SIBPA
Società Italiana di Biofisica Pura e Applicata
fondata nel 1973

IstitutoVeneto diScienzeLettere edArti

XXIII INTERNATIONAL SCHOOL OF PURE AND APPLIED BIOPHYSICS

(http://tiny.cc/BiophysicSchool-2019)

Venice (Italy) - Palazzo Franchetti
4-8 February 2019

Emerging Tools in Biomechanics:
from tissues down to single molecules

Programme

HANDS-ON EXPERIMENTAL ACTIVITIES ON STATE-OF-THE ART INSTRUMENTATION PROVIDED BY INTERNATIONAL LEADING COMPANIES

KLA Tencor · LUMICKS Capture Molecular Interactions · nanosurf · OLYMPUS · CYTOSURGE · Digital Surf · OPTICS11

Sponsored by:

cost · BIOBRILLOUIN · ARBRE MOBIEU BETWEEN ATOM AND CELL · IUPAB Connecting the World of Biophysics · National Research Council of Italy · University of Southampton · iom Istituto Officina dei Materiali

Monday – February 4th

9:00 – 9.15 OPENING and WELCOME

9:15-10:30	**L. Ceseracciu (IT)**	***Nanoindentation of soft materials: theoretical models and experimental approaches***
10:45-11:15	**Coffee Break**	
11:15-12:30	**G. Ruocco (IT)**	***How Brillouin spectroscopy obtains the mechanical characterization of materials***

12:45-14:00 BUFFET LUNCH

14:00-14:45	**Students corner**	***Elevator pitch***
15.00-15.45	**C. Canale (IT)**	***Cell mechanics probed by Atomic Force Microscopy***
16:00-16:30	**Coffee Break**	
16:30-17:15	**T. Dehoux (FR)**	***Picosecond ultrasonics: From solid state-physics...***
17:30-18:00	**Students corner**	***Elevator pitch***

19:30-22:30 SOCIAL DINNER

Tuesday – February 5th

9:00-9:45	**D. Fioretto (IT)**	***Viscoelastic properties of tissues probed by Brillouin Light Scattering***
10:00-10:45	**T. Zambelli (CH)**	***Serial adhesion measuring: from mammalian cells to bacteria***
11:00-11:30	**Coffee Break**	
11:30-12.15	**T. Dehoux (FR)**	***Picosecond ultrasonics: from solid state-physics...to single cells***
12.30-13.15	**A. Ferrari (CH)**	***Traction force microscopy***

13:30-14:30 BUFFET LUNCH

14:30-16:00	**Hands-on training**	***Demonstrations and tutorials with involved companies****
16:00-16:30	**Coffee Break**	
16:30-18:00	**Hands-on training**	***Demonstrations and tutorials with involved companies****

Wednesday – February 6th

9:00-9:45	**M. Mattarelli (IT)**	***Relevant length scales in Brillouin Spectroscopy***
10.00-10:45	**P. Glynne-Jones (UK)**	***Acoustic forces and microfluidics***
11:00-11:30	**Coffee Break**	
11:30-12:15	**M. Lekka (PL)**	***Elasticity of normal and cancerous human cells studied by atomic force microscopy***
12:30-13.15	**K. Elsayad (A)**	***A correlative VIPA based Brillouin set-up and the results obtained in mechanobiology***

13:30-14:30 BUFFET LUNCH

14:30-16:00	**Hands-on training**	***Demonstrations and tutorials with involved companies****
16:00-16:30	**Coffee Break**	
16:30-17:00	**Students corner**	***Elevator pitch***
17:00-18:30	**Hands-on training**	***Demonstrations and tutorials with involved companies****

Thursday – February 7th

***Session Chair**:*

9:00-10:30	**Hands-on training**	***Demonstrations and tutorials with involved companies****
10:30-11:00	**Coffee Break**	
11:00-11:30	**Students corner**	***Elevator pitch***
11:45-13:15	**Hands-on training**	***Demonstrations and tutorials with involved companies****

13:30-14:30 BUFFET LUNCH

14:30-16:00	**Hands-on training**	***Demonstrations and tutorials with involved companies****
16:00-16:30	**Coffee Break**	
16:30-17:00	**Students corner**	***Elevator pitch***
17:00-18:30	**Hands-on training**	***Demonstrations and tutorials with involved companies****

Friday – February 8th

9:00-9:45	**M. Capitanio (IT)**	***Optical Tweezers: using light to exert and measure forces at the molecular scale***
10:00-10:45	**E. Caberlotto (FR)**	***Effects of dynamic mechanical stimulations on skin tissue and new technics for skin characterization***
11:00-11:30	**Coffee Break**	
11:30-12:00	**S. Martino**	***Stem cell translational applications: fast and furious***
12:00-12:30	**S. Dupont**	***F-actin dynamics regulates mammalian organ growth and liver cell fate maintenance***
12:30-13:00	**Closing remarks**	

13:30-14:30 BUFFET LUNCH