

## NEWSLETTER 2021, #06 – June

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[bySIBPA] XXV Congresso Nazionale SIBPA 2021

**Società Italiana di Biofisica  
Pura e Applicata  
XXV Congresso Nazionale  
SIBPA 2020+21  
June 28 – July 1, 2021**

**Keynote speakers**

Martin Chalfie (New York, USA)  
Luciano Conti (Trento)  
Gaia Pigo (Milano)  
Catherine Royer (Troy, USA)  
Gerhard Thiel (Darmstadt, D)

**Invited speakers**

Sirio Dupont (Padova)  
Silvia Galiani (Oxford, UK)  
Luca Monticelli (Lyon, F)  
Dario Polli (Milano)  
Aleksandra Radenovic (Lausanne, CH)  
Giovanni Romano (Firenze)  
Chiara Santinelli (Pisa)

**Institutional supporters**



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DIPARTIMENTO DI BIOTECNOLOGIE  
MEDICHE E MEDICINA TRASLAZIONALE



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DI PARMA



# SIBPA

Società Italiana di Biofisica Pura e Applicata  
fondata nel 1973



**Scientific Sessions**

- Molecular Biophysics
- Cell and tissue Biophysics
- Systems Biophysics/  
Environmental Biophysics
- Applied Biophysics
- Biophysics at the  
nanoscale
- Optical and spectroscopic  
methods applied to  
Biology and Medicine

**Technical sponsors**



<https://www.sibpa.it>

[bySIBPA] BioMolecular Concepts Special Issue: SIBPA2021 Congress [forthcoming]

**DE GRUYTER**

# BIOMOLECULAR CONCEPTS

CITESCORE 2020: 7.3

**SIBPA publishing partner!**

**Special Issue devoted to SIBPA Congress**

**Why submit?**

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**JOURNAL**

## [CfPO] PhD Program at University of Parma

PhD program at UNIPARMA : <https://en.unipr.it/studying/research-doctorates>

Deadline, to be announced

*Biophysics of Chromatin by Correlative Imaging and Simulation.*

Nucleosomes and chromatin regulate the accessibility to the genome and thereby mediate and control DNA processes, including transcription, replication, and repair.

Atomic force microscopy (AFM) and electron microscopy (EM) are excellent candidates for the investigation of mechanical and structural properties of the nucleus, while lacking of chemical specificity. Thus, optical advanced and super-resolution microscopy, with its high specificity, can complement collecting dynamic information at molecular level in living samples.

We aim developing a work flow that enables a multimodal and correlative approach. For instance, the use of functionalised photosensitiser molecules can enable super-resolution optical nanoscopy, but also generating the condition for diaminobenzidine (DAB) oxidation and precipitation, would enable correlative light-electron microscopy (CLEM).

Applicants will be part of an international group located at Center of Human Technologies, Great Campus Erzelli - IIT and Department of Mathematical, Physical and Computer Sciences, University of PARMA.

The successful candidate will have the chance to participate in national and international training opportunities, workshops, and to access funding for visits abroad.

Project supervised and tutored by Paolo Bianchini (IIT), Cristiano Viappiani (UNIPR), Alberto Diaspro (IIT, DIFI-UNIGE).

Some refs:

Bendandi, A., S. Dante, S.R. Zia, A. Diaspro, and W. Rocchia. 2020. Chromatin Compaction Multiscale Modeling: A Complex Synergy Between Theory, Simulation, and Experiment. *Frontiers Mol Biosci.* 7:15.

Cosentino, M., C. Canale, P. Bianchini, and A. Diaspro. 2019. AFM-STED correlative nanoscopy reveals a dark side in fluorescence microscopy imaging. *Science Advances.* 5:eaav8062.

Bianchini, P., M. Cozzolino, M. Oneto, L. Pesce, F. Pennacchietti, M. Tognolini, C. Giorgio, S. Nonell, L. Cavanna, P. Delcanale, S. Abbruzzetti, A. Diaspro, and C. Viappiani. 2019. Hypericin-Apomyoglobin: An Enhanced Photosensitizer Complex for the Treatment of Tumor Cells. *Biomacromolecules.* 20:2024-2033.

Info: Prof Cristiano Viappiani [cristiano.viappiani@unipr.it](mailto:cristiano.viappiani@unipr.it)

**[CfPO] [Ebsa] PhD studentship in biophysics**

An exciting opportunity to work within the Group of prof. dr. Ana-Sunčana Smith, will be opening soon. This is an invitation to express a preliminary interest for work in the Group for Computational Life Sciences, Division of Physical Chemistry, Ruđer Bošković Institute, Zagreb, Croatia.

<https://www.infozagreb.hr> ; <https://www.irb.hr/eng>

We are looking for excellent candidates to express a preliminary interest in participating in the research group, led by prof. dr. Ana - Sunčana Smith, who have completed the undergraduate and graduate study of physics (or integrated study) with excellent results or should graduate within 3-4 months.

Candidates will enroll in doctoral studies in Germany (FAU) and conduct research at the Ruđer Bošković Institute, in close cooperation with the PULS group from Germany.

The research topics that the doctoral student will deal with are statistical physics, with a focus on non-equilibrium processes and biophysics of membranes and tissues.

Methods to be used by candidates include analytical and numerical approaches combined with high-performance computing simulations, including neural networks.

More information about the work of the Group:

<https://www.irb.hr/eng/Divisions/Division-of-Physical-Chemistry/Group-for-Computational-Life-Sciences>

<https://www.irb.hr/Zavodi/Zavod-za-fizicku-kemiju/Grupa-za-racunalne-bioznanosti>

[www.puls.physik.fau.de](http://www.puls.physik.fau.de)

Candidates should send their CV, transcript of grades and diploma, recommendations, list of published papers. For all additional information feel free to contact prof. Smith by email:

[smith@physik.fau.de](mailto:smith@physik.fau.de) ; [asmith@irb.hr](mailto:asmith@irb.hr)

By joining the work of the Group, many opportunities for advancement and continuous training are offered, as well as work in an international team.

I would like to encourage all candidates interested in cooperation, who have the conditions stated in the invitation, to contact prof. Smith, via the above email, for any additional questions, in order to be informed in detail and to arrange a possible ZOOM or Skype meeting.

MSc. Nikolina Bosnjak Senior expert consultant

Group for Computational Life Sciences, Division of Physical Chemistry, Ruđer Bošković Institute  
Bijenička cesta 54, 10000 Zagreb, Croatia

**[CfPO] [Ebsa] PhD position in theoretical/computational biophysics (Ljubljana, Slovenia)**

Theoretical Biophysics and Soft Matter Group at the Department of Theoretical Physics, Jožef Stefan Institute (<http://web-f1.ijs.si/>), is announcing a PhD position, awarded by Faculty of Mathematics and Physics, University of Ljubljana.

The PhD candidate will work in the field of RNA structure and folding, with a focus on classification and characterization of local and global RNA structure and on prediction and detection of conserved RNA structural elements in biological context. The work will be theoretical (physics of polyelectrolytes, graph topology, ...) and numerical (folding algorithms, machine learning, ...). The detailed topic design depends on the interests of the candidate. Part of the research will be performed in collaboration with researchers from abroad.

The PhD position is a full-time employment of 4 years and is funded by Slovenian Research Agency (ARRS) under the Young Researcher scheme, and starts in autumn 2021. It includes a monthly salary as well as a travel fund for summer schools, workshops, and research visits. The work will be done under supervision of dr. Anže Božič, and the PhD candidate will be fully integrated in the Theoretical biophysics and soft matter group and will benefit from a dynamic work environment with regular events.

The applicant must obtain a Master's degree or equivalent by the start of the appointment. The candidates are required to submit

- Motivation letter, including clearly stated topics of interest and prior experience,
- CV with degree certificates,
- Two references for letters of recommendation.

Shortlisted candidates will be contacted and interviewed. The application should be submitted by **July 1st 2021**. Submission and additional information: [anze.bozic@ijs.si](mailto:anze.bozic@ijs.si)

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**[Ebsa] Research into biophysics education - please help!**

An undergraduate student is doing some interesting pedagogical research into how biophysics is taught in universities. I would appreciate it if any BIOPHYSICS LECTURERS (in any country) could send out my survey to their physics, biology or chemistry undergraduate students. Please could you please send out the following survey link and message below. If any if ANY UNDERGRADUATE STUDENTS are reading this message please could you answer this survey :-)

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RE: "Biophysics education research - please help!"

*Biological Physics Student Survey*

Please could you help me with my MSc research project into students' opinions of biological physics by answering this 5-minute-long anonymous survey. All backgrounds and viewpoints are welcome from students of natural and physical sciences!

Survey Link:

<https://forms.office.com/r/VsPZYQqWbV>

Thank you in advance for your help,

Isabelle Rogers

py17iear@leeds.ac.uk

MSc Physics Research Project

University of Leeds

Project supervisors: Dr Peter Adams and Dr Samantha Pugh

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Molecular and Nanoscale Physics Group, School of Physics and Astronomy, E C Stoner Building  
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**[CfPO] [Ebsa] Open PhD and Postdoc Positions in Theoretical and Computational Biophysics, MPI-BPC Gottingen, Germany**

Open PhD and Postdoc positions in Theoretical and Computational Biophysics at the Max-Planck Institute for Biophysical Chemistry (MPI-BPC), Gottingen, Germany

The Department of *Theoretical and Computational Biophysics*, headed by Helmut Grubmüller, and the Research Group *Computational Biomolecular Dynamics*, headed by Bert de Groot, are looking for people interested in contributing to one of the following projects as PhD Student or Postdoc:

Grubmüller Lab

- Theory and Algorithms for Structure Determination from Ultrafast Single Molecule X-FEL Diffraction and Fluctuation Correlation X-Ray Scattering Experiments

De Groot Lab

- Interactions of focused ultrasounds with lipid membranes and ion channels
- Pharmacological regulation of potassium channels
- Combined computational alchemy and deep learning for:
  - ligand design and optimisation for drug development
  - mutation scans in protein design and drug resistance

Please visit the department or group websites for further details on the requirements and projects:

<https://www.mpibpc.mpg.de/grubmueller>

[https://www3.mpibpc.mpg.de/groups/de\\_groot/](https://www3.mpibpc.mpg.de/groups/de_groot/)

We're also on Twitter: <https://twitter.com/CompBioPhys>



Max-Planck-Institut für biophysikalische Chemie  
Göttingen



The Max Planck Institute for Biophysical Chemistry is one of the largest institutes of the Max Planck Society for the Advancement of Science 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 19-21)

for the project

**Theory and Algorithms for Structure Determination from Ultrafast Single Molecule X-FEL Diffraction and Fluctuation Correlation X-Ray Scattering Experiments**

The aim is to develop Bayesian methods to obtain high-resolution molecular structures and dynamics from sparse and noisy experimental data. A particular focus is to develop accurate uncertainty models to be included within the probabilistic approach.

More details: [www.mpibpc.mpg.de/9660732/SM-Ultrafast-XRay-Diffraction](http://www.mpibpc.mpg.de/9660732/SM-Ultrafast-XRay-Diffraction)

The successful candidate has a keen interest and strong skills in computational physics and probability theory, and also a strong interest in interdisciplinary research and collaboration with experimental groups.

PhD candidates hold (or expect to complete soon) a Masters 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 four years funding, 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. The Max Planck Society strives for gender and diversity equality. We welcome applications from all backgrounds.

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

[ausschreibung19-21@mpibpc.mpg.de](mailto:ausschreibung19-21@mpibpc.mpg.de)

Max Planck Institute for Biophysical Chemistry  
Department „Theoretical and Computational Biophysics“  
Prof. Dr. Helmut Grubmüller  
Am Fassberg 11  
37077 Göttingen  
Germany

Web: [www.mpibpc.mpg.de/grubmueller](http://www.mpibpc.mpg.de/grubmueller)



Information pursuant to Article 13 DS-GVO on the collection and processing of personal data during the application process can be found on our website below the respective job advertisement.





Max-Planck-Institut für biophysikalische Chemie  
Göttingen



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

The research group of *Computational Biomolecular Dynamics* (Prof. Dr. Bert de Groot) invites applications for a position as

**PhD Student or Postdoc (f/m/d)**  
(Code number 18-21)

for the following projects

- Interactions of focused ultrasounds with lipid membranes and ion channels
- Pharmacological regulation of potassium channels
- Combined computational alchemy and deep learning for:
  - ligand design and optimisation for drug development
  - mutation scans in protein design and drug resistance

The successful candidate for either position has a keen interest and strong skills in computational molecular physics, structural biology, statistical mechanics, and scientific computing, and a strong interest in interdisciplinary research and collaboration with experimental groups.

PhD candidates hold (or expect to complete soon) a Masters 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 four years funding, 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. For those who are interested, the institute offers free German courses.

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. The Max Planck Society strives for gender and diversity equality. We welcome applications from all backgrounds.

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

[ausschreibung18-21@mpibpc.mpg.de](mailto:ausschreibung18-21@mpibpc.mpg.de)

Max Planck Institute for Biophysical Chemistry  
Research Group „Computational Biomolecular Dynamics“  
Prof. Dr. Bert de Groot  
Am Fassberg 11  
37077 Göttingen  
Germany

Web: <https://www.mpibpc.mpg.de/degroot>



Information pursuant to Article 13 DS-GVO on the collection and processing of personal data during the application process can be found on our website below the respective job advertisement.

### [CfPO] [Ebsa] 2-year Postdoctoral Position in Molecular Dynamics Simulations of Membranes and Membrane Proteins in Denmark

A two-year postdoctoral position in theoretical and computational biophysics of membranes and membrane proteins is available at PHYLIFE: Centre for Physical Lifesciences (formerly MEMPHYS: Centre for Biomembrane Physics) at the University of Southern Denmark (SDU), Odense.

The candidate will be supervised by Associate Professor Himanshu Khandelia and will work in a highly collaborative atmosphere together with theorists and experimental scientists.

The project revolves around implementing molecular simulations of transmembrane proteins such as ion channels and ion pumps. The selected candidate will collaborate with experimental groups at SDU, University of Aarhus and the University of Texas Medical Center. There is a possibility to spend some time in experimental laboratories.

Please apply at [https://www.sdu.dk/da/service/ledige\\_stillinger/1152942](https://www.sdu.dk/da/service/ledige_stillinger/1152942)

For more information, please contact Himanshu Khandelia at [hkhandel@sdu.dk](mailto:hkhandel@sdu.dk)

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In India: +919007191838  
email: [hkhandel@sdu.dk](mailto:hkhandel@sdu.dk), [hkhandelia@gmail.com](mailto:hkhandelia@gmail.com)

[hkgroup.sdu.dk](http://hkgroup.sdu.dk)

[CfPO] Open Position Research Fellow (RTD A), University of Florence



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DIPARTIMENTO DI SCIENZE  
BIOMEDICHE, SPERIMENTALI  
E CLINICHE "MARIO SERIO"

### Open Position – Research Fellow (RTD A)

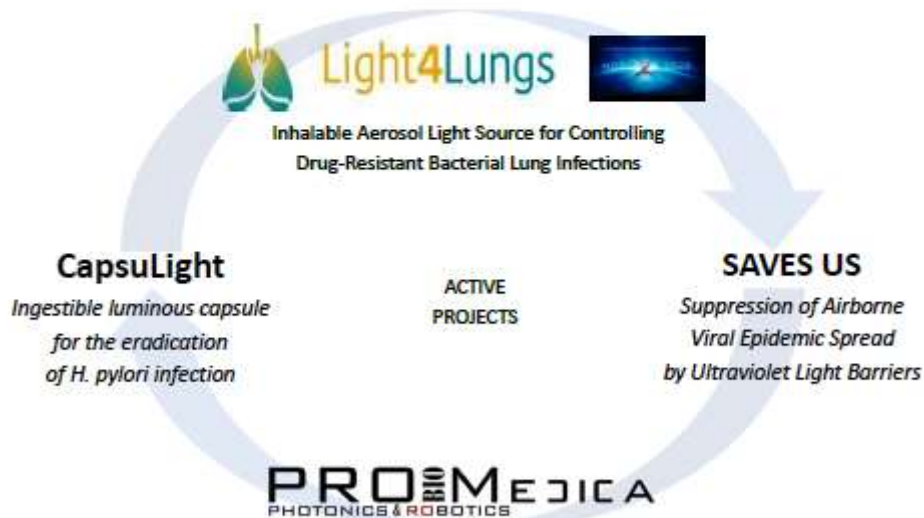
University of Florence, Medical Physics - phototherapies

3 years, renewable – Applied Physics

start: September 2021

deadline: June 2021

*Innovative sources for phototherapy  
Antimicrobial photo-inactivation  
UV-visible dosimetry*



Medical Physics  
Photo-therapies group

Franco Fusi  
Giovanni Romano

franco.fusi@unifi.it  
giovanni.romano@unifi.it

### [CfPO][Ebsa] Open position: Expert in data management and scientific programming (biophysical data)



The Institute of Biotechnology of the Academy of Sciences of the Czech Republic at the Biotechnology and Biomedicine Center of the Academy of Sciences and Charles University in Vestec announce an open position:

#### Expert in data management and scientific programming

The Centre of Molecular Structure (part of the Czech Infrastructure for Integrative Structural Biology, <https://www.ciisb.org/> and of the European infrastructure Instruct-ERIC, <https://instruct-eric.eu/>) participates in an EU Horizon 2020 project focused on provision of open access to biophysical techniques across Europe with a strong accent on definition of data standards and archival of biophysical data.

For details about the role, structure, equipment, and services provided by CMS refer to the web pages at <https://www.ibt.cas.cz/en/core-facilities/centre-of-molecular-structure/>.

We are looking for an expert in scientific programming with experience in scientific data processing for a European project focused on Standards for Data Archival and Exploitation.

#### Requirements:

- University education with PhD degree in scientific computing, biophysics, biochemistry, structural biology, or computational chemistry
- Proven experience in scientific programming or in-depth data processing/scripting in biophysical, biochemical or structural biology fields
- Excellent communication skills and teamwork; documented previous teamwork experience
- English, written and spoken, advanced level
- Publication activity in the field
- Readiness for high workload
- Good reputation

#### Job description:

We offer attractive work connected to development of data management infrastructure for biophysical data in the frame of an international project at the Institute of Biotechnology in the center of excellence Biocev. The main responsibility lies in definition of data standards and models for biophysical data, development of algorithms, design of user interface, and realization of a pilot database of biophysical data. The person is expected to actively participate in multilateral international negotiations, to drive the tasks fulfillment in collaboration with the local international partners, and to present the results.

Start date: 1<sup>st</sup> July 2021

Workplace location: Vestec near Praha

Send written applications including a motivation letter and a professional CV, either in printed or electronic form to address: Institute of Biotechnology, v. v. i., Prumyslova 595, 25250 Vestec, Czech Republic, [btu-office@ibt.cas.cz](mailto:btu-office@ibt.cas.cz)

Informal enquiries can be sent to Dr. Jan Dohnálek, [dohnalek@ibt.cas.cz](mailto:dohnalek@ibt.cas.cz).

[CONGR] [Ebsa] 13<sup>th</sup> European Biophysics Congress (Vienna, July 24-28, 2021)



Public Lecture	Symposia
<p><b>Ada Yonath</b> Nobel prize 2009 Weizmann Institute of Science, Israel</p>	<ul style="list-style-type: none"> <li>• Advanced optical microscopy</li> <li>• Advances and applications in cryo-electron microscopy (Instruct-ERIC)</li> <li>• Bioenergetics</li> <li>• Biomimetic nanopores</li> <li>• Biosensors</li> <li>• Cell and tissue biophysics</li> <li>• Channels and Ca<sup>2+</sup> signaling</li> <li>• Cytoskeleton / Motor proteins</li> <li>• DNA architecture and gene regulation</li> <li>• Emerging breakthrough methods in molecular-scale biophysics (ARBRE)</li> <li>• Ionic liquids, biomolecules and cells</li> <li>• Light as a tool in biophysics</li> <li>• Lipid-Protein interactions</li> <li>• Liquid-liquid phase separation and intrinsically disordered proteins</li> <li>• Mechanobiology</li> <li>• Medical biophysics / Imaging</li> <li>• Membrane active peptides</li> <li>• Membrane architecture and asymmetry</li> <li>• Membrane signal transduction</li> <li>• Membrane transporter &amp; channels</li> <li>• Methodological advance in biomolecular simulations</li> <li>• New &amp; Notable</li> <li>• Protein translocation, assembly and folding</li> <li>• Protons on interfaces</li> <li>• Quantification of molecular forces</li> <li>• Synthetic cell</li> <li>• Virus biophysics</li> </ul>
<p style="text-align: center;"><b>Plenary Lectures</b></p>	
<p><b>Thomas Südhof</b> Nobel prize 2013 Stanford University, USA</p>	
<p><b>Francesco Bezanilla</b> University of Chicago, USA</p>	
<p><b>Marina Rodnina</b> MPI Göttingen, Germany</p>	
<p><b>Raimond Dutzler</b> University of Zurich, Switzerland</p>	
<p><b>Gerhard Hummer</b> Max Planck Institute, Germany</p>	
<p><b>Karolin Luger</b> University of Colorado, USA</p>	
<p><b>Carol Robinson</b> University of Oxford, UK</p>	
<p><a href="https://www.ebsa2021.org/" style="color: white; text-decoration: none;">https://www.ebsa2021.org/</a></p>	

Full information of the Conference: <https://www.ebsa2021.org/>

[CONGR] 107 Congresso SIF online: sottomissione sunti - abstract submission

<https://www.sif.it/attivita/congresso/107>



Il [Congresso Nazionale SIF 2021](#), si terrà dal 13 al 17 settembre per via telematica.

I riassunti delle comunicazioni dovranno pervenire alla Società Italiana di Fisica **ENTRO IL 7 MAGGIO 2021**, con un massimo di 100 parole, senza figure, indicando la Sezione pertinente, con il nome dell'autore che presenterà la comunicazione sottolineato, nonché il suo indirizzo completo per la corrispondenza.

I riassunti possono essere inseriti [online](http://forms.sif.it/papersubmission.php) (<http://forms.sif.it/papersubmission.php>) oppure inviati via e-mail ([congresso@sif.it](mailto:congresso@sif.it)). L'inserimento online è da considerarsi preferibile. Di norma ogni autore può essere segnalato come presentatore in una sola comunicazione.

Verranno pubblicati nel programma online del Congresso soltanto i riassunti pervenuti entro il termine e conformi alle norme prescritte. Le comunicazioni accettate saranno presentate con le modalità telematiche che saranno successivamente comunicate.

Almeno uno degli autori della comunicazione, possibilmente il presentatore, deve essere Socio della Società Italiana di Fisica.

Sezioni (clicca <https://www.sif.it/attivita/congresso/> per conoscere i temi delle sezioni):

Sezione 1: Fisica nucleare e subnucleare

Sezione 2: Fisica della materia

Sezione 3: Astrofisica

Sezione 4: Geofisica, fisica dell'ambiente

Sezione 5: Biofisica e fisica medica

Sezione 6: Fisica applicata, acceleratori e beni culturali

Sezione 7: Didattica e storia della fisica

PREMI PER LE MIGLIORI COMUNICAZIONI

Per le comunicazioni che vinceranno sono previsti premi e la pubblicazione su *Il Nuovo Cimento*.

Inoltre circa il 25-30% delle comunicazioni presentate saranno selezionate per la pubblicazione come breve articolo (4-6 pagine) nonostante non facciano parte della rosa dei vincitori.

**[Mpc] *life* (MDPI) Special Issue: How Cosolvents and Cosolutes affect Biomolecules Stability and Activity**

[https://www.mdpi.com/journal/life/special\\_issues/cosolvents\\_cosolutes](https://www.mdpi.com/journal/life/special_issues/cosolvents_cosolutes)



an Open Access Journal by MDPI

**How Cosolvents and Cosolutes affect Biomolecules Stability and Activity**

Guest Editors:

**Dr. Lucia Comez**

IOM-CNR c/o Dipartimento di Fisica e Geologia, Università di Perugia, via Alessandro Pascoli snc, 06123 Perugia, Italy  
comez@iom.cnr.it

**Dr. Maria Grazia Ortore**

Department of Life and Environmental Sciences, Marche Polytechnic University, Via brecce bianche, I-60131 Ancona, Italy  
m.g.ortore@univpm.it

Deadline for manuscript submissions:

**31 July 2021**

**Message from the Guest Editors**

This Special Issue focuses on biomolecules in the presence of a cosolvent or a cosolute, but its aim goes beyond this question. Although the description of a biomolecule solvation shell and of protein folding are some of the most pressing biophysical challenges, several points are still unclear and debated. The stability of biomolecules is crucial for several phenomena which are of interest for molecular biology, medicine and biotechnology, and physiological liquids are not solely composed of water. However, the molecular mechanisms behind the stabilization and destabilization of biomolecules by cosolvents or cosolutes are not yet included in a quantitative comprehensive theory. Stabilizers have generally been considered to be preferentially excluded from the protein surface, while de-stabilizers to preferentially bind to biomolecules' surfaces. Still others present controversial features according to their fraction in water. The study of mechanisms able to stabilize biomolecules can easily translate into the preservation of structure and functionality during storage and targeting, since many applications are affected by this issue.



[mdpi.com/si/67644](https://www.mdpi.com/si/67644)

**Special Issue**

*[Newsletter closed on 24/06/2021]*