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[bySIBPA] Proceedings del Congresso SIBPA

Care/i Partecipanti al XXVI Congresso della SIBPA,

i proceedings saranno pubblicati su Biomolecular Concepts (De Gruyter), a cura del suo Editor-in-chief, Enrico Di Cera. L'invio dei lavori a Biomolecular Concepts avviene attraverso il sito ufficiale del giornale https://www.degruyter.com/journal/key/bmc/html

che inoltrerà i lavori ai revisori seguendo la regolare procedura di peerreviewing.

La scadenza per l'invio dei manoscritti è prevista per il **31 marzo 2023**.

Ricordo che per i soci SIBPA regolarmente iscritti la pubblicazione su Biomolecular Concepts è gratuita.

Vorrei pregare chi fosse interessato a presentare il proprio lavoro di inviare entro il 15 gennaio 2023 un'espressione d'interesse attraverso una e-mail contenente autori, titolo anche provvisorio e corresponding author a Rita Carrotta (rita.carrotta@gmail.com), Cristiano Viappiani (cristiano.viappiani@unipr.it) e Alberto Diaspro (alberto.diaspro@iit.it), i quali, a loro volta, si occuperanno dei











contatti con la rivista e ai quali dovrete rivolgervi per eventuali ulteriori informazioni.

Grazie a tutti, Alberto Diaspro Presidente SIBPA

[CfPo] Postdoc Position available at ITQB NOVA, Portugal

ITQB NOVA (https://www.itqb.unl.pt/about-us), Portugal, is hiring a PhD holder to work in the project BioPlaTTAR – Platform for the Tailored and Rapid Development of Antiviral Biopharmaceuticals, funded by the La Caixa Foundation and FCT-Portugal. The selected candidate will apply molecular biology, protein biochemistry and protein biophysics methodologies to the production and characterization of protein-based biopharmaceuticals and their interaction with target proteins – viral fusion proteins. The candidate will integrate a multidisciplinary team, including experts in protein computational design, protein expression, purification and characterization, virology and cryo-EM, which aims to combine this expertise to increase our ability to respond to novel viral pandemics.

Applications are open until Dec 31st 2022.

For more information please check the job post https://www.itqb.unl.pt/jobs/ref-a-031-tri-phd-la-caixa-hr22-00722-2022-pten.pdf or send an email to dlousa@itqb.unl.pt Diana Lousa, Researcher Protein Modeling Laboratory ITQB/UNL Oeiras, Portugal Phone: (+351)214469611

[CfPo] PostDoc Senior Position at IBF-CNR, Trento

RESEARCH TITLE: Functional evaluation of nutraceutical neuroprotection of neuronal ion channels in neurodegenerative diseases: a putative molecular target for neuroresilience

PROJECT: In neurodegenerative diseases (NDDs) the analysis of neuronal excitability exerted by transmembrane proteins called ion channels is crucial for











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monitoring the disease. The pathogenic role of ion channels lies in the alteration of the intrinsic excitability of the cell and in the pathophysiological signs of disease. In previous works on SBMA-Spinal and Bulbar Muscular Atrophy, we have proposed the alteration of neuronal excitability as a marker of the pathological phenotype of the disease, demonstrating the role of different drugs in improving the symptomatic picture of the disease through the improvement of impaired excitability. The project, with the use of different NDDs' cell models (including iPSCs) and of biophysical-pharmacological approaches, intends to quantitatively establish whether natural and/or nutraceutical compounds can exhibit neuroprotective and neuroresilient effects, acting as symptomatic rescuers in NDDs through the regulation of ion channels electrical activity.

REQUIREMENTS: The candidate must have a PhD in neuroscience or neuropharmacology or biophysics, or related disciplines, and documented previous research work experience The successful candidate would have strong ability to work independently, independence in planning, performing experiments and data analysis, full command of English, be self-motivated, goaloriented and have a positive attitude.

Essentials: Strong experience in electrophysiology (patch-clamp), in establishing and/or maintenance of cell culture, in molecular biology techniques and pharmacological approaches.

Desirables: Experience with neuropharmacology a/o molecular imaging tech (functional imaging, ion and voltage probes) a/o with iPSCs. Experience in studying neurodegeneration would be an asset, although not mandatory.

HOST LABORATORY: The lab of "Neurosystems and Photosensory Biophysics" (Dr. Carlo Musio, PI) belongs to the Institute of Biophysics (IBF) of the Italian National Research Council (CNR) located in Trento, Italy. The lab researches the role of the physiological and altered neuronal activity, at ion channels level, in the pathogenesis of NDDs (see refs below). This project is funded by an Italian banking foundation, Fondazione CariVerona, based in Verona, Veneto, with the support of a key Italian nutraceutical company and the Stem Cells Lab at CIBIO Dept, University of Trento. We are equipped for patch-clamp recordings, functional imaging, microscopy, molbio and cellbio tools.

DURATION AND SALARY: 1+1 years, gross salary € 26.000 p.a., net salary € 22.965 p.a. (≈ € 1.900 monthly).

APPLY: **Potential candidates are requested before 10th January 2023** to send inquiries a/o a letter of interest explaining how they would fit, a CV, a record of











their academic results and the names of two references to: Dr. Carlo Musio, <u>carlo.musio@cnr.it</u>. The final recruitment will follow the formal procedures for "Assegno Senior" established by the CNR and should be concluded by the end of January 2023.

[CfPo] PhD Positions at "The Mechanics of Life Leverhulme Doctoral Scholarship Programme"

Are you a physical or biological scientist? Do you have an interest in unlocking the complexity and challenges of mechanobiology? The Mechanics of Life Leverhulme Doctoral Scholarship Programme is currently recruiting!

Round 1 application deadline: 10 January 2023

The Mechanics of Life Doctoral Scholarship Programme is a unique multidisciplinary doctoral training scheme funded by the Leverhulme Trust that focuses on how physical forces and changes in the mechanical properties of cells and tissues contribute to development, cell differentiation, physiology, and disease. The programme is seeking physicists, chemists, mathematicians, engineers, biophysicists, microbiologists, biochemists and related disciplines to become future research leaders to tackle key outstanding questions in biology from a distinctly mechanical perspective. It will train interdisciplinary scientists to develop new techniques, methodologies and analytical tools required to resolve outstanding challenges underpinning Mechanobiology across a broad range of biological themes. The course is unique to the UK and Europe it will build on current research and training strengths at King's. Students will be supported by two project co-supervisors. When possible one will be a physical scientist and the other a life scientist who are both fully committed to an interdisciplinary training approach.

All studentships are funded awards for 3.5 years and include tuition fees, stipend, and a research and training support grant (RTSG).

Tuition fees: Tuition fees will be fully covered by the Leverhulme Doctoral Scholarship Programme for 3.5 years.

Stipend: Students will receive a tax-free stipend for each year of study at UKRI rates. As an indication, the 2022/3 stipend rate was £19,668 per annum.

RTSG: A generous allowance will be provided for research-related costs, including consumables, attendance at UK and international conferences, and training. Eligibility: Both UK and overseas students are eligible to apply.











How to Apply: Applications are now open for October 2023 entry. Further details at this <u>link</u>. Please note that we do not accept CVs via email, to apply you will need to complete an application through the application portal, King's Apply.

[CfPo] Physics of Bacterial Biofilm Formation - PhD, Engineer, and Postdoc positions open

Supervisor: Ashley L Nord, <u>ashley.nord@cbs.cnrs.fr</u> Centre de Biologie Structurale (CBS), CNRS, Montpellier

Job Description: Most our knowledge of bacteria comes from studies of independent swimming cells. Yet, most bacteria on earth are found in non-motile aggregated communities, called biofilms, which bear little resemblance to their motile counterparts. Biofilms are acutely resistant to antibiotics, extremely difficult to eradicate, and are implicated in important global challenges, from deadly infections and antimicrobial resistance to food safety and water security.

Under the current paradigm, biofilms begin when a motile cell adheres and senses a surface, triggering a change in 'lifestyle'. But, this crucial nucleation step remains poorly understood: what mechanochemical signal underlies surface sensing? Moreover, many natural biofilms, including many that cause chronic infections, exist in absence of a substrate, suggesting that biofilms can nucleate via multiple mechanisms. Can nucleation be understood, not as a biochemical switch of an individual, but as an emergent behavior of active colloids?

This project will uncover the physical mechanisms of biofilm initiation over a wide range of micro-environments: i) the liquid-solid interface, ii) in liquid suspension, and iii) the liquid-air interface. Using a unique combination of biophysical techniques such as digital holographic microscopy, light sheet microscopy, optical tweezers, rheology, and electrodynamic trapping, rare nucleation events, and the resulting physiological response, will be captured with high resolution.

Your profile: Our lab has open positions for a PhD candidate, an engineer, and/or a postdoctoral researcher. We seek outstanding candidates who: 1. have a strong background in physics, biophysics, quantitative biology, or related disciplines; 2. have experience or are intimately familiar with one or more of the following: digital holography, light sheet microscopy, advanced microscope design and construction; 3. have experience or are intimately familiar with one or more of the following: fluorescence microscopy, optical tweezers, and rheology;









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4. have experience with image analysis, time series analysis, and quantitative data analysis; 5. have experience with programming (our lab works primarily in Python); 6. either have experience in a wet lab, or are eager to learn to work with bacteria; 7.are innovative and enjoy troubleshooting and pushing the limits of custom optical microscopy setups; 8.enjoy working in an interdisciplinary environment; 9. are creative, enthusiastic, highly motivated, and able to work both independently and as a member of a team.

High level English communication skills are an asset; no knowledge of French is required.

About the position: These full-time position are available starting January 2023 or thereafter. Salary and social benefits will be in accordance with CNRS regulations. The contract will be limited initially to 1 year with the possibility of extension. For informal inquiries, please email. We strive for gender and diversity equality, and we welcome applications from all backgrounds.

To apply

Please submit the following, in a single PDF document:

- a cover letter indicating your motivation and interest in this position;
- a CV including a publication list, if applicable;
- a concise description of previous research experience and accomplishments (limited to one page);

• contact details for at least two academic references (you may submit letters of reference if you have them;

references will be contacted in all cases);

Submissions should be emailed to ashley.nord@cbs.cnrs.fr with the subject line 'PHYBABIFO YourLastName Position',

where 'Position' is replaced with either Postdoc, PhD, or Engineer. Applications will be reviewed on a rolling basis (starting Dec 2022) until the positions are filled. There is no deadline. For excellent candidates, there is flexibility in the position start date.

[CfPo] One Postdoctoral Position on Membrane Biophysics

The <u>Biosensors lab</u> is looking to hire a talented and dynamic postdoctoral researcher with a background/PhD in one of the following areas: cell membrane/lipid bilayer biophysics, or membrane protein biochemistry/structural biology. This fully-funded position is a part of an











international collaborative project that involves analysis of membrane-binding proteins on solid-supported membrane mimics using advanced biophysical/biosensing techniques with the aim of elucidating the mechanisms underlying biological function of these proteins. The project is funded by the Human Frontier Science Program (HFSP) and is carried out in collaboration with a team of world-experts in Germany (Max Planck/Dresden), Japan (Kanazawa Univ.) and the USA (Stanford Univ.).

About the position. The successful candidate should have a strong interest in working in an interdisciplinary environment and acquiring/developing new skills in the area of biosensing. The applicant must have a proven record of producing ideas, designing and carrying out experiments independently, ability to contribute in reports and scientific meetings as well as paper writing. In addition, she/he may be involved in undergraduate and/or graduate student supervision. Excellent knowledge of English is assumed.

About the lab. This is a multidisciplinary group comprising biologists, chemists, engineers, biophysicists and material scientists. Our interests lie both in fundamental (basic knowledge) and technology/innovation driven research (development of health point-of-care tools).

Contract Duration: 12 months, renewable based on the program's needs for another 1-2 years Salary: 1200-1600€ net/month depending on experience and qualifications. Envisaged starting date: Early 2023

Additional selection criteria: ability to start in the next 3-4 months

Application submission: Interested candidates should send their CV, letter of interest and names of 1 or 2 referees to Prof. E. Gizeli (<u>gizeli@imbb.forth.gr</u>)

[CfPo] 1 ASSEGNO DI RICERCA DELLA DURATA DI 12 MESI, RINNOVABILE

E' indetto un concorso per titoli ed esami per il conferimento di n. 1 assegno di ricerca, della durata di 12 mesi (rinnovabile), avente ad oggetto la seguente attività "Studio dei meccanismi di interazione tra emoglobina umana ed emofori da batteri mediante tecniche nanoscopiche e spettroscopiche avanzate", per l'area scientifico-disciplinare CUN 02 – Physical Sciences and Engineering - SSD FIS/07 - dell'importo di € 25.000,00 lordi omnicomprensivi sul progetto DEB. PRIN_ERASE di cui è Responsabile Scientifico la Prof.ssa Anna Rita Bizzarri. Le domande dovranno pervenire **entro e non oltre le ore 12:00 del 16.01.2023**.











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[WS] Virtual EMBO Workshop: Time-resolved spectroscopy meets time-resolved crystallography: The future of dynamic photobiology

17-19 April 2023 | Virtual

Interested in attending? Visit the website: <u>https://meetings.embo.org/event/23-</u> <u>dynamic-photobiology</u> and register by: 17 March 2023

European framework: Eurobioimaging network - SEELIFE project.

[CONGR] XXII GEM CONGRESS - Membranes: structure, dynamics and function

The 22nd congress of the French Membrane Group (GEM) will be held for the first time in the French Alps from 1 4th to 17th March 2023 at the Escandille Village Vacances, Autrans, France. GEM brings together researchers, biologists, biochemists, biophysicists, physicists and chemists interested in biological phenomena associated with membranes at all levels, from the organ to the molecule.

The meeting will focus on the structure, dynamics and function of membranes and will be locally organised by researchers from different institutes situated in Grenoble where several well-known European and national research facilities are located.

The GEM conference covers the following topics:

- * Structural biology
- * Host-pathogen interactions
- * Nanomedecine
- * Computational methods
- * Molecular interations at the membrane surface
- * Interaction lipids/polymers/membrane proteins
- * Glycobiology

Please consult the event website to register for the event and submit your abstract: <u>https://workshops.ill.fr/e/GEM2023</u>

The deadline for registration and abstract submission is coming up and the number of participants is limited.











NEWSLETTER 2022, #12 –December

Registration deadline: Tuesday 31st January, 2023. Abstract deadline: Sunday January 15th, 2023.







