

Wednesday, June 19 th	
08:30-09:00	Welcome Address
09:00-10:30	Keynote
09:00	Quantum sensing with NEMS: A vision for deep proteomic profiling of single cells <i>Michael L. Roukes, Caltech, USA</i>
09:45	Quantum Acoustics: Using Sound in the Quantum Limit <i>Andrew N. Cleland, U. Chicago, USA</i>
10:30-11:00	Coffee Break
11:00-12:30	Oral Session – 2D Materials & CNTs
11:00	Tuning nonlinearities through strain in CVD MoS₂ resonator <i>N. Arora, IIS, India</i>
11:15	Nonlinear dynamics for sensing with atomically thin membranes <i>F. Alijani, TU Delft, The Netherlands</i>
11:30	Graphene-based mechanical resonator with Q factor exceeding one million <i>M. Müller, RWTH Aachen, Germany</i>
11:45	Non-equilibrium thermodynamics in graphene probed by its mechanical motion <i>R. Dolleman, TU Delft, The Netherlands</i>
12:00	Nanotube Electro-Mechanical Resonators <i>A. Bachtold, ICFO, Spain</i>
12:30-13:00	Blitz Session 1
13:00-14:00	Lunch
14:00-15:30	Poster Session 1
15:30-16:15	Keynote
15:30	Towards quantum μwave-optical transduction with μmechanical membranes <i>Cindy Regal, JILA, USA</i>
16:15-16:45	Coffee Break
16:45-18:00	Oral session – Quantum sensing
16:45	Strained silicon nanomechanics <i>A. Beccari, EPFL, Switzerland</i>
17:00	Mechanical generation of stationary entangled radiation <i>J. Fink, IST, Austria</i>
17:30	Attonewton scanning force microscopy using a silicon nitride membrane detector <i>C.L. Degen // A. Eichler, ETHZ, Switzerland</i>
18:00-18:45	Keynote
18:00	Quantum sensors <i>Paola Cappellaro, MIT, USA</i>
18:45-20:00	Networking event

Thursday, June 20th	
08:30-9:15	Keynote
08:30	Dynamic and high-precision biophysical measurements of single cells <i>Scott R. Manalis, MIT, USA</i>
09:15-10:30	Oral Session – Suspended Microchannel Resonators (SMR)
9:15	3D fabrication of totally transparent glass SMR for enhanced label-free biosensing <i>R. Calmo, PoliTo, Italy</i>
9:25	Mechano-optical cell discerning using transparent hollow resonators <i>A. Martín-Pérez, IMN-CSIC, Spain</i>
9:40	Detection of single bacteria via Piezoelectric SMRs <i>A. De Pastina, EPFL, Switzerland</i>
10:00	Fluidic channel integrated resonators via traditional and unconventional fab <i>J. Lee, KAIST, South Korea</i>
10:30-11:00	Coffee Break
11:00-12:30	Oral Session – Biomarkers & DNA
11:00	Nanomechanics and Nanomechanical Systems for Biology and Medicine <i>J. Tamayo, IMN-CSIC, Spain</i>
11:30	Nanomechanical Sensors (MSS, AMA) toward Olfactory Sensing Systems <i>G. Yoshikawa, NIMS, Japan</i>
11:50	DNA nanoresonators: a new paradigm in nanomechanical biosensing <i>C. Ricciardi, PoliTo, Italy</i>
12:10	Detection of KRAS mutation in breast cancer patients with a blood test with a hybrid nanomechanical and optoplasmonic sensor <i>P. Kosaka, IMN-CSIC, Spain</i>
12:30-13:00	Blitz Session 2
13:00-14:00	Lunch
14:00-15:30	Poster Session 2
15:30-16:20	Keynote
15:30	Industrial Pitch – Sensirion
15:35	Early Disease Detection with Ultra-sensitive Nanomaterials and Mobile Phones <i>Rachel McKendry, U. College London, UK</i>
16:20-16:55	Coffee Break
16:55-18:00	Oral session – Cell Forces
16:55	Nanomechanical pillar arrays: From cellular force tracking to collective dynamics <i>E.M. Weig, U. Konstanz, Germany</i>
17:25	Industrial Pitch – Lyncée Tec
17:30	Mechanobiology of cell-cell interactions <i>B.L. Pruitt, UC Santa Barbara, USA</i>
18:00-22:00	Social Event – Olympic Museum

Friday, June 21st	
08:30-9:15	Keynote
08:30	Nanomechanical sensing in the field of drug delivery <i>Anja Boisen, DTU, Denmark</i>
09:15-10:30	Oral Session – Plasmonic and other sensing
9:15	Multi-modal imaging of biomaterials using nanomechanical sensors <i>S. Kim, U. Calgary, Canada</i>
9:40	Nanomechanical Plasmon Spectroscopy: optomechanics as a plasmonic transducer <i>D. Ramos, IMN-CSIC, Spain</i>
9:50	Nonlinear Nanomechanical Mass Spectrometry at the Single-Particle Level <i>S. Hanay, Bilkent University, Turkey</i>
10:00	Photothermal Nanomechanical Analysis of Single Molecules and Plasmonic Nanostructures <i>S. Schmid, TU Wien, Austria</i>
10:30-11:00	Coffee Break
11:00-12:30	Oral Session – AFM
11:00	A parametric symmetry breaking transducer <i>O. Zilberberg, ETHZ, Switzerland</i>
11:30	Single molecule measurements of fully quantum redox reactions <i>P. Grutter, McGill University, Canada</i>
11:50	Medical applications of AFM based nanomotion detection <i>G. Dietler, EPFL, Switzerland</i>
12:10	Cantilevers for high-speed multiparametric AFM imaging <i>G. Fantner, EPFL, Switzerland</i>
12:30-13:00	Blitz Session 3
13:00-14:00	Lunch
14:00-15:30	Poster Session 3
15:30-16:00	Coffee Break
16:00-17:15	Oral session – Nonlinear dynamics
16:00	Brownian motion for nanoparticle transport and nano-system characterization <i>A.W. Knoll, IBM Zurich, Switzerland</i>
16:20	Collective Phenomena in lattices of nanoelectromechanical oscillators <i>M.H. Matheny, Caltech, USA</i>
16:40	Intermodal Energy Transfer to Stabilize Frequency in a MEMS Oscillator <i>H. Cho, Ohio State University, USA</i>
17:00	Towards Homoclinic Orbits in a Controllable MEMS Librator <i>S. Hourii, NTT, Japan</i>
17:15-18:00	Keynote
17:15	Oscillatory motion and propulsion in liquid at nanometer length scales <i>John E. Sader, U. Melbourne, Australia</i>
18:00-19:00	Farewell Event

Blitz Poster Session – Wednesday 19 th	
12:30-13:00	Blitz Session 1
<i>M. Kim</i>	Aharonov-Bohm Oscillation in Nanomechanical Resonance of Topological Insulator Nanowire
<i>S. Afyouni</i>	Fabrication of Large Suspended CVD Graphene Membranes
<i>S. More</i>	Manipulating Internal Resonance and Coupled Modes in NEMS
<i>F. Hoekstra</i>	Feeling the Heat of Wavefunction Collapse
<i>N. Engelsen</i>	Elastic Strain Engineering for Ultralow Mechanical Dissipation
<i>M. Héritier</i>	Towards Mechanical Force Detection of Individual Protons
<i>L. Qiu</i>	High-Fidelity Laser Cooling to the Quantum Ground State of a Silicon Nanomechanical Oscillator
<i>T. Purdy</i>	Optomechanical Sensing of Thermal and Quantum Noise
<i>A. Keşkekler</i>	Nonlinear Modal Interactions in Graphene Resonators
<i>L. Sementilli</i>	Propagation and Imaging of Mechanical Waves in a Highly-Stressed Single-Mode Acoustic Waveguide
<i>I. Shomroni</i>	Optical Backaction-Evading Measurement of a Mechanical Oscillator
<i>M. Parmar</i>	On Chip Acoustic Actuation for Linear Excitations of 2D NEMS
<i>G. Welker</i>	Measuring Impurity Spin Densities Using Nanomechanics
<i>M. Krass</i>	Magnetic Resonance Force Microscopy with Single Nanometer 1D Resolution
<i>E. Romero</i>	Enhancement of Mechanical Quality Factor of Sic Trampoline Resonators by Interface Dislocation Removal
<i>L. Catalini</i>	Mechanical Nonlinearities in Ultracoherent Nanomechanical Resonators
<i>P. Sadeghi</i>	Influence of Clamp-Widening on the Quality Factor of Nanomechanical Silicon Nitride Resonators
<i>D. Hälgl</i>	Development and Demonstration of a Membrane-Based AFM
<i>J. Cha</i>	Nanoelectromechanical Lattices for on-Chip Phononic Devices
<i>R. Singh</i>	Engineering Acoustic Channels in Silicon and Silicon Nitride Based Nanomechanical Resonators
<i>C. Urgell</i>	Cooling and Self-Oscillation in a Nanotube Electro-Mechanical Resonator
<i>S. Cartamil</i>	Graphene mechanical pixels for Interferometric Modulator Displays
<i>F.M. Mayor</i>	Nano-benders: Efficiently and widely tunable piezo-photonics
<i>A. Sawadsky</i>	Brillouin Laser in Superfluid

Blitz Poster Session – Thursday 20 th	
12:30-13:00	Blitz Session 2
<i>G. Gruber</i>	Mass sensing for the advanced fabrication of nanomechanical resonators
<i>G. Brunetti</i>	Biomedical analysis of malaria vaccine candidates with an enhanced nanomechanical cantilever array platform
<i>L. Iglesias</i>	CMUT enabled binary mixture gas sensing through time of flight measurement
<i>J. Molina</i>	High dynamic range optical transduction of nanowire resonators
<i>T. Manzaneque</i>	Resolution Limits of Mass Sensors based on SMRs
<i>E. Gil-Santos</i>	Optomechanical microdisks for biological sensing
<i>A. Cano-Tortajada</i>	Fluctuations of Cancer Cells as a Malignant Indicator
<i>S. García-López</i>	Detection of biomarkers in breast cancer cell lines with a hybrid nanomechanical and optoplasmonic sensor
<i>C. Ayela</i>	Through optical fiber polymer cantilevers operating in liquid media
<i>D. Maillard</i>	World-to-chip interface for PZE-transduced suspended microchannel resonators opened from the backside
<i>A. De Pastina</i>	Contour mode resonators for biosensing
<i>A. De Pastina</i>	Experimental investigation of the energy dissipation of SMRs
<i>U. Adiyani</i>	Highly Sensitive Uncooled IR Sensors Using Shape Memory Polymer Resonators
<i>J. Vandersmissen</i>	Nanomechanical Sensing using Gap Plasmons
<i>N. Luhmann</i>	Ultrathin Cu-Au films as broad spectral IR absorber for NEMS detectors
<i>M. Piller</i>	Sensitive nanomechanical thermal detector for IR and THz radiation at room-temperature
<i>M. Chien</i>	A Novel Platform for the Detection and Analysis of Plasmonic Nanostructures Based on Nanomechanical Resonator
<i>N. Cazier</i>	Optical Detection of Gap Plasmonic Mode in Electromagnetically-Actuated Nanomechanical Silicon Nitride Strings
<i>K. Guérin</i>	Identifying antimicrobial resistance with glass fibers
<i>A. Malovichko</i>	Microfabricated polymer cantilevers for rapid bacterial sensitivity tests
<i>A. Sanz-Jiménez</i>	Mass and stiffness nanomechanical spectrometry of Staphylococcus epidermidis
<i>J.J. Ruz</i>	Effect of surface stress induced curvature on the eigenfrequencies of cantilever plates
<i>J.J. Ruz</i>	Stiffness spectrometry: Nanoparticle identification based on multifrequency measurements with resonating plates
<i>A. De Pastina</i>	Fabrication of Suspended Contour Mode Resonators

Blitz Poster Session –Friday 21 st	
12:30-13:00	Blitz Session 3
<i>A. Demir</i>	Unraveling the Fundamental Sensitivity Limitations of Phase-Locked Loop based Nanomechanical Resonant Sensors
<i>J. Miller</i>	Intrinsic amplitude-stabilization of thermal-piezoresistive cantilevers
<i>S. Stassi</i>	Measurement parallelization of weakly coupled nanomechanical resonators
<i>A. Chandrashekar</i>	Nonlinear dynamics for mapping nanomechanical properties in non-contact atomic force microscopy
<i>A. Takabayashi</i>	Freestanding Silicon Photonic Ring Resonators for Nanomechanical Sensing
<i>P.G. Steeneken</i>	Signatures of phase transitions in the mechanics of complex oxide nanomembranes
<i>N. Manca</i>	Reversible tuning of strain-state in a microresonator by hydrogen gas
<i>L. Pellegrino</i>	Microresonators based on ferromagnetic single-crystal (La,Sr)MnO₃ films
<i>N. Manca</i>	Strain engineering in oxide freestanding microstructures
<i>K.M. Howell</i>	Flexoelectric Actuation of NEMS
<i>H.J. Kim</i>	QCMs with Carbon Nanotubes Coating for a High Precision Liquid Salinity Monitoring
<i>B. Ghadiani</i>	Small bimorph AFM-cantilevers for photothermal off-resonance tapping
<i>M. Faizan</i>	Fabrication of Lithium Niobate based MEMS resonator for RF filters
<i>S. Yandrapalli</i>	Influence of plate thickness non-uniformity on XBAR performance
<i>A. Lozzi</i>	Laser doppler vibrometry technique for modes identification via out-of-plane displacement in laterally vibrating resonators
<i>X. Di</i>	Epitaxially grown PMN-PT nano structures
<i>M. Neuenschwander</i>	Electrothermally driven self-sensing multilayer MEMS cantilevers
<i>V. Tzanov</i>	Nonlinear Behaviour of a Multi-Frequency Silicon Nanofractal Resonator
<i>C. Pinto-Gómez</i>	Arrays of double-clamped silicon nanowires defined by directed self-assembly of block copolymers
<i>T. Graziosi</i>	Single Crystal Diamond Optical Microdisks for Nanomechanical Sensing
<i>P. Yin</i>	Topological Manipulation of a Micro-object Using Hydrodynamic Tweezers
<i>T. Tian</i>	Observation of dynamical phase transitions in a topological nanomechanical system