

Curriculum Vitae

Loredana Casalis

Personal Details

Loredana Casalis, PhD
Head, NanoInnovation Laboratory
Elettra Sincrotrone Trieste
SS 14 Km 163,5 I-34149, Trieste (Italy)
Tel: +39 040 3758291-8755

Born on Jan 02, 1964.
Nationality: Italian
Status: Married, three children

Education

1994 PhD in Condensed Matter Physics. University of Trieste, Italy

Nov. 1991 – Sept. 1992 Visiting Fellow at the Department of Crystallography and Mineralogy of Ludwig Maximilian University, Munich, Germany

1991-1994 PhD fellow at the University of Trieste, Italy

1989 Laurea Degree in Physics. University of Pisa, Italy

Professional Positions

2007-present Senior Scientist at the Synchrotron Radiation Facility Elettra-Sincrotrone Trieste. Head of the NanoInnovation Laboratory

Jul.-Aug. 2012 Visiting Professor at Temple University, Dept. of Biology, Philadelphia PA, USA

2002-2007 Manager of the NanoInnovation Lab, a joint SISSA/Elettra Atomic Force Microscopy Lab project

2000-2002 Visiting Research Staff, Department of Chemistry, Princeton University, Princeton NJ, USA

1994-2000 Staff member (Beamline Scientist) of the Synchrotron Radiation Facility Elettra

1990 National Research Council (CNR) Fellowship at the CNR Biophysics Department in Pisa.

Accademic Activities

2018-2020 Member of the TESI (Trieste Encounters on Science and Innovation) group on “Science to Citizen” for ESOE 2020 (European Science Open Forum, Trieste City of Science 2020)

2017-present Adjunct professor at University of Trieste in Experimental Biophysics – master in Physics

2008-present Lecturer at SISSA (International School of Advanced Studies), Trieste, in the sector of Statistical and Biological Physics (till 2013) and Neurobiology (<http://phdneurobiology.sissa.it>)

2006-present Lecturer and Faculty Member of the Graduate Program in Nanotechnology of the University of Trieste (<http://web.units.it/dottorato/nanotecnologie/en>)

2010-present Member of the Selection Committee of the Organization for Women in Science for the Developing World (OWSD) Postgraduate Fellowships Programme

2012-present Member of the Selection Committee of The Academy of Sciences for the Developing World (TWAS) Research Grants programme and DFG-TWAS Exchange Programme

2015-present Member of the Editorial Board of the Journal “Scientific Reports”

Reviewer for several international peer-reviewed scientific journals (APS, ACS, RCS, etc.)

Organization of International Meetings/Schools

Sept. 2019 ICTP School on “Biophysical approaches to macromolecules and cells: integrated tools for life sciences and medicine”, **Nairobi, Kenya** (Co-Director with Silvia Onesti (Elettra), Lucy W. Kikuri (Kenyatta Univ., Kenya) Ali Hassanali (ICTP))

Oct. 2017 FisMat 2017, the Italian National Conference on the Physics of Matter, **Trieste, Italy** (Chair of the Organizing Committee; part of the Scientific Committee)

Jan. 2016 ICTP School on “Imaging, Structural and Single Molecule Approaches to Biology: Understanding Life at Higher Resolution”, JNCASR **Bangalore, India** (Co-Director with Silvia Onesti (Elettra), Maurizio Prato (Univ. of Trieste), C.N.R. Rao (JNCASR))

Nov. 2013 ICTP School on “Synchrotron Radiation Techniques and Nanotechnology: a Synergic Approach to Life Sciences and Medicine” **Stellenbosch, South Africa** 11-22 November 2013 (Co-Director with Silvia Onesti (Elettra), Joe Niemela (ICTP) and Malik Maaza (i-Temba, UNISA))

Oct. 2011 “Joint ICTP-KFAS Conference on Nanotechnology for Biological and Biomedical Applications” ICTP, **Trieste, Italy** (Co-Director with Sangeeta Kale (Pune, India) and Samir Iqbal (UTA, Texas, USA))

Oct. 2009 ICS-UNIDO Workshop on Nanotechnology and Orphan Diseases, **Trieste, Italy**

Dec. 2008 “Emerging Applications of Synchrotron Radiation in the Life Science”, Satellite Workshop XVI Elettra Users’ Meeting, **Trieste, Italy**

Sept. 2006 “3rd national Conference on Nanoscience and Nanotechnology”, **Trieste, Italy**

Research Projects and Grants

2017 MadeinTrieste competition winner. MadeinTrieste is a project managed by AREA Science Park for promoting applied research in the field of Life Sciences, in collaboration between research and industry. 1 year (2018-2019) research grant to a young PhD fellow.

2017-2020 (running) Elettra Unit Coordinator of the Regional (LR 17/2014) project “BIOMECC, Applicazione delle tecnologie biomeccaniche a integrazione delle metodiche tradizionali nel contesto ospedaliero”. 92.000 € unit budget

2017-2019 (running) Project coordinator deputy of the Interreg V-A Italia – Austria 2014–2020 project “EXOTHERA- Exosomes for regenerative, immunosuppressive and oncosuppressive therapies”. 330.850 € unit budget

2014-2017 Elettra Unit co-PI of the Italian project from the Ministry of health,

“Ricerca Finalizzata 2013 - Ministero della Salute (24/09/2014) “Mechanosensing and pro-pathologic differentiation of progenitors in aortic valve stenosis”. 195.000 € unit budget

2012-2016 Elettra-INSTM Unit Coordinator of the Italian Research Ministry MIUR-FIRB (Fondo Investimenti per la Ricerca di Base) project “Nanotechnological approaches toward tumor theragnostic”. 288.000 € unit budget

2011-2014 Elettra Unit Coordinator of the Italian AICR (Italian Association on Cancer Research) project “Application of Advanced Nanotechnology in the Development of Innovative Cancer Diagnostics Tools”. 300.000 € unit budget

2008- 2011 Elettra Unit coordinator of a EU-project (REGIONS-2008-1 FP7) entitled: “Maximizing Synergies for Central European Biotech Research Infrastructures”. 91.000 € unit budget.

2007-2010 Coordinator of a 3-years project from Regione Friuli Venezia Giulia (LR-30) to develop biosensors at the nano-scale for applications in diagnostic and organic electronics. 900.000 € grant

Research Experience

I started my career at the University of Trieste and Elettra in **1991** studying **molecular interactions on solid surfaces and surface catalysis**, under the supervision of Prof. Renzo Rosei and Prof. Maya Kiskinova. I have exploited advanced surface science techniques, as scanning probes and synchrotron-radiation based techniques (STM, STS, XPS, AUGER, XAS, LEED, GIXRD), to solve relevant problems in catalysis and materials science, with particular emphasis on the structural and electronic properties of thin films and mesoscopic systems (i.e. clusters).

In **August 2000**, I moved to Princeton University as a Visiting Scientist (August 2000-August 2002). There, in the group of Prof. Giacinto Scoles, I worked on the **structural properties of organic thin films** using cold Helium atom diffraction (LEAD) and building novel molecular sources (i.e. supersonic sources) to grow films with improved characteristics for applications to organic electronics. Moreover, I aimed at the understanding of the fundamental principles that govern the structure of **self-assembled monolayers (SAM)** of alkanethiols on Au(111). This last topic culminated in a reputed publication in Science in 2008.

In **2003** I started a new activity in Trieste: the “SISSA-Elettra NanoInnovation Laboratory” founded by Prof. Giacinto Scoles. In 2008, the lab was splitted in two groups, one dedicated to nanomedicine (Scoles, University of Udine), and the other, which I am at present still leading, committed to **nano-biophysics and nano-diagnostics** (located at Elettra, webpage:

<http://www.elettra.trieste.it/lightsources/labs-and-services/nanostructure/nanostructure-lab-home.html>).

The main expertise of my group is in surface (bio)-functionalization and characterization, and in the use of nanotechnology for the controlled immobilization of confined, density controlled monolayers of biomolecules and for single molecule interaction studies. Main topics of our research are:

- i) biomolecular interactions/enzymatic reactions at the molecular level
- ii) high-sensitivity nanosensors for quantitative diagnostics and disease monitoring in serum/blood (in the context of cancer and neurodegenerative diseases)
- iii) tissue and cell biomechanics in the context of different diseases (i.e. cancer, aortic valve disease)
- iv) advanced nanomaterials to mimic the extracellular matrix for interaction with cells/tissues (i.e. neurons, aortic valves interstitial cells)

For this aim we use a combination of Atomic Force Microscopy (AFM) and AFM-lithography, electrochemistry, fluorescence microscopy and, when possible, synchrotron radiation based techniques as SAXS, XPS, Raman/IR Spectroscopy. Also, we use advanced AFM imaging modes in liquid environment, to highlight structural details of protein/DNA interaction, at a single molecule level, and AFM force spectroscopy for studies in biomechanics.

PhD students in the lab are enrolled through the PhD program on Nanotechnology and Nanoscience of the University of Trieste and the S.I.S.S.A. Neurobiology PhD program.

PhD Students supervised

[2018] Luisa Ulloa Severino (University of Trieste, PhD Nanotechnology, co-advised)

[2018] Ilaria Rago (University of Trieste, PhD Nanotechnology, co-advised)

[2018] Fabio Perissinotto (University of Trieste, PhD Nanotechnology)

[2017] Elena Ambrosetti (University of Trieste, PhD Nanotechnology)

[2016] Pietro Capaldo (University of Trieste, PhD Nanotechnology)

[2016] Amna Abdalla Mohammed Khalid (University of Trieste, PhD Nanotechnology)

[2015] M.D. Nkoua Ngavouka (University of Trieste, PhD Nanotechnology)

[2014] Stefania Corvaglia (University of Trieste, PhD Nanotechnology)

[2013] Luca Ianeselli (SISSA), now post-doctoral fellow in my group

[2013] Mario Ganau (University of Trieste), MD at the Hospital of Cattinara, Trieste

[2010] Barbara Sanavio (SISSA), now post-doc at the European Centre of Nanomedicine in Milan

[2009] Francesca Maria Toma (SISSA, co-advised), now researcher at ICAP, Berkeley, CA

[2009] Elham Mirmomtaz (University of Isfahan, and International Center for Theoretical Physics (ICTP), Trieste, co-advised), now lecturer at the Islamic Azad University, Shahrekord, Iran

[2009] Fouzia Bano (SISSA), now Researcher at the Centre for Cooperative Research in Biomaterials, San Sebastian, Spain

[2008] Matteo Castronovo (University of Trieste, co-advised), now at Temple University and University of Udine

[2008] Denis Scaini (University of Trieste), now researcher at University of Trieste

[2006] Mehemet Fatih Danisman (Princeton University, co-advised), now researcher at Middle East Technical University, Turkey

I have also supervised about 20 undergraduate students, coming from different Universities and different programs.

Current PhD Students

Mattia Musto (will defend on 5 Nov. 2018), from NeuroBiology, SISSA (co-advised with Laura Ballerini)

Beatrice Senigagliesi (first year PhD student) from Nanotechnology, University of Trieste

Conference Attendance (Invited Contributions only)

2018, IVSLA International School on Nanoscale Optical Microscopy, Venice, Italy 12-15 June, "ATOMIC FORCE MICROSCOPY Imaging Biological Matter at High Resolution" (INVITED LECTURE)

2018, Regional Biophysical Conference, Zrece, Slovenia, 16-10 May "Cell Biomechanics as a marker of disease development: the case of calcific aortic valve disease"

2018, Workshop POC Italy-India 2017, IISc Bangalore, India, 27-19 March, "Biophysics and Nanomedicine at the Elettra NanoInnovation Lab"

2017, Discovering Advanced AFM – International Workshop on Atomic Force Microscopy 12 October, Bologna (I) "AFM Nanografting: Nanoscale bio-functional surfaces for the ultrasensitive detection of circulating biomarkers"

2017, ULISSE Biomed Advisory Board Meeting, Trieste, 8-9 September "Nanoscale biofunctional surfaces for the ultrasensitive detection of circulating biomarkers"

2017, Meeting SISSA-Suzhou Industrial Park, Suzhou, China, 29-31 May "Research Activities at the Elettra NanoInnovation Lab"

2017, University of Nova Gorica, Slovenia, 19 May "Biorecognition at the nanoscale via AFM lithography and imaging" (INVITED LECTURE)

2016, IOP Workshop on "Self-Assembling, Recognition and Applications", Edinburgh (UK), 9 December "DNA self-assembling at the nanoscale as a robust route for fast and sensitive biochemical sensing"

2016, SIBPA (Italian Society of Pure and Applied Biophysics) National Congress, Cortona, Italy, 18-21 September "Her2 dimerization and shedding in Her2+ cancer cell membranes: role of Her2 as tumor biomarker"

2016, International School of Biophysics "A. Borsellino", Erice, Italy, 17-24 April "Controlled nanoscale molecular assembling for AFM-based biorecognition studies" (INVITED LECTURE)

2016 ICTP School on "Nano, structural and single molecule approaches to biology: understanding and handling life at higher resolution" JNCASR Bangalore (India), 11-16 January (SEMINAR, ORGANIZER).

2015 ICTP Workshop on NanoBioMed, IIT-Bombay, Mumbai, India, 1-4 December "Controlled nanoscale molecular assembling for biorecognition studies: implications to biophysics and biomedicine"

2015 5th Summer Symposium on Nanomaterials and their application to Biology and Medicine, Zakopane (CZ), 14-19 June “Functional nanostructured surfaces for the sensitive detection of cancer biomarkers”

2015 Translational Studies on Angiogenesis and targeted therapy in oncology, Rome (Italy), 23-24 January “Sensitive methods for HER2 protein determination”

2014 CECAM Workshop on Protein at interfaces, 17-19 September, Lausanne (CH), “Atomic force microscopy based nanoassays to study bioaffinity interactions of intrinsically disordered proteins”

2014 ANIS 4 - Alp Nano bio International School on coding and non-coding RNA, Vipiteno (BZ), 27-31 January, “Novel approaches for the label-free detection of molecular targets based on Atomic Force Microscopy”

2013 IUPAC 44th World Chemistry Congress, Istanbul, Turkey, 11-16 August 2013, “Controlling diffusion and reaction activity of enzymes in functional DNA nanostructures” (Keynote Speaker)

2012 ICSFS 16, International Conference on Solid Films and Surfaces, Genoa, Italy July 1-6, “Biomolecular interactions in density controlled DNA nanostructures: novel strategies for accurate biosensing”

2012 ICFMD 2012 1st International Conference on Functional Materials for Defence, ICM-DIAT Pune, India, May 18-20 (Keynote Speaker)

2012 SISSA Trieste, 5th SISSA/ELETTRA Prion Research Workshop, “Application of Advanced Nanotechnology in the Development of Innovative Diagnostics Tools”

2011 E-MRS Conference, Warsaw, “Emerging protein nanoarray platforms and nanofluidic technologies for the sensitive detection of biorecognition events” (Keynote Speaker)

2011 NanoLegos, an International Workshop on Construction with Nanoscale Building Blocks, Sabanci University, Istanbul Turkey: “Density-controlled assembling of confined DNA nanostructures: a building-block strategy for ultrasensitive biosensing”

2010 Workshop on “A Multidisciplinary Look at Parkinson's Disease: New Tools and Hypotheses”, Padova, Italy 16 December “Enzymatic reactions on surfaces”

2010 Invited Seminar , Ph.D. School in Science and Technology, University of Venice , Italy. 22 November. “DNA nano-architectures for the study of enzymatic reactions and proximity effects in multi-enzyme systems”

2010 Invited Seminar, School of Medicine, University of Udine, Italy. 8 April. "Application of Atomic Force Microscopy to high-sensitivity proteomics"

2010 Invited Seminar. Department of Physics, University of Tuebingen, Germany. 12 January. "Controlling Proteins Diffusion in Surface Bound Nanografted DNA Structures"

2009 ICS-UNIDO Workshop on: Advanced Diagnostics and Drug-Delivery at the Nanoscale: State of the Art and Possible Applications to Orphan Diseases, Trieste, Italy, 13-15 October. "AFM applications to high sensitivity diagnostics"

2009 FNMA 09 Functional and Nanostructured Materials, 27-30 September, Sulmona- L'Aquila, Italy. "DNA-based Functional Materials for Nano-Proteomics"

2009 EBSA, European Biophysics Congress Genoa, Italy 11-15 July 2009 "Towards multiprotein nanochips using nanografting and DNA directed immobilization of proteins"

2008 Modern Trends in Nanoscience. A Symposium in honor of Giacinto Scoles, Princeton (NJ) 14-16 Dec. "From Self-Assembled Monolayer to DNA/Protein NanoChips: Beyond the Vision"

2007 SLONANO 2007, Ljubljana, Slovenia. "Coverage Dependence of DNA Hybridization in Nanostructured Monolayers: a Nanografting AFM study"

2007 Spring College on Water in Physics, Chemistry and Biology, ICTP Trieste, Italy. "The mechanical Stabilization Effect of Water on a Membrane-like System"

2006 4th Stig Lundqvist Conference on Advancing Frontiers on Condensed Matter Physics, ICTP Trieste, Italy. "Side-by-side comparison of the properties of organic monolayers by AFM_based techniques"

2004 Pre APS March Meeting, Montréal, QC (Canada) 03/2004. "Hyperthermal Molecular Beam Deposition of Highly Ordered Organic Thin Films"

2003 APS Meeting (March Meeting), Austin, Texas. Focus Session: Structure and properties of Organic Thin Films. "Hyperthermal Molecular Beam Deposition of Highly Ordered Organic Thin Films"

Recent dissemination events

ESOF 2018, Toulouse, 11-15 July 2018, Science in the City, project IDEA (Interactive Display of Electron and Atoms)

March 2018, HERCULES School, "AFM: Imaging Biological Matter at High Resolution", Trieste (Italy)

February - April 2018, Lectures/experiments in different FVG High Schools in the context of the FVG-ELETTRA-CERIC-ERIC project "PaGES3, Pianificazione, Gestione ed esecuzione di un Esperimento Scientifico in un centro di ricerca internazionale"

February - April 2017, Lectures/experiments in different FVG High Schools in the context of the FVG-ELETTRA-CERIC-ERIC project "PaGES2, Pianificazione, Gestione ed esecuzione di un Esperimento Scientifico in un centro di ricerca internazionale"

Trieste NEXT, Festival della Ricerca Scientifica, September 2016

February - April 2016, Lectures/experiments in different FVG High Schools in the context of the FVG-ELETTRA-CERIC-ERIC project "PaGES, Pianificazione, Gestione ed esecuzione di un Esperimento Scientifico in un centro di ricerca internazionale"

April 2016, HERCULES School, "AFM: Imaging Biological Matter at High Resolution", Trieste (Italy)

18 December 2015, Monographic course "Scenziato dietro al camice bianco: uno sguardo alle scienze di base dietro al mondo del clinico" Collegio Ghislieri Pavia (Italy)

Trieste NEXT, Festival della Ricerca Scientifica, September 2015

Selected publications (last 10 years)

- *Activation of human aortic valve interstitial cells by local stiffness involves YAP-dependent transcriptional signaling*, R. Santoro, D. Scaini, L. Ulloa Severino, F. Amadeo, S. Ferrari, G. Bernava, G. Garoffolo, M. Agrifoglio, L. Casalis, M. Pesce **Biomaterials**, 2018 in press
- *Quantification of Circulating Cancer Biomarkers via Sensitive Topographic Measurements on Single Binder Nanoarrays* E. Ambrosetti, P. Paoletti, A. Bosco, P. Parisse, D. Scaini, E. Tagliabue, A. de Marco, L. Casalis **ACS Omega** 2017, 2, 2618 (LC: corresponding author)
- *DNA-conjugated gold nanoparticles based colorimetric assay to assess helicase activity: a novel route to screen potential helicase inhibitors* J. Deha, A. Mojumdar, P. Parisse, S. Onesti, L. Casalis **Scientific Reports** 2017, 7, 44538 (LC: corresponding author)
- *Site accessibility tailors DNA cleavage by restriction enzymes in DNA confined monolayers* C. Rotella, G. Doni, A. Bosco, M. Castronovo, A. De Vita, L. Casalis, G.M. Pavan, P. Parisse, **Nanoscale** 2017, 9, 6399
- *Circulating Disease Biomarker Detection in Complex Matrices: Real-Time, In*

Situ Measurements of DNA/miRNA Hybridization via Electrochemical Impedance Spectroscopy, P. Capaldo, S.R. Alfarano, L. Ianeselli, S. Dal Zilio, A. Bosco, P. Parisse, L. Casalis, **ACS Sensors** 2016; 1: 1003-1010

- *Graphene Oxide Nanosheets Reshape Synaptic Function in Cultured Brain Networks*, R. Rauti, N. Lozano, V. León, D. Scaini, M. Musto, I. Rago, F.P. Ulloa Severino, A. Fabbro, L. Casalis, E. Vázquez, K. Kostarelos, M. Prato, L. Ballerini, **ACS Nano** 2016; 10(4): 4459-4471
- *A DNA-based nano-immunoassay for the label-free detection of glial fibrillary acidic protein in multicell lysates*. Ganau M, Bosco A, Palma A, Corvaglia S, Parisse P, Fruk L, Beltrami AP, Cesselli D, Casalis L, Scoles G, **Nanomedicine-Nanotechnology** 2015 Feb; 11: 293-300
- *Surface Passivation Improves the Synthesis of Highly Stable and Specific DNA-Functionalized Gold Nanoparticles with Variable DNA Density*, Deka J, Měch R, Ianeselli L, Amenitsch H, Cacho-Nerin F, Parisse P, Casalis L, **ACS Appl. Mater. Inter.** 2015 Apr; 7: 7033-40
- *Development of stable and reproducible biosensors based on electrochemical impedance spectroscopy: three-electrode versus two-electrode setup*, Ianeselli L, Greci G, Callegari C, Tormen M, Casalis L, **Biosensors&Bioelectronics** 2014 May; 55: 1-6
- *Atomic force microscopy based nanoassay: a new method to study α -Synuclein-dopamine bioaffinity interactions*, Corvaglia S, Sanavio B, Hong Enriquez RP, Sorce B, Bosco A, Scaini D, Sabella S, Pompa PP, Scoles G, Casalis L, **Scientific Reports** UK 2014; 4: 5366
- *Determination of average internucleotide distance in variable density ssDNA nanobrushes in the presence of different cations species*, Nkoua Ngavouka, M.D., Bosco, A., Casalis, L., Parisse, P., **Macromolecules** 2014 Dec; 47: 8748-8753
- *Glioma-associated stem cells: A novel class of tumor-supporting cells able to predict prognosis of human low-grade gliomas*, Bourkoula E, Mangoni D, Ius T, Pucer A, Isola M, Musiello D, Marzinotto S, Toffoletto B, Sorrentino M, Palma A, Caponnetto F, Gregoraci G, Vindigni M, Pizzolitto S, Falconieri G, De Maglio G, Pecile V, Ruaro ME, Gri G, Parisse P, Casalis L, Scoles G, Skrap M, Beltrami CA, Beltrami AP, Cesselli D, **STEM CELLS** 2014 May; 32: 1239-53
- *Hybridization in nanostructured DNA monolayers probed by AFM: theory versus experiment*, Bosco A, Bano F, Parisse P, Casalis L, DeSimone A, Micheletti C, **Nanoscale** 2012 Mar; 4: 1734-41
- *In Vitro Enzyme Comparative Kinetics: Unwinding of Surface-Bound DNA Nanostructures by RecQ and RecQ1*, Parisse P, Vindigni A, Scoles G, Casalis L., **J. Phys. Chem. Lett.** 2012 Dec; 3: 3532-7
- *Two-dimensional enzyme diffusion in laterally confined DNA monolayers*, Castronovo M, Lucesoli A, Parisse P, Kurnikova A, Malhotra A, Grassi M, Grassi G, Scaggiante B, Casalis L, Scoles G **Nature Commun.** 2011; 2: 297
- *Oriented Immobilization of Prion Protein Demonstrated via Precise Interfacial Nanostructure Measurements*, Barbara Sanavio, Denis Scaini, Christian Grunwald, Giuseppe Legname, Giacinto Scoles, and Loredana Casalis, **ACS Nano** 4 (2010) 6607

- *Efficient water oxidation at carbon nanotube-polyoxometalate electrocatalytic interfaces*, Toma F.M., Sartorel, A., Iurlo, M., Carraro, M., Parisse, P., MacCato, C., Rapino, S., Gonzalez, B.R., Amenitsch, H., Da Ros, T., Casalis, L., Goldoni, A., Marcaccio, M., Scorrano, G., Scoles, G., Paolucci, F., Prato, M., Bonchio, M., **Nature Chemistry** 2 (2010) 826
- *Synthesis and Characterization of a Carbon Nanotube-Dendron Series for Efficient siRNA Delivery*, M.A. Herrero, F. M.Toma, K.T. Al-Jamal, K. Kostarelos, A. Bianco, T. Da Ros, F. Bano, L. Casalis, G. Scoles, M. Prato **J. Am. Chem. Soc.** 131 (28), pp 9843-9848 (2009)
- *Toward Multiprotein Nanoarrays Using Nanografting and DNA Directed Immobilization of Proteins*, F. Bano, L. Fruk, B. Sanavio, M. Glettemberg, L. Casalis, C.M. Nemeyer, G. Scoles, **NanoLetters** 9(7) pp 2614-2618 (2009)
- *Carbon nanotubes direct interactions with neuronal membranes ignite post spike excitability*,
- Cellot, G., Cilia, E., Cipollone, S., Rancic, V., Sucapane, A., Giordani, S., Gambazzi, L., Markram, H., Grandolfo, M., Scaini, D., Gelain, F., Casalis, L., Prato, M., Giugliano, M., Ballerini, L. **Nature Nanotechnology**, 4, pp 126 - 133 (2008)
- *Control of Steric Hindrance on Restriction Enzyme Reactions with Surface-Bound DNA Nanostructures*, Castronovo, M., Radovic, S., Grunwald, C., Casalis, L., Morgante, M., Scoles, G. **NanoLetters**, 8 (12), pp 4140-4145 (2008)
- *Quantitative Study of the Effect of Coverage on the Hybridization Efficiency of Surface-Bound DNA Nanostructures*, Mirmomtaz, E., Castronovo, M., Grunwald, C., Bano, F., Scaini, D., Ensafi, A.A., Scoles, G., Casalis, L. **NanoLetters**, 8(12) pp. 4134-4139
- *X-ray diffraction and computation yield the structure of alkanethiols on gold(111)*, Cossaro, A., Mazzarello, R., Rousseau, R., Casalis, L., Verdini, A., Kohlmeyer, A., Floreano, L., Scandolo, S., Morgante, A., Klein, M.L., Scoles, G. **Science** 321 (5891), pp. 943-94 (2008)
- *Electron transfer mediating properties of hydrocarbons as a function of chain length: A differential scanning conductive tip atomic force microscopy investigation*, Scaini, D., Castronovo, M., Casalis, L., Scoles, G. **ACS Nano** 2 (3), pp. 507-515 (2008)
- *Structure of a CH₃S monolayer on Au(111) solved by the interplay between molecular dynamics calculations and diffraction measurements*, Mazzarello, R., Cossaro, A., Verdini, A., Rousseau, R., Casalis, L., Danisman, M.F., Floreano, L., Scandolo, S., Morgante, A., Scoles, G. **Physical Review Letters** 98 (1), 016102 (2007)