadline for manuscript
submissions:**31 March 2021****Message from the Guest Editors**

Dear Colleagues,

Polymeric microfluidic devices and sensors are increasingly emerging as valid and powerful tools for many applications in biomedical, agri-food and environmental fields. Human health greatly benefits from these devices and sensors, as they improve sensitivity and ease of use, lower costs and allow the spread of laboratories in real settings. This Special Issue welcomes the submission of both review and original research articles related to polymeric microdevices and sensors with applications for human health. The Special Issue is open to contributions with topics considering nanostructured materials, biofunctional materials and surfaces, sensors for human health analysis and monitoring, microdevices for food safety and smart polymeric materials and microfluidic devices. Original contributions that look at integrated microdevices and biosensors are also welcome.

Dr. Cristina Potrich

Dr. Lorenzo Lunelli

Guest Editors

mdpi.com/si/50315

Special Issue*[Newsletter closed on 25/11/2020]*