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EBSA
Biophysics in Europe

NEWSLETTER 2019

#4 - April

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[CfPo] 2 Years Post-doc Position at LaBSSAH-FBK, Trento

LaBSSAH
Laboratory of Biomarker Studies & Structure Analysis for Health

TWO YEARS JUNIOR POST-DOC SCIENTIST POSITION

The Laboratory of Bio Nano Science and Technologies in Trento (LaBSSAH) is seeking a *Junior Post doc Scientist* in biotechnology for a **two years position** in an interdisciplinary research group carrying out collaborative research that includes several fields of sciences such as biological sciences, physics, chemistry, material sciences.

Skills:

- Experience in biophysical or biochemical methods
- Ability to work in team, motivated

- Desired: background on functionalization of materials
- Desired: experience in molecular biology protocols and/or cell culture techniques

Applicants close to finishing their PhD are also welcome to apply.

Main research topic: development of a new class of nanoscale materials able to isolate and purify biomarkers/active agents starting from cultured cells and/or blood, in strong collaboration with the Department of Applied Science and Technology of the Polytechnic of Turin.

LaBSSAH (Laboratory of Biomarkers Studies and Sequence for Health) is an interdisciplinary laboratory devoted to study and develop new methods, materials and devices for the understanding of diseases at the molecular level.

Please send *Curriculum Vitae*, a Letter describing your interest and Contact of three reference persons to Dr. Cecilia Pederzolli <cecilia.pederzolli@fbk.eu>.
We will hold on to your resume and contact you only if your profile meets our needs.

Web Site: cmm.fbk.eu
Job type : Researcher
Starting date : June 2019

Contacts:
Dr. Cecilia Pederzolli : FBK Bruno Kessler Foundation
+39 0461 314494; 348 7454506
cecilia.pederzolli@fbk.eu

[CfPo] 3 Years Post-doc Position at LaBSSAH-FBK, Trento

LaBSSAH Laboratory of Biomarker Studies & Structure Analysis for Health

THREE YEARS JUNIOR POST-DOC SCIENTIST POSITION

The Laboratory of Bio Nano Science and Technologies in Trento (LaBSSAH) is seeking a *Junior Post doc Scientist* in biotechnology **for three years position** in an interdisciplinary research group carrying out collaborative research that includes several fields of sciences such as biological sciences, physics, chemistry, material sciences.

Skills:

- Experience in biophysical or biochemical methods
- Ability to work in team, motivated
- Desired: background on micro and nanotechnologies
- Desired: experience in biocompatibility of materials

Applicants close to finishing their PhD are also welcome to apply.

Main research topic: the development of a miniaturized instrument that can be effectively employed as tool to study the mechanical properties of cells or cell-cell interactions. The research activity will be in a strong collaboration with the Micro and Nano Facility of the FBK - Center for Materials and Microsystems.

LaBSSAH (Laboratory of Biomarkers Studies and Sequence for Health) is an interdisciplinary laboratory devoted to study and develop new methods, materials and devices for the understanding of diseases at the molecular level.

Please send *Curriculum Vitae*, a Letter describing your interest and Contact of three reference persons to Dr. Cecilia Pederzolli <cecilia.pederzolli@fbk.eu>.
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Web Site: cmm.fbk.eu
Job type : Researcher
Starting date : June 2019

Contacts:
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[CfPo] [Ebsa] Post-doctoral position at University of Oulu, Finland

Post-doctoral position **in structural studies on the malarial actomyosin motor** in the group of Inari Kursula at the Faculty of Biochemistry and Molecular Medicine & Biocenter Oulu, University of Oulu, Finland

We have an opening for an enthusiastic post-doctoral fellow to study the molecular mechanisms governing actin polymerization, ATP hydrolysis, phosphate release, and filament stability in malaria parasite actins. The successful candidate has a keen interest to understand cytoskeletal proteins and cell motility in depth. A strong background in protein biochemistry and X-ray crystallography is required. Expertise in cryo-EM sample preparation and structure determination will be highly valued. In addition, a high level of own initiative and the ability to work in a team and supervise younger scientists are necessary.
The Faculty of Biochemistry and Molecular Medicine (FBMM; https://www.oulu.fi/fbmm/) is a dynamic and international working place, where the working language is English. Protein science is one of the focal areas of the Faculty. FBMM provides cutting-edge research facilities for molecular biology, protein biochemistry, X-ray crystallography, and light and electron microscopy. In addition, we have generous access to several large-scale facilities for structural biology (MX/SAXS/cryo-EM).
Funding is initially available for 2.5 years, but there may be possibilities for an extension. The starting date should be as soon as possible. Applications and informal enquiries should be sent by e-mail to inari.kursula@oulu.fi. Applications should contain (i) a cover letter detailing your specific interest in this project and your key skills and expertise, (ii) a CV including a list of publications, and (iii) contact information (e-mail) for 3 referees. Applications should preferably be sent by 30.4.2019, but screening of candidates will continue until a suitable one has been identified.
For more information on our work, please visit our website: http://cc.oulu.fi/~inkursul/lab

Some recent publications directly relevant for the topic:

Kumpula EP, Lopez AJ, Tajedin L, Han H & Kursula I (2018) Atomic view into Plasmodium actin polymerization, ATP hydrolysis, and phosphate release. bioRxiv: 467423, https://doi.org/10.1101/467423.

Kumpula EP, Pires IP, Lasiwa D, Piirainen H, Bergmann U, Vahokoski J & Kursula I (2017) Apicomplexan actin polymerization depends on nucleation. Sci Rep 7: 12137.

Pospich S, Kumpula EP, von der Ecken J, Vahokoski J, Kursula I & Raunser S (2017) Near-atomic structure of jasplakinolide-stabilized malaria parasite F-actin reveals the structural basis of filament instability. Proc Natl Acad Sci 114: 10636-10641.

Green JL, Wall RJ, Vahokoski J, Yusuf NA, Ridzuan MAM, et al. (2017) Compositional and expression analyses of the glideosome during the Plasmodium life cycle reveal an additional myosin light chain required for maximum motility. J Biol Chem 292: 17857-17875.

Prof. Inari Kursula
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[CfPo] [Ebsa] PhD position on Bioelectrochemistry at the University of Strasbourg

International PhD project on Bioelectrochemistry at the University of Strasbourg

The Bioelectrochemistry and Vibrational Spectroscopy Group in the Faculty for Chemistry and the UMR 7140 of the University of Strasbourg offers a PhD position, fully funded, to work on an exciting, multi-disciplinary project. The group has expertise in a variety of research areas including electrochemistry, infrared / THz and Raman spectroscopies and applied on biological molecules. The group has strong international collaborations with laboratories based in Europe and abroad.

We invite applications from highly motivated individuals who hold a master degree (or equivalent) and who are available to start in September 2019.

The project addresses today's urgent need for new cellular targets, which will hopefully lead to new antimicrobial drugs that act with novel molecular and cellular mechanisms. Our ambition is to validate cytochrome bd oxidases, a family of multi-subunit membrane proteins, as privileged targets for future antibacterial drugs. The thesis is a part of an ambitious research program that aims at the development of an electrochemical approach for the study of the catalytic mechanism of these membrane proteins and their inhibition. The project provides an unique opportunity for the successful candidate to engage in inter-disciplinary research using a variety of experimental techniques at the interface between physical chemistry and biophysics. A background in biophysics or physical chemistry with a strong interest in biochemistry is desirable. Knowledge in spectroscopy is a plus. Applicants should have excellent communication skills and sufficient command of English.

The laboratory (http://complex-matter.unistra.fr/) is located close to the center of Strasbourg (France) and the university of Strasbourg (http://www.unistra.fr/) is located in the upper Rhine area, that includes a number of excellent universities (https://www.eucor-uni.org/en/).

For application and further information, please send a cover letter along with a CV, the results of your master (bachelor), a short description of your motivation and other research activities and including the contact details of two references to hellwig@unistra.fr or fmelin@unistra.fr latest the 1st of Mai 2019. The documents sent should not exceed 5 MB. Please note that incomplete applications will not be considered.

[CfPo] [Ebsa] Open positions in Computational Biophysics at Max Planck Institute for Biophysical Chemistry, Göttingen, Germany. (I)

MAX-PLANCK-INSTITUT FÜR BIOPYSIKALISCHE CHEMIE
KARL-FRIEDRICH-BONHOEFFER-INSTITUT
GÖTTINGEN

The Max Planck Institute for Biophysical Chemistry is one of the largest institutes of the Max Planck Society for the Advancement of Science e. V. and conducts basic research to advance knowledge and benefit society. Innovative projects and interdisciplinary cooperation characterize research within the Max Planck Society.

The Department of *Theoretical and Computational Biophysics* (Prof. Dr. Helmut Grubmüller) invites applications for a position as

PhD Student or Postdoc (f/m/d)
(Code Number 08-19)

for the project

- Mechanism of Ribosomal Antibiotics-Induced Stalling Studied by Molecular Dynamics Simulations and Non-Equilibrium Statistical Physics -

The ribosome synthesizes proteins by catalyzing peptide bonds between amino acids and is the target for many antibiotics. The growing peptide chain leaves the ribosome through a 10-nm exit tunnel. Certain antibiotics, the macrolides, bind inside this tunnel. Depending on the sequence of the peptide, the presence of these antibiotics can have different consequences: (1) peptides are not able to pass by the antibiotic, thereby stalling the ribosome, (2) peptides extend further than the antibiotic binding site but are stalled at a later stage, and (3) peptides can pass the antibiotic and become fully synthesized. This sequence-specific stalling is used by bacteria as a sensor for the presence of the antibiotics and to regulate resistance mechanisms, but also has pharmacological implications. The aim of the project is to use extensive MD simulations of different peptides and antibiotics in the ribosomal tunnel to understand how the interplay between the peptides, the antibiotics and the ribosome leads to the sequence-specific stalling, and to rationalize the results in terms of a simplified statistical mechanics model. (https://www.nature.com/articles/ncomms12026)

The successful candidate for either position has a keen interest in computational molecular biophysics and in interdisciplinary collaborative research, as well as a strong background in theoretical physics or physical chemistry, structural biology, and scientific computing.

PhD candidates hold (or expect to complete soon) a Master's or equivalent degree; Postdocs hold a PhD or equivalent degree in any of these or a related field.

PhD students will have the opportunity to participate in one of several available PhD programs, with three years funding and a possibility of extension, in collaboration with the University of Göttingen. Masters students aiming at a fast track PhD are also welcome. The Postdoc position is limited to two years with a possibility of extension.

Payment and benefits are based on the TVöD guidelines. The starting date is flexible.

The group language is English, so no German language skills are required – but it's a great opportunity for you to learn German!

[CfPo] [Ebsa] Open positions in Computational Biophysics at Max Planck Institute for Biophysical Chemistry, Göttingen, Germany. (II)

MAX-PLANCK-INSTITUT FÜR BIOPYSIKALISCHE CHEMIE
KARL-FRIEDRICH-BONHOEFFER-INSTITUT
GÖTTINGEN

The Max Planck Institute for Biophysical Chemistry is one of the largest institutes of the Max Planck Society for the Advancement of Science e. V. and conducts basic research to advance knowledge and benefit society. Innovative projects and interdisciplinary cooperation characterize research within the Max Planck Society.

The Department of *Theoretical and Computational Biophysics* (Prof. Dr. Helmut Grubmüller) invites applications for a position as

PhD Student or Postdoc (f/m/d)
(Code Number 07-19)

for the project

- Macromolecular Structures from Single Molecule X-Ray Diffraction Experiments -

to advance structure refinement of single molecule x-ray diffraction data. In these "diffract and destroy" experiments, femtosecond x-ray free electron laser pulses are shot at a single molecule, and the diffraction pattern is recorded. Depending on sample size, only very few photons are scattered in each shot, such that many scattering images have to be combined. The analysis is complicated by the fact that for each shot the orientation of the sample molecule is random and unknown. We have recently shown that as few as three recorded photons per image suffice. You will develop, implement, and test with recent experimental data a rigorous Bayesian approach, which holds the promise to drastically reduce the number of required photons, thus rendering single molecule x-ray structure determination feasible. (https://www.nature.com/articles/s41467-018-04830-4)

The successful candidate for either position has a keen interest and strong skills in computational physics, mathematics, and probability theory and a strong interest in interdisciplinary collaborative research.

PhD candidates hold (or expect to complete soon) a Master's or equivalent degree; Postdocs hold a PhD or equivalent degree in any of these or a related field.

PhD students will have the opportunity to participate in one of several available PhD programs, with three years funding and a possibility of extension, in collaboration with the University of Göttingen. Masters students aiming at a fast track PhD are also welcome. The Postdoc position is limited to two years with a possibility of extension.

Payment and benefits are based on the TVöD guidelines. The starting date is flexible.

The group language is English, so no German language skills are required – but it's a great opportunity for you to learn German!

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.

Interested? Submit your application including cover letter (explaining background and motivation), CV, transcripts, and publication record preferably via e-mail as one single PDF file to

ausschreibung07-19@mpibpc.mpg.de

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Phone: +49 551 201-2300
Web: https://www.mpibpc.mpg.de/grubmueller

Zertifikat seit 2006 audit berufundfamilie

[WS] 7th SIPF International Workshop on Ion Channels, Sestri Levante, Genova, Italy

Società Italiana di Fisiologia

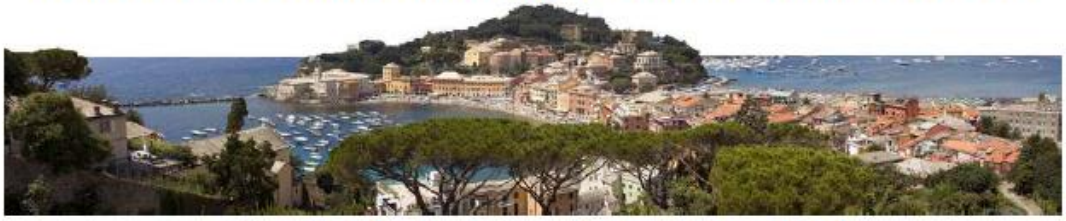
Università degli Studi di Genova

Alma Mater Università di Bologna

ISTITUTO ITALIANO DI TECNOLOGIA

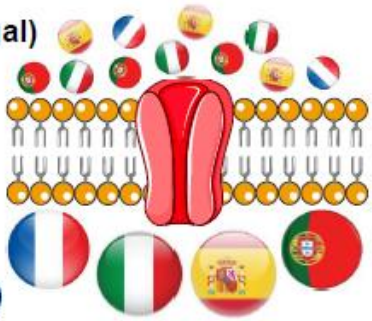
7th SPANISH-ITALIAN-PORTUGUESE-FRENCH (SIPF)

INTERNATIONAL WORKSHOP ON STRUCTURE AND FUNCTION OF ION CHANNELS AND TRANSPORTERS



Sestri Levante, Genova, Italy
October 2-5, 2019

Speakers:
Bayliss, D. (University of Virginia, USA)
Benfenati F. (IIT, Italy)
Morais-Cabral J. (University of Porto, Portugal)
Honoré E. (Université Côte d'Azur, France)
Jurado S. (INA, Spain)
Ballerini L. (SISSA, Italy)
Maragliano L. (IIT, Italy)
Aguiar P. (University of Porto, Portugal)
Fernandez Carvajal A. (UMH, Spain)
Counillon L. (Université Côte d'Azur, France)



Registration and Abstract submission opening: March 20, 2019
Registration and Abstract submission deadline: June 2, 2019
After this date an extra fee of 30% will be applied
No registration will be accepted after July 30, 2019

Organizing Committee
Dr. Pierluigi Valente, Università di Genova (Italy); Dr. Marco Caprini, Università degli Studi di Bologna (Italy); Dr. Félix Viana, Instituto de Neurosciencias Alicante, UMH-CSIC (Spain); Dr. Antonio Ferrer-Montiel, Universidad Miguel Hernández de Elche (Spain); Dr. Graça Soveral, Universidade de Lisboa (Portugal); Dr. Florian Lesage CNRS & Université Côte d'Azur, Nice (France)

[CONF-WS] [Ebsa] EBSA conference on proteo-lipid nanostructures (ProLiN2019), DEADLINE EXTENDED

We invite you to ProLiN2019 (http://prolin2019.com), a multi-disciplinary symposium dedicated to proteo-lipid nanostructures (ProLiNs), their multifaceted nature and emergent roles in life and technology. We bring together scientists from different communities and disciplines to review fundamental mechanisms behind functional self-assembly of ProLiNs inside the cell, in molecular devices and in silico. The discussion will be stirred by leading experts in ProLiNs specialized on theoretical and computer modeling of membrane systems, functional analyses of protea-lipid nanostructures implicated in membrane remodeling and signal transduction in the cell, as well as on biomimetic systems and technologies inspired by ProLiNs. We expect to create a unique atmosphere for presenting your latest scientific achievements, nurturing interdisciplinary networking and more.

ProLiN2019 will operate in Bilbao, Spain, at the University of the Basque Country, across from the Guggenheim museum, on July 25-27, 2019, following the EBSA Biophysics Congress in Madrid (https://ebsa-iupap2019.org). Please, submit your abstract by April 29, 2019.

[CS] [Ebsa] Neutrons for membrane biophysics

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Registration closes on the 10th of June.

The event will focus on the use of neutrons and molecular deuteration to enable early career NJŜ ă Ŝ l· NJŎ K ŜNJ ă ú ƨ LJNJƨ Ø ǎ Ř Ŝ ŦNJŜ ă K ǎ ƴ ă ǎ ∃ K ú ǎ ƴ ú ƨ LJNJƨ ō f Ŝ to give: a practical background in the design of experiments (including utilisation of molecular deuteration); preparation of samples; successful execution of a measurement program (with hands on experiments at two instruments of the FRM II reactor); and the analysis of data. We will introduce software packages suitable for the analysis of data as well as explore the exciting possibilities of directly comparing molecular dynamics simulations with neutron scattering data. The target audience is early career researchers, mainly PhD students and postdoctoral fellows, working with biophysical problems involving model membranes.

More detail can be found on the website:
http://www.fz-juelich.de/jcns/EN/Leistungen/ConferencesAndWorkshops/JCNSWorkshops/2020SINE/_node.html

[CS] [Ebsa] Summer School on Classical Molecular Dynamics

We encourage applications to the CECAM "Summer School on Classical Molecular Dynamics for Material Science, Nanotechnology and Biophysics" (June 10 - June 21 2019, Sissa-Trieste, Italy).
The School is primarily intended for undergraduate students in Physics or Chemistry who wish to become familiar with up-to-date Molecular Dynamics simulation techniques.
Due to recent technical problems on the Cecam site, the application deadline has been extended to April 19!
The list of lecturers and tutors include Giovanni Bussi (SISSA), Ali Hassanali (ICTP), Alessandro Laio, Gianluca Lattanzi (Uni Trento), Angelo Rosa, and Mark Tuckerman (NYU).

The purpose of the School is threefold:
(i) providing undergraduate students with a basic but detailed overview of the theoretical foundations of classical molecular dynamics methods;
(ii) giving an overview of the domains of interesting applications;
(iii) providing the basics for writing and running in practice simple molecular simulations.

Major details about the School and how to apply can be found at the official CECAM website:
https://www.cecam.org/workshop1714/

[CS] [Ebsa] Summer School on Molecular Modeling

CRS4, jointly with Cagliari, Stockholm and Buenos Aires Universities, organized a summer school on molecular modeling.
The news can be found on our web site http://www.crs4.it/it/news-view/sono-aperte-le-iscrizioni-alla-scientific-school-molecular-modeling-real-applications-and-new-approaches/
and the school WEB site is http://cmm.crs4.it/

The school will be held in the Scientifc Park of Sardinia, Pula (Cagliari), form 29 July to 2 August 2019 and registration is free of charge.
The school is organized by CRS4 and other Italian and International universities, thanks to the
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All information, including registration modalities, program and contacts (cmm@crs4.it) can be found in the school web page: http://cmm.crs4.it

Registration is open: Application deadline is 30 April 2019.

Enrico Pieroni, PhD
CRS4 - Modeling & Simulation Group, Biosciences Dept
ep@crs4.it, + 39 070 9250 355

[Newsletter closed on 18/04/2019]