

NEWSLETTER 2020

#8 – August

- ✓ Calls for Positions [CfPo]
- ✓ Congresses [CONGR]
- ✓ Conferences/Meetings [CONF/MT]
- ✓ Workshops/Symposia [WS/SY]
- ✓ Courses and Schools [CS]
- ✓ Call for papers/applications [CfP/A]
- ✓ EBSA News associated with
biophysics [Ebsa]
- ✓ Media (publications,
communication) [Mpc]
- ✓ Events sponsored a/o supported by
SIBPA [bySIBPA]



[bySIBPA] [CS] SIBPA/IVSLA XXV International School of Pure and Applied Biophysics, 20121, Venice, Italy



XXV INTERNATIONAL SCHOOL OF PURE AND APPLIED BIOPHYSICS on



Venice (I), Palazzo Franchetti,
17-22 January, 2021

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

In case of Covid-19 restrictions, the school will be postponed to June 2021 (notification by 5 november 2020).

Coorganized by:

The quantitative analysis of the huge amount of data produced by traditional and 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 recent machine learning approaches. Technical details of the quantitative analysis will be discussed in extended lectures, hands-on sessions and free informal discussion with the lecturers. The participation to the school is limited to 35 students.

Società Italiana di Biofisica Pura e Applicata **SIBPA**

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)
Enrico Gratton, Irvine (USA)
Nicola Gritti, Barcellona (E)
Jelle Hendrix, Hasselt (B)
Florian Jug, Dresden (D)
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, Ivrim (TR)

SPONSORS:

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Additional info at: www.sibpa.it/index.php/scuola-internazionale-di-biofisica-sibpa-ivsla.

Please notice that the registration fee is due only after confirmation of the acceptance and in any case after the 5th November 2020. Further details will be emailed to the applicants in due time.

Preliminary program

18 Jan 2021		BIO-IMAGING: CELL TO TISSUE LEVEL
Morning session	9.00	Deep-STORM: super-resolution single-molecule microscopy by deep learning (Y. Shechtman, Haifa, IL)
	10.00	Multimodal imaging for biosystems: a synthesis (A. Diaspro, Genoa, I).
	11.00	Coffee break
	11.20	Probabilistic pipelines to map biomolecule dynamics in heterogenous environments (J-B. Masson, Paris, F)
	12.20	Lunch break
18 Jan 2021		PRACTICAL SESSION
Afternoon session	14.30	Design, limitation and analysis of an Optical microscopy imaging (M.Collini, Milano, I)
	15.00	Coffee break
	16.30	Super-resolution: when spectroscopy helps biological resolution (G. Vicidomini, IIT, Genoa)
19 Jan 2021		MACHINE LEARNING and diseases
Morning session	9.00	Machine Learning for mixed genetic/image stratification (G. Castellani, I)
	10.00	From Machine Learning to Automated Machine Learning: the JADDBIO system (I. Tsamardinos, GR)
	11.00	Coffee break
	11.20	Beyond vision. Machine Learning for Alzheimer (I. Castellani, I)
	12.20	Lunch break
19 Jan 2021		IMAGE CORRELATION ANALYSIS
Afternoon session	14.30	Correlative optical imaging and spectroscopy (S. Caponi, I)
	15.00	Coffee break
	16.30	Image Correlation Spectroscopy for intracellular studies (M. Bouzin, I)
20 Jan 2021		BIO-IMAGING: from tissue to organism, from structure to physiology
Morning Session	9.00	In-vivo infrared imaging, from animal models to humans (G. Ratto, I)
	10.00	Machine learning for nanoscopy (C. Zimmer, Paris, F)
	10.30	Coffee break
	11.00	Non-linear Optical imaging of the brain (F. Pavone, I)
	12.20	Lunch break
20 Jan 2021		MACHINE LEARNING FOR IMAGE RECONSTRUCTION/ENHANCEMENT
Afternoon session	14.30	Content-aware image restoration in fluorescence microscopy. (F. Jug, D)
	15.00	Coffee break
	16.30	Deep learning for Image reconstruction (F. Renna, P)
21 Jan 2021		LEARNING FROM FLUORESCENCE
Morning Session	9.00	Quantitative mobility and interaction analysis in living cells. (J. Hendrix, B)
	10.00	Computational Imaging for biophysics. (S. Stanciu, RO)
	10.30	Coffee break
	11.00	Phasor Analysis for quantitative fluorescence microscopy. (E. Gratton, USA)
	12.20	Lunch break
21 Jan 2021		PRACTICAL SESSION
Afternoon session	14.30	Phasor analysis for multimodal non-linear histopathology analysis (L. Sironi, I)
	15.00	Coffee break
	16.30	Deep Brain Microscopy, the Long Road (P.Pozzi, I)
22 Jan 2021		COHERENT IMAGING AND MACHINE LEARNING
Morning Session	9.00	Deep learning in Tomography (D. Psaltis, CH)
	10.00	Digital Holography and Machine Learning (P. Memmolo, I)
	10.30	Coffee break
	11.00	IRIR: Infrared-mediated image restoration. (N.Gritti, E)
	12.20	Lunch break
22 Jan 2021		DIGITAL PATHOLOGY
Afternoon Session	14.30	TimeSeq: time lapse imaging integration of single cell RNA seq. data. (N.Gritti, E)
	15.00	Coffee break
	16.30	Smart detection of pathogens (D. Ünay, TR)

[bySIBPA] [CONGR] XXV SIBPA National Congress

POSTPONED TO A LATER DATE



**Convegno congiunto
SIBPA - SIFB 2020**

**7-9 luglio 2020
Università di Parma**



**Società Italiana di
Biofisica Pura e Applicata
XXV Congresso Nazionale
SIBPA 2020**

**Società Italiana di
Fotobiologia
Congresso Annuale
SIFB 2020**

Topics

- | | |
|---|---|
| Molecular Biophysics | In vitro photodynamic investigations:
focus on antimicrobial and
antitumoral strategies |
| Cell and tissue Biophysics | |
| Systems Biophysics/ Environmental
Biophysics | Applied Photobiology and Biophysics |
| Light-responsive materials | Photobiology and Biophysics at the
nanoscale |
| Light and human health | Optical and spectroscopic methods
applied to Biology and Medicine |



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Consigli Direttivi della Società Italiana di Biofisica Pura e Applicata e della Società
Italiana di Fotobiologia hanno ritenuto opportuno rinviare lo svolgimento dei lavori
congressuali, previsti inizialmente dal 7 al 9 luglio, a data da destinarsi.
Vi terremo informati sugli sviluppi della situazione mediante comunicati successivi.
Informazioni e aggiornamenti saranno resi disponibili anche sul sito della Società
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Il Consiglio Direttivo SIBPA

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



13TH EUROPEAN BIOPHYSICS CONFERENCE

BIOPHYSICS AUSTRIA

EBSA
Biophysics in Europe

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

[CS][Ebsa] e-course in advanced biophysical methods, 31.08 -01.09, NTT and CBS

Summer e-Course
NanoTemper biophysical methods
31 August – 01 September 2020
NanoTemper Virtual Lab

Join NanoTemper Application Specialists in the Virtual Lab to:



Learn about the **interaction** analysis with MST and TRIC



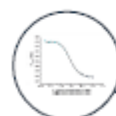
Explore how to characterize **protein stability** with nanoDSF



Learn how to control **quality** of your protein samples with Tycho



See, in real time, how to use NanoTemper devices, from **sample prep**, to **data evaluation**



Get **advice** on your own projects



Register and get a demo tailored to your research:

<https://nanotempertech.com/webinars/summer-e-course-in-nanotemper-biophysical-methods/>

Endorsed by The International School of Biophysics, Croatia

Although the 15th Greta Pifat Mrzljak International School of Biophysics at the University of Split has been cancelled, at NanoTemper we believe, that **nothing should stand in the way of education**. Therefore, together with the School of Biophysics, we have organized a virtual e-Course in Biophysical methods.

Agenda

Day 1 – August 31, 2020

- 9:00 Meet and Greet
- 9:15 Intro: MST, Applications and Q&A
- 10:00 Intro: Experimental set-up and labeling for MST
- 10:15 Hands-on MST experiment
- 10:45 Intro: nanoDSF, Applications and Q&A
- 11:30 Hands-on nanoDSF experiment

Day 2 – September 1, 2020

- 9:00 Data session: Evaluation of MST experiment
- 9:30 Intro: TRIC, Applications and Q&A
- 10:15 Hands-on TRIC experiment
- 10:45 Data session: Evaluation of nanoDSF experiment
- 11:15 Data session: Evaluation of TRIC experiment
- 11:45 Wrap up

Meet our experts



Dr Thomas Wette
Biophysical analysis &
protein biochemistry



Dr Franziska Toppel
Protein characterization &
protein folding



Dr Piotr Wardega
Biophysics & cell signaling

[Mpc] Il Nuovo Saggiatore online Bollettino della Società Italiana di Fisica



Il nuovo numero de *Il Nuovo Saggiatore* Vol. 36, n. 34 (2020) è ora disponibile per tutti [online](https://www.ilnuovosaggiatore.sif.it/issue/62)
<https://www.ilnuovosaggiatore.sif.it/issue/62>

In questo numero, tra gli altri interessanti articoli, nella rubrica *Il Nostro Mondo* troverete il programma del 106° Congresso Nazionale della SIF che quest'anno avverrà in modalità telematica e **un articolo di introduzione alla Società Italiana di Biofisica Pura e Applicata**

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[Newsletter closed on 27/08/2020]