

Scientific Program

Sunday 13 July 2014

17:00-20:00	Registration and check-in
21:00	Dinner

Monday 14 July 2014

Morning Session Day 1

Session Chair *José María Gómez-Rodríguez (Universidad Autónoma de Madrid, Spain)*

8:30-9:00 Opening

9:00-9:50 *Atomic force microscopy at the pico scale. (Part I)*
Franz Giessibl University of Regensburg (Germany)
Invited speaker. Page 38

9:50-10:40 *Unraveling nature's secrets with AFM (Part I)*
Suzanne Jarvis Conway Institute of Biomolecular Research, University College, Dublin (Ireland)
Invited speaker. Page 39

10:40-11:20 Coffee break

11:20-12:10 *Atom manipulation, single-atom chemical identification and sub-molecular resolution by silicon-cantilever based AFM (Part I)*
Óscar Custance National Institute for Materials Science, Tsukuba (Japan)
Invited speaker. Page 40

12:10-13:00 *Magnetic Sensitive Force Microscopy (Part I)*
Alexander Schwarz Institute of Applied Physics and Interdisciplinary Nanoscience Center, University of Hamburg (Germany)
Invited speaker. Page 41

13:00-15:00 Lunch

Afternoon Session Day 1

Session Chair *Rubén Pérez (Universidad Autónoma de Madrid, Spain)*

15:00-15:50 *Atomic force microscopy at the pico scale. (Part II)*
Franz Giessibl University of Regensburg (Germany)
Invited speaker. Page 38

15:50-16:40 *Simulating Atomic Force Microscopy: (I) Introduction to modern computational approaches*
Adam Foster Aalto University, Helsinki (Finland)
Invited speaker. Page 42

16:40-17:10 Coffee break

17:10-18:00 *Instrumentation and applications of liquid-environment FM-AFM (Part I)*
Takeshi Fukuma Frontier Science Organization Kanazawa University,
Kanazawa (Japan)
Invited speaker. Page 43

18:00-19:00 Poster Session

19:00-21:00 Free time

21:00 Dinner

Tuesday 15 July 2014

Morning Session Day 2

Session Chair *Rubén Pérez (Universidad Autónoma de Madrid, Spain)*

9:00-9:50 *Molecular-scale Investigations of Solid-Liquid Interfaces by both FM-AFM and 3-Dimensional Force Mapping Method (Part I)*
Hirofumi Yamada Kyoto University, Kyoto (Japan)
Invited speaker. Page 44

9:50-10:40 *Investigating the contrast mechanisms of AFM and KPFM using functionalized tips (Part I)*
Leo Gross IBM Zurich Research Laboratory, Rüschlikon (Switzerland)
Invited speaker. Page 45

10:40-11:20 Coffee break

11:20-12:10 *Synthesis at the Single Molecule Level: Chemical Reaction*
Michael Crommie University of California, Berkeley (USA)
Invited speaker. Page 46

12:10-13:00 *Structure - property by AFM: from atomically defined electromechanical contacts to manipulation of neurons (Part I)*
Peter Grutter McGill University, Montréal (Canada)
Invited speaker. Page 48

13:00-15:00 Lunch

Afternoon Session Day 2

Session Chair *José María Gómez-Rodríguez (Universidad Autónoma de Madrid, Spain)*

15:00-15:50 *Advances in quantitative and three-dimensional mapping of soft matter by bimodal force microscopy (Part I)*
Ricardo García Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid (Spain)

	Invited speaker. Page 49
15:50-16:40	<i>Frequency and Bias Spectroscopy and the Use of Multivariate Analysis in Scanning Probe Microscopy (Part I)</i> Stephen Jesse Center for Nanophase Materials Sciences , Oak Ridge National Laboratory (USA) Invited speaker. Page 50
16:40-17:10	Coffee break
17:10-18:00	<i>Forces and photons in molecular tunneling junction.(Part I)</i> José Ignacio Pascual Nanoimaging (CIC9), CIC Nanogune Donostia–San Sebastian (Spain) Invited speaker. Page 51
18:00-19:00	Poster Session
19:00-21:00	Free time
21:00	Dinner

Wednesday 16 July 2014

Morning Session Day 3

Session Chair *José María Gómez-Rodríguez (Universidad Autónoma de Madrid, Spain)*

9:00-9:50	<i>Forces and photons in molecular tunneling junction (Part II)</i> José Ignacio Pascual Nanoimaging (CIC9), CIC Nanogune Donostia–San Sebastian (Spain) Invited speaker. Page 51
9:50-10:40	<i>Unraveling nature's secrets with AFM (Part II)</i> Suzanne Jarvis Conway Institute of Biomolecular Research, University College, Dublin (Ireland) Invited speaker. Page 39
10:40-11:20	Coffee break
11:20-12:10	<i>Atom manipulation, single-atom chemical identification and sub-molecular resolution by silicon-cantilever based AFM (Part II)</i> Óscar Custance National Institute for Materials Science, Tsukuba (Japan) Invited speaker. Page 40
12:10-13:00	<i>Instrumentation and applications of liquid-environment FM-AFM (Part II)</i> Takeshi Fukuma Frontier Science Organization Kanazawa University, Kanazawa (Japan) Invited speaker. Page 43
13:00-15:00	Lunch

Afternoon Session Day 3

Session Chair *Rubén Pérez (Universidad Autónoma de Madrid, Spain)*

15:00-15:50 *Multi-Dimensional Scanning Probe Microscopy with Species-Selective Atomic Resolution Imaging (Part I)*
Udo Schwarz School of Engineering and Applied Science, Yale University, New Haven (USA)
Invited speaker. Page 52

15:50-16:20 *Physical virology with Atomic Force Microscopy*
Pedro J. de Pablo Universidad Autónoma de Madrid (Spain)
Invited contribution. Page 53

16:20-16:50 *Advances in Magnetic Force Microscopy*
Agustina Asenjo ICMN-CSIC, Madrid, Spain
Invited contribution. Page 54

16:50-17:15 Coffee break

17:15-24:00 Visit to the city of Segovia. Dinner in town.

Thursday 17 July 2014

Morning Session Day 4

Session Chair *Rubén Pérez (Universidad Autónoma de Madrid, Spain)*

9:00-9:50 *AFM experiments with single molecules (Part I)*
Ernst Meyer University of Basel (Switzerland)
Invited speaker. Page 55

9:50-10:40 *Molecular-scale Investigations of Solid-Liquid Interfaces by both FM-AFM and 3-Dimensional Force Mapping Method (Part II)*
Hirofumi Yamada Kyoto University, Kyoto (Japan)
Invited speaker. Page 44

10:40-11:20 Coffee break

11:20-12:10 *Synthesis at the Single Molecule Level: Manipulating Structure and Charge*
Michael Crommie University of California, Berkeley (USA)
Invited speaker. Page 47

12:10-13:00 *Magnetic Sensitive Force Microscopy (Part II)*
Alexander Schwarz Institute of Applied Physics and Interdisciplinary Nanoscience Center, University of Hamburg (Germany)
Invited speaker. Page 41

13:00-15:00 Lunch

Afternoon Session Day 4

Session Chair *José María Gómez-Rodríguez (Universidad Autónoma de Madrid, Spain)*

15:00-15:50 *Simulating Atomic Force Microscopy: (II) Building an AFM simulation.*
Adam Foster Aalto University, Helsinki (Finland)
Invited speaker. Page 42

15:50-16:40 *Frequency and Bias Spectroscopy and the Use of Multivariate Analysis in Scanning Probe Microscopy (Part II)*
Stephen Jesse Center for Nanophase Materials Sciences , Oak Ridge National Laboratory (USA)
Invited speaker. Page 50

16:40-17:10 Coffee break

17:10-18:00 *Structure - property by AFM: from atomically defined electromechanical contacts to manipulation of neurons (Part II)*
Peter Grutter McGill University, Montréal (Canada)
Invited speaker. Page 48

18:00-19:00 Poster Session

19:00-21:00 Free time

21:00 Dinner

Friday 18 July 2014

Morning Session Day 5

Session Chair *José María Gómez-Rodríguez (Universidad Autónoma de Madrid, Spain)*

9:00-9:50 *AFM experiments with single molecules (Part II)*
Ernst Meyer University of Basel (Switzerland)
Invited speaker. Page 55

9:50-10:40 *Investigating the contrast mechanisms of AFM and KPFM using functionalized tips (Part II)*
Leo Gross IBM Zurich Research Laboratory, Rüschlikon (Switzerland)
Invited speaker. Page 45

10:40-11:00 Coffee break

11:00-11:50 *Advances in quantitative and three-dimensional mapping of soft matter by bimodal force microscopy (Part II)*
Ricardo García Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid (Spain)
Invited speaker. Page 49

11:50-12:40	<i>Multi-Dimensional Scanning Probe Microscopy with Species-Selective Atomic Resolution Imaging (Part II)</i> Udo Schwarz School of Engineering and Applied Science, Yale University, New Haven (USA) Invited speaker. Page 52
12:40-13:00	Poster awards. Closing remarks. The organizers.
13:00-14:30	Lunch
15:00	Bus to Barajas Airport.
