

ACADEMIC POSITIONS

1 November 2019 – current

RTDb, Department of, Biomedical and Dental Sciences and Morphological and Functional images (BIOMORF), University of Messina, Italy

1 November 2019- 31 October 2024

Honorary Associate Professor, School of Chemistry and Physics, University of Kwazulu-Natal, South Africa.

01 January 2018-31 October 2019

Associate Professor, School of Chemistry and Physics, University of Kwazulu-Natal, South Africa.

01 January 2013- 31 December 2017

Senior Lecturer, School of Chemistry and Physics, University of Kwazulu-Natal, South Africa.

01 January 2011- 31 December 2012

Lecturer, School of Chemistry and Physics, University of Kwazulu-Natal, South Africa.

ACADEMIC MEMBERSHIPS

Individual Associate of the *National Institute for Theoretical Physics* (NITheP), now National Institute for Theoretical and Computational Sciences (NITheCS) South Africa.

Ordinary member of the *South African Institute of Physics* (SAIP), South Africa.

Editorial Board Member of the journals *Advances in Mathematical Physics*, *Advances in Condensed Matter Physics*, Hindawi (<https://www.hindawi.com/journals/acmp/> <https://www.hindawi.com/journals/amp/>).

Rated *CI* by the National Research Foundation (NRF), South Africa, for the period *2018-2023*

(“It is the firm belief of all of the reviewers that you are a well-established researcher that is recognized nationally and internationally by your peers with a body of high quality research output in the area of Condensed Matter Physics and a sound international standing in your field. Your reviewers have acknowledged you for having made important contributions to the field of Condensed Matter Physics, in particular your application of Statistical mechanics and Molecular simulation to the study of Biomolecules, with particular emphasis in proteins.”).

Rated *CI* by the National Research Foundation (NRF), South Africa, for the period *2012-2017*.

h-index (Hirsch index): **23**.

SERVICE-MAN

July-November 1996

Officer cadet of the Italian Army.

December 1996 - October 1997

Officer (lieutenant) of the Italian Army.

EDUCATION

March 2017

Academic Development Program (Assessing Learning in Higher Education; Supervising Research in higher Education; Designing and Evaluating Curricula in Higher Education; Teaching and Learning in higher Education)

University of Kwazulu-Natal (South Africa).

9 June 2006

Secondary Maths and Physics teaching post-graduate diploma (Masters in Education)

- 1 year course.
University of Messina, (Italy). Mark: 79/80

25 May 2002
Secondary Physics teaching post-graduate diploma (Masters in Education)
- 2 years course.
University of Messina (Italy). Mark: 78/80

26 February 2001
PhD in Physics.
University of Messina (Italy). Mark: none

19 March 1996
Masters Degree in Physics.
University of Messina (Italy). Mark: 110/110 cum laude

TRAINING

27-7 August/September 2007
“Summer school on advanced computing”
CASPUR school, Villa Florio, Grottaferrata, Rome, Italy.

1-5 March 2004
“PWscf tutorial on electronic, structural and dynamical properties of materials”
CINECA, Bologna, Italy.

6-13 December 2001
“The Nuts and Bolts of First-Principles Simulation”
Durham, United Kingdom.

10-21 September 2001
“School of parallel computing”
CINECA school, Bologna, Italy.

28-1 August/September 2001
“Summer school on density functional theory” school
Caramulo, Portugal.

18-27 June 2000
“Methods in computer simulation” summer school
Manchester, United Kingdom.

7-17 September 1999
“INFM school on condensed matter theory”
Torino, Villa Gualino, Italy.

7-17 July 1998
“New approaches to problems in liquid state theory” NATO ASI school
Patti Marina, Italy.

RESEARCH INTERESTS

Broadly speaking, my interests are in the theory and computer simulation of soft and condensed matter systems in the fluid state. The latter include a range of energy materials with a number of applications in bio-technology, surface engineering, medicine, and renewable energy sources such as protein solutions, polymer blends, colloidal systems, and fluids in porous media.

HONOURS

On the top of the description reported below, I also routinely review bursary applications by PhD/MSc students and research projects upon request of the National Research Foundation (NRF) of South Africa. I also reviewed research proposals submitted to the American Chemical Society (ACS, USA) and participated as a panel member to a number of committees to evaluate applicants to academic positions inside my former university (University of Kwazulu-Natal). From 2013 to 2019, I also was a member of the Committee “Research and Higher degrees” School of Chemistry and Physics, University of Kwazulu-Natal, South Africa.

2021

NRF (National Research Foundation of South Africa) Panel Member for Physics And Astronomy

2020

Invitation to be a member of NRF (National Research Foundation of South Africa) Standing Panel for Physics, Astronomy, Mathematics and ICT in the period 2020-2023

2019

Scientific habilitation to function as full professor in Italian Universities for the scientific grouping 02/B2 (Theoretical Condensed Matter Physics).

2017

Scientific habilitation to function as associate professor in Italian Universities for the scientific grouping 02/B2 (Theoretical Condensed Matter Physics).

2017

Member of the Local Committee of the 2017 EMN (Energy, Materials and Nanotechnology) Mauritius Meeting (26-30 November, Port Louis, Mauritius).

2016

NITheP (National Institute of Theoretical Physics of South Africa) Panel member at the 2016 Bursary Workshop.

NRF (National Research Foundation of South Africa) Panel Member for Review of South African Research Chairs (SARCHI Chair).

2015

Acting Academic Leader, Physics cluster, Pietermaritzburg, School of Chemistry and Physics, University of Kwazulu-Natal, South Africa.

Representative of the Department of Physics at the University of Kwazulu-Natal in the National Strategic Planning Meeting on Implementing Recommendations from Review of Undergraduate Physics Training in South Africa.

2014

NRF (National Research Foundation of South Africa) Panel Member for Physical Science applications related to the Doctoral Fellowships Programme.

2013

NRF (National Research Foundation of South Africa) Panel Member for Physical Science applications related to Competitive Programme for Rated Researchers (CPRR) and Competitive Support for Unrated Researchers (CSUR).

NRF (National Research Foundation of South Africa) Panel Member for Physical Science applications related to the Doctoral Fellowships Programme.

ACTIVITY AS A REFEREE FOR INTERNATIONAL JOURNALS

2021 – *present* Frontiers Molecular Biosciences (Frontiers)

2020 – *present* Polymers (MDPI)

2018 – *present* Polymer (Elsevier)

2020 – *present* Results in Physics (Elsevier)

2015 – *present* Journal of Smart and Nano Materials (Taylor & Francis)

2015 – *present* Journal of Physical Chemistry C (American Chemical Society)

2015 - *present* Chemical Physics Letters (Elsevier)

2014 - *present* Journal of the Royal Society Interface (Royal Society Publishing)

2013 - *present* Journal of Physics A (Institute of Physics)

2012 – *present* Physica Scripta (Elsevier)

2011 – *present* Molecular Physics (Taylor & Francis)

2009 – *present* Physical Review Letters (American Physical Society)

2008 – *present* Soft Matter (Royal Society of Chemistry)

2007 – *present* Physical Chemistry Chemical Physics (Royal Society of Chemistry)

2006 – *present* Journal of Physical Chemistry B (American Chemical Society)

2009 – *present* Journal of Chemical Physics (American Institute of Physics)

2007 – *present* Physical Review E (American Physical Society)

2008 – *present* Journal of Physics: Condensed Matter (Institute of Physics)

2009 – *present* European Journal of Physics (Institute of Physics)

2010 – *present* New Journal of Chemistry (Royal Society of Chemistry)

2009 – present Crystal Growth and Design (American Chemical Society)

2005 Thermochimica Acta (Elsevier)

RESEARCH POSITIONS and AWARDS (before permanent)

July 2008 – March 2010

19-months research fellowship (national competition – “assegno di ricerca”)
Department of Physics, University of Messina (Italy).

2009

Bursary of the European Network HPC-Europa (High Performance Computing – Europa: <http://www.hpc-europa.eu/>).

2008

Bursary of the European Network HPC-Europa (High Performance Computing – Europa: <http://www.hpc-europa.eu/>).

2007

Bursary of the European Network HPC-Europa (High Performance Computing – Europa: <http://www.hpc-europa.eu/>).

Habilitation as a researcher, Biophysical Institute, Italian Research Council (CNR) (national competition).

July 2004 - June 2008

4-years research fellowship (national competition – “assegno di ricerca”)
Department of Physics, University of Messina (Italy).

2005

Expert on the subject FIS03/Structure of Condensed Matter, named by the Faculty of Sciences, University of Messina, Italy.

2004

Young researchers’ award for excellence in research - scientific-technological section, University of Messina (Italy) (local competition).

Young researchers’ grant for the project “Theory and computer simulation of bulk and inhomogeneous fluids”
University of Messina (Italy) (local competition).

February 2002 - January 2004

post-doc fellowship (national competition)
Department of Physics, University of Messina (Italy).

2002

National Council of Research (CNR) fellowship (national competition)
School of Chemical Engineering and Materials Science, University of Oklahoma (USA).

Foundation “Angelo Della Riccia” grant for research activities in foreign countries (national competition).

2001

INFN (Italian Institute of Physics of Matter) research fellowship
Research Unit of the University of Messina (Italy).

1998 - 2000

PhD studentship (national competition), Department of Physics, University of Messina (Italy).

SHORT-TERM VISITING PERIODS

December 2016 – January 2017

Visiting researcher at the Dipartimento di Science Matematiche ed Informatiche, Scienze Fisiche e Scienze della Terra. Università di Messina, Italy.

Host Contact: Prof. [REDACTED]

July-August 2010

visiting scientist at the Department of Chemical & Materials Engineering, California Polytechnic University, Pomona, USA.

Host contact: Prof [REDACTED]

September-November 2009

HPC-Europa (<http://www.hpc-europa.eu/>) visitor at the Centre of Materials and Processes School of Engineering and Electronics, University of Edinburgh (UK).

Host contact: Dr [REDACTED]

January-March 2008

HPC-Europa visitor at the Centre of Materials and Processes, School of Engineering and Electronics, University of Edinburgh (UK).

Host contact: Dr [REDACTED].

October-December 2007

HPC-Europa visitor at the Centre of Materials and Processes, School of Engineering and Electronics, University of Edinburgh (UK).

Host contact: Dr [REDACTED]

June 2007

visiting scientist at the Theoretische Physik II, Heinrich-Heine-Universität, Düsseldorf (GE).

Host contact: Prof [REDACTED].

May 2007

visiting scientist at the Centre of Materials and Processes, School of Engineering and Electronics, University of Edinburgh (UK).

Host contact: Dr [REDACTED].

June-August 2001

visiting scientist at the School of Chemical Engineering and Materials Science, University of Oklahoma (USA).

Host Contact: Prof [REDACTED]

April 2001

Department of Physics, University of Modena and Reggio-Emilia (Italy).

Host contact: Prof [REDACTED]

January-February 2000

Bio-Spectroscopy Laboratory, University of Milan (Italy).

Host contact: Prof [REDACTED]

TEACHING ACTIVITY

March-May 2021

Cryptography

Lecturer, Department of Electronic and Computer Science Engineering, University of Messina (Italy) – 6 CFU

October-November 2020

Applied Physics

Lecturer, Department of Experimental Medicine, University of Messina (Italy) – 1 CFU

March-May 2020

Applied Physics to Biological Systems and Systems of Livestock Production

Lecturer, Department of Veterinary Sciences, University of Messina (Italy) – 10 CFU

April 2020

Complex analysis, inverse Laplace transforms and applications to the solution of partial differential equations relevant to heat propagation

Lecturer, PhD course in Civil Engineering, University of Messina (Italy) – 1 CFU

March 2020

General Statistics

Lecturer, PhD course in Bioengineering, University of Messina (Italy) – 2 CFU

July-October 2019

Statistical Physics (PHYS367)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2019

Computational Mechanics and Symbolic Programming (CPHY212)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2019

Statistical Physics (PHYS741)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2018

Mathematical methods (PHYS752)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2018

Statistical Physics (PHYS741)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2017

Mathematical methods (PHYS752)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2017

Statistical Physics (PHYS362)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2017

Statistical Physics (PHYS741)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2016

Modern Physics for Life Sciences & Agriculture (PHYS133)

Lecturer in charge of the laboratory activities, College of Agriculture, Engineering and Science, University of Kwazulu-Natal (UKZN, South Africa).

September-October 2016

Mathematical methods (PHYS752)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2016

Statistical Physics (PHYS362)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2016

Statistical Physics (PHYS741)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-March 2015

Intro Physics for Life Sciences & Agriculture (PHYS131)

Lecturer in charge of the laboratory activities, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2015

Statistical Physics (PHYS741)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2014

Thermal Physics (PHYS212)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2014

Mathematical methods (PHYS752)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2014

Statistical Physics (PHYS362)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2014

Intro Physics for Life Sciences & Agriculture (PHYS131)

Lecturer in charge of the laboratory activities, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2014

Statistical Physics (PHYS742)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2013

Thermal Physics (PHYS212)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2013

Mathematical methods (PHYS752)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2013

Modern Physics for Life Sciences & Agriculture (PHYS133)

Lecturer in charge of the laboratory activities, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2013

Statistical Physics (PHYS362)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2013

Intro Physics for Life Sciences & Agriculture (PHYS131)

Lecturer in charge of the laboratory activities, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2013

Statistical Physics and Superfluidity (PHYS742)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2012

Thermal Physics (PHYS212)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2012

Mathematical methods (PHYS752)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

July-October 2012

Statistical Physics (PHYS362)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

February-May 2012

Statistical Physics and Superfluidity (PHYS742)

Lecturer, College of Agriculture, Engineering and Science, UKZN (South Africa).

September-October 2011

Mathematical methods (PHYS752)

Lecturer, Faculty of Science and Agriculture, UKZN (South Africa).

July-October 2011

Statistical Physics and Superfluidity (PHYS742)

Lecturer, Faculty of Science and Agriculture, UKZN (South Africa).

April-May 2011

Thermal Physics (PHYS131)

Lecturer, Faculty of Science and Agriculture, UKZN (South Africa).

February-May 2011

Statistical Physics and Thermodynamics (PHYS306)

Lecturer, Faculty of Science and Agriculture, UKZN (South Africa).

April-May 2009

Advanced studies of condensed matter Physics for third year students of the bachelor degree course in Physics

Lecturer, Faculty of Sciences, University of Messina (Italy).

April-May 2009

Advanced studies of Statistical Physics for third year students of the bachelor degree course in Physics

Lecturer, Faculty of Sciences, University of Messina (Italy).

March-June 2009

Computer science for first year students of the bachelor degree courses in
Chemistry and Pharmaceutical Technology - Pharmacy

Lecturer, Faculty of Pharmacy, University of Messina (Italy).

March-June 2008

Computer science for first year students of the bachelor degree course in
Chemistry and Pharmaceutical Technology

Lecturer, Faculty of Pharmacy, University of Messina (Italy).

September-October 2007

Analytical Mechanics for second year students of the bachelor degree course in Physics

Lecturer, Faculty of Sciences, University of Messina (Italy).

January-February 2007

Advanced studies of Statistical Physics for third year students of the bachelor
degree course in Physics

Lecturer, Faculty of Sciences, University of Messina (Italy).

March-June 2007

Computer science for first year students of the bachelor degree course in Chemistry and Pharmaceutical Technology
Lecturer, Faculty of Pharmacy, University of Messina (Italy).

June-July 2006

Computer Science for first year students of the bachelor degree course in Physics
Lecturer, Faculty of Sciences, University of Messina (Italy).

March-May 2006

Computer science for first year students of the bachelor degree course in Nursing
Lecturer, Faculty of Medicine, University of Messina (Italy).

June-July 2005

Statistical Physics for third year students of the bachelor degree course in Physics
Lecturer, Faculty of Sciences, University of Messina (Italy).

STUDENT SUPERVISION

2015–2018 [REDACTED], PhD in Physics (UKZN, South Africa)

2016–2018 [REDACTED] PhD in Physics (UKZN, South Africa)

2012-2015

[REDACTED], PhD in Physics (UKZN, South Africa).

2014-2015

[REDACTED], Masters in Physics (UKZN, South Africa)

2013-2015

[REDACTED], PhD in Physics (UKZN, South Africa)

2017 [REDACTED], Honours project in Physics (UKZN, South Africa).

2016 [REDACTED], BSc Honours in Physics (UKZN, South Africa)

2015

[REDACTED], Honours Research Project in Physics (UKZN, South Africa)

2013-2014

[REDACTED], Masters in Physics (UKZN, South Africa)

2014

[REDACTED], BSc Honours in Physics (UKZN, South Africa).

2012

[REDACTED], post-doctoral fellow in Physics (UKZN, South Africa).

2011

[REDACTED], BSc Honours in Physics (UKZN, South Africa).

2010-2011

[REDACTED], Masters in Physics (University of Messina, Italy – co-supervision with Prof [REDACTED]).

- **External examiner for MSc/PhD theses**

External examiner of the UKZN PhD thesis “Fabrication and Characterization of Solution Processed Thin Film Solar Cells” by [REDACTED].

External examiner of the PhD thesis of Stellenbosch University (South Africa): “The role of cytoskeletal networks in the elastic response of cells” by [REDACTED]

External examiner of the PhD thesis of the Addis Ababa University (Ethiopia) “A 3D Simulation Model of Tumor Growth” by [REDACTED].

External examiner of the PhD thesis of the Addis Ababa University (Ethiopia) “Effect of tacticity on the structure and glass transition temperature of polystyrene thin films adsorbed onto graphite and hydroxylated α -quartz surfaces” by [REDACTED]

External examiner of the UKZN PhD thesis “Bulk heterojunction organic cell and thin film electrode buffer layers: synthesis, preparation and characterization” by [REDACTED]

External examiner of the UKZN MSc thesis “Single and Double Layer Heterojunction Organic Solar Cell” by [REDACTED]

External examiner of the University of Stellenbosch MSc thesis “One-dimensional fluid model with oscillating, exponentially decaying pair interactions” by [REDACTED]

External examiner of the UKZN MSc thesis “Generation and detection of Bessel beams” by [REDACTED]

External examiner of the UKZN MSc thesis “Bulk heterojunction organic solar cell” by [REDACTED]

External examiner of the UKZN MSc thesis “Quantum dynamics in classical-temperature baths” by [REDACTED]

External examiner of the UKZN MSc thesis “Monitoring the States of Single Quantum Systems” by [REDACTED]

INVITED SEMINARS

29 October 2020

“Nano-structuring of polymer blends at the interface driven by topology”

Nanotechnology Virtual 2020 (<https://www.magnuswebinars.com/nanotechnology-virtual>)

30 Novembre 2017

“Computational studies of complex fluids”

Department of Chemistry, University of Mauritius, Port Luis, Mauritius.

10th february 2015

“Physics of polymer blends: a microscopic approach”

Department of Physics, University of Indonesia, Jakarta, Indonesia.

28 september 2011

“Effective interactions in atomistic studies of lysozyme solutions”

NITheP, Stellenbosch, South Africa.

06 settembre 2010

“A computational insight of protein interactions”

School of Physics, Trinity College, Dublin, Ireland.

29 Luglio 2010

“Critical behaviour of binary fluid mixtures in random pores”

Department of Chemical & Materials Engineering, California State Polytechnic University, Pomona, USA.

8 July 2010

“A computational approach to the study of globular protein solutions”

Department of Chemical & Materials Engineering, California State Polytechnic University, Pomona, USA.

16 December 2008

“Coarse graining of complex fluids: two case-studies”

Institute of Theoretical Physics, University of Göttingen, Germany.

24 October 2008

“Modeling of globular protein solutions: the computational challenge”

School of Physics, University of Kwazulu-Natal, Durban, South Africa.

21 October 2008

“Modeling of globular protein solutions: the computational challenge”

School of Physics, University of Kwazulu-Natal, Pietermaritzburg, South Africa.

13 June 2007

“Colloidal models and phase transitions of complex fluids”

Theoretische Physik II, Heinrich-Heine-Universität, Düsseldorf, Germany.

24 May 2007

“Simple modeling of complex fluids: what amount of information can we get from?”

Institute for Materials and Processes, University of Edinburgh, United Kingdom.

TALKS

16-19 August 2021

“Nano-structuring of polymer blends at the interface driven by topology”

The 8th Global Conference on Polymer and Composite Materials (<http://www.cpcmconf.org/Speaker>) – Invited talk

05-07 July 2021

“Computer Simulation of Polymeric Materials at the Interface”

International Conference on Polymer Science and Composite Materials (<https://polymersconference.yuktan.com/featured-speakers>) – Keynote talk

20-25 June 2021

“Construction of a Composite-Sphere Model for Molecules of Tetrahedral Symmetry”

21st Symposium on Thermophysical Properties, Boulder, USA

19-20 April 2021

“Nano-structuring of polymer blends at the interface driven by topology”

2nd World Nanotechnology Conference (<https://worldnanotechnologyconference.com/speakers/2021>) – Keynote talk

30 November – 2 December 2020

“Interfacial and Morphological phase transitions in Polymeric Materials”

14th CHPC National Conference (<https://chpcconf.co.za/home-2>)

14-15 July 2020

“Polymer blends at the interface”

International Webinar “Materials for current trend and future challenges” – Invited talk Government Arts College for Women, Salem, Tamil Nadu, India.

10-13 December 2019

“Colloidal interactions in molecular simulations of globular protein solutions” – Keynote talk

African Materials Research Society conference, Arusha, Tanzania.

02-04 October 2019

“Molecular dynamics simulations of coarse-grained models of polymer blends” – Invited talk
Workshop “Smart nanostructured materials: from molecular self-assembly to advanced applications”,
Montelibretti- Rome, Italy

18-19 March 2019

“Topology as a surface-active agent for nano-structured polymers at the interface”- Invited talk
International Conference on Polymer-Biopolymer Chemistry, Amsterdam, Netherlands

4 – 6 March 2019

“Polymer blends on the nanoscale: topology as a surface-active agent“ – Invited talk
International conference on Biopolymers and Bioplastics, Baltimore, Maryland, USA

2 – 6 Dicembre 2018

“The role of the interface in binary polymer blends”
CHPC National Conference 2018, Cape Town, South Africa.

4 – 7 Novembre 2018

“The importance of polymer topology in surface absorption” – Invited Talk
Sustainable industrial Processing Summit & Exhibition (SIPS), Rio de Janeiro, Brasil.

25 Febbraio – 1 Marzo 2018

“Polymer topology in surface absorption of binary blends”
41th Annual Meeting of The Adhesion Society, San Diego, California, USA.

11th-14th December 2017

“Polymer topology in surface absorption of binary blends”
African Materials Research Society (AMRS) 2017 conference, Gaborone, Botswana.

03rd – 04th September 2017

“Exploiting polymer topology for surface modification of thermoplastics”
European Conference on Thermophysical Properties, ECTP 2017, Graz, Austria..

18th – 23rd June 2017

“Exploiting polymer topology for surface modification of thermoplastics”
ICMAT 2017, 9th International conference on Materials for Advanced Technologies, Singapore.

26th February – 1st March 2017

“Understanding the role of polymer topology in surface absorption”, Keynote Lecture.
40th Annual Meeting of The Adhesion Society, St. Petersburg, Florida, USA.

13 Marzo – 17 Marzo 2017

“Unravelling the surface composition of topologically-different polymer blends” – Invited Talk
EMN Meeting on Polymer 2017, Auckland, New Zealand.

5th – 9th December 2016

“Computational studies of binary polymer blends”
CHPC National Meeting 2016, East London, South Africa.

2nd – 6th October 2016

“Interfacial properties of linear-cyclic polymer blends”
The 11th Asian Thermophysical Properties Conference, Yokohama, Japan.

18th -22nd July 2016

“Interfacial properties of linear-cyclic polymer blends”
ICPAC 2016 “Emerging Trends in Chemical Sciences”, Mauritius.

28th September-2nd October 2015

“Anomalous adsorption of linear-cyclic polymer blends”

FISMAT 2015, University of Palermo, Palermo (Italy).

21-26th June 2015

“Interfacial properties of linear-cyclic polymer blends”

Nineteenth Symposium on thermophysical properties, Boulder, Colorado (USA)

31-04 September 2014

“Interfacial Properties and Dynamics of linear-cyclic polymer blends”

ECTP 2014 – *European Conference on Thermophysical Properties*, Porto (Portugal)

24-29 June 2012

“Effective interactions in atomistic studies of lysozyme solutions”

18th Symposium on thermo-physical properties, Boulder, Colorado (USA)

15-17 June 2010

“Effective interactions in globular protein solutions”

Translational Access Meeting 2010, Helsinki, Finland.

15-18 July 2009

“Effective protein interactions underlying crystal contacts in aqueous solutions”

“*New Trends in Simulating Colloids: from Models to Applications*” workshop,
CECAM, Lausanne, Switzerland.

15-17 December 2008

“A numerical assessment of solvated protein interactions underlying hydrophobic patches”

Translational Access Meeting 2008, Stuttgart, Germany.

22-26 November 2008

“Nonequilibrium MD as a probe of protein interactions in aqueous solutions”

Final Arrested Matter Conference, Taormina, Italy (<http://www.arrestedmatter.net/>).

16-19 June 2008

“Molecular dynamics characterization of protein-protein crystal contacts in aqueous solutions”

Polyelectrolytes 2008, Coimbra, Portugal.

5-7 July 2007

“Phase diagram of binary, athermal mixtures: theoretical and simulation results”

“*Fluid phase behaviour and critical phenomena from liquid state theories and Simulation*” workshop, CECAM, Lyon, France.

20-24 January 2007

“Phase diagram of binary, athermal mixtures: theoretical and simulation results”

“*Dynamical Arrest of Soft Matter and Colloids*” workshop, Bad Gastein, Austria.

29-31 August 2006

“Structure and Phase Equilibria of Fluid Mixtures in random pores: simulation and theoretical results”

“*Computational aspects of building blocks, nucleation, and synthesis of porous materials*” workshop,
CECAM, Lyon, France.

2-4 December 2005

“Thermodynamic stability of fluid-fluid phase separation in binary, athermal mixtures: the role of nonadditivity”

CRS-SOFT meeting, L’Aquila, Italy.

22-25 June 2005

“Stripe phases in systems with core-corona molecular architecture”

“*Materials, Matter and Devices (MMD) meeting*”, Genova, Italy.

8-12 May 2005

“Stripe phases from isotropic repulsive interactions”

“*NANOTECH 2005*” conference, Anaheim, California USA.

6-8 April 2005

“Stripe phases in systems with core-corona molecular architecture”
“*Thermodynamics 2005*” conference, Sesimbra, Portugal.

12-15 July 2004

“Theoretical phase diagram determination of globular protein solutions”
“*Disorder, Complexity and Biology*” STATPHYS 22 satellite conference,
Varanasi (India).

8-10 June 2004

“Microscopic Determination of the Phase Diagrams of Lysozyme and gamma-Crystallin Solutions”
“*INFM meeting*” (conference of the National Institute of Condensed Matter Physics), Genova, Italy.

20-26 July 2003

“Liquid-liquid phase equilibria of gas mixtures in nanoporous media and effects of confinement”
Tenth Annual International Conference on Composites/Nano Engineering ICCE-10, New Orleans (USA).

17-19 February 2003

“Simulation and theoretical study of athermal mixtures in random matrices”
“*PanAmerican Workshop on Molecular and Materials Sciences; Theoretical and Computational Aspects*”,
Cuernavaca, Mexico.

RESEARCH GRANTS

2011 UKZN Competitive Research Grant (R20.000)

2011 Faculty of Science and Agriculture (UKZN) grant for research development (R55.000)

2012 DoHET Infrastructure and Efficiency funding (R65.000)

2012 School of Chemistry and Physics (UKZN) strategic funding (R100.000)

2012-2017 NRF Incentive funding (Principal Investigator. Budget: R240.000).

2014 NRF Blue Skies Concept Notes “Microscopic Theoretical Study of DNA-Grafted Colloidal Structures”
(Principal Investigator. Budget: R194500).

2014-2016 NRF Competitive grant for Rated Researchers “Multiscale theoretical and experimental modelling
of electrochemical energy storage and conversion” (Principal Investigator. Budget: R 864000).

2016 NRF Knowledge, Interchange, Collaboration (KIC) grant for mobility (R 40.000).

2015-2017 NRF Competitive grant for Rated Researchers “Investigation of bulk Heterojunction organic solar
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