12th International Conference on Fine Particle Magnetism – ICFPM 2025

San Carlos de Bariloche, Río Negro, Argentina

19-23 October 2025

Final report

Organizers

Magnetic Nanoparticles group, Magnetic Resonance Laboratory, Instituto de Nanociencia y Nanotencnología CNEA-Conicet, Instituto Balseiro (Argentina)

Chair-persons

Dr. Roberto Zysler Dr. Elin Winkler

Sponsors

Comisión Nacional de Energía Atómica (CNEA)
Instituto Balseiro
Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)
Instituto de Nanociencia y Nanotecnología, INN – CNEA/CONICET
IEEE Magnetic Society
RISE-Ultimate European Commission (NESTOR project)
Fundación Balseiro
Fundación Argentina de Nanotecnología
Asociación Física Argentina
Royal Chemical Society
Journal of Magnetism and Magnetic Materials
Magnetic Medicine Journal
Condensed Mater - MDPI
Magnetism - MDPI
Quantum design
Nanotech solutions
INVAP
Emprotur - Bariloche

Introduction

The International Conference of Fine Particles Magnetism is a series of conferences intended to provide an international forum for the discussion of the physics of systems composed of Magnetic Nanoparticles, their fundamental properties and underlying phenomena, the development of methods for its preparation and characterization, and its applications (https://icfpm.org).
In these conferences, bases have been discussed and laid down on basic and applied topics related to Permanent Magnets, Magnetic Registration of Information, Soft Magnetic Materials, Ferrofluids, applications of Magnetic Nanoparticles in Medicine (diagnosis and treatments), Applications in the Environment (environmental remediation).
On this occasion, the congress we organize will be the first to be held in the southern hemisphere and particularly in Latin America. Hosting ICFPM 2025 would represent for our group and for the South American magnetic community a key step to consolidate the region in the International Community of Magnetic Nanoparticles. This will be a unique opportunity to allow greater participation of researchers from research centers in the region and, above all, facilitate the participation of Latin American students.
All information regarding the Workshop is published in the web site https://icfpm2025.com.ar/

Activities

（The meeting schedule is attached below)
The Conference lasted from Sunday 19 to Thursday 23 October, 2025. Sunday afternoon was dedicated mainly to three tutorials talk for students and young researchers. The other days of the Conference was devoted to plenary, invited talks, and oral and poster contributions, where the researchers presented the latest advances in their work. On Monday and Tuesday afternoons, the presentation of mural works was held. On Monday, the "Student and Early-career Researchers event" was organized, where a group of students and young researches was put in contact to exchange opinions on different aspects related to the development of a scientific career and the magnetic nanoparticles topic. On Tuesday, the "Women in science" was held, where women researchers and students carried out group activities on the role of women in magnetism, then shared the conclusions of this work. The Conference also featured social events, excursions to Circuito Chico and Cerro Campanario, and a gala dinner.

Student and Early-career Researchers event

Women in science event

Bariloche, Patagonia, Argentina
October 19-23, 2025

12TH INTERNATIONAL CONFERENCE ON FINE PARTICLEMAGNETISM - ICFPM 2025

ICFPM

Sunday

- Registration
- Dr. Xavier Batlle (Tutorial)
- Dr. Hamid Kachkachi (Tutorial)
- Dra. Maria del Puerto Morales (Tutorial)
- Welcome Reception

Monday

Auditorium

- Registration
- Chair: X. Batlle — D. Peddis (PT)
- J. Balachandran (IT)

Coffee Break

Auditorium	*Room B*
Chair: K. Trohidou — O. Iglesias (IT)	Chair: U. Wiedwald — A. Gómez Roca (IT)
S. Kantorovich (IT)	S. Laureti (IT)
E. Novak (OR)	K. Park (OR)

Lunch

Auditorium

- Chair: L. F. Barquin — J. De Toro (PT)

Auditorium	*Room B*
Chair: P. Diaz — H. Zeng (IT)	G. Gomide (OR)
U. Wiedwald (OR)	R. Sánchez (OR)

- Poster Session (with refreshments)
- Students and Early-Career Researchers Event

Tuesday

Auditorium

- Chair: O. Iglesias — R. Chantrell (PT)
- H. KachKachi (IT)

Coffee Break

Auditorium	*Room B*
Chair: A. Gómez-Roca — G. Lavorato (IT)	Chair: S. Kantorovich — D. Serantes (IT)
B. Muzzi (IT)	V. Sanchez (OR)
	M. Wolfschwenger (OR)
C. Sangregorio (OR)	A. Kuznetsov (OR)
K. Berent (OR)	
Y. Hirayama (OR)	D. Mostarac (OR)

Lunch

Auditorium

Auditorium	*Room B*
Chair: A. Espinosa — V. Pilati (OR)	Chair: G. Lavorato — P. Maltoni (OR)
M. Porru (OR)	L. Barquin (OR)
P. Diaz-Saldivar (OR)	F. Pineider (OR)
S. Thompson (OR)	K. Trohidou (OR)

- Poster Session (with refreshments)
- Women in Science

Wednesday

Auditorium

- Chair: A. Michels — D. Zanchet (PT)
- C. Gomez Polo (IT)

Coffee Break

Auditorium	*Room B*
Chair: D. Zanchet — K. Chesnel (IT)	Chair: C. Gomez Polo — A. Gallo-Cordova
A. Michels (OR)	Y. Fernandez-Afonso (OR)
M. Syed (OR)	N. Nuñez (OR)
D. Tobia (OR)	

Lunch

- Free afternoon / tour to Circuito Chico and Cerro Campanario
- Conference Dinner and Tango Show at "Rincón Patagónico"

Thursday

Auditorium

- Chair: Y. Ichiyanagi — G. Goya (PT)
- C. Rinaldi-Ramos (IT)

Coffee Break

Auditorium	*Room B*
Chair: C. Ramos — F. Béron (IT)	Chair: G. Goya — M. Angelakeris (IT)
S. Greaves (IT)	C. Rodriguez Torres (IT)
B. Pichon (IT)	M. Salvador (OR)
	J. Cieslac (OR)
C. Fernández-González (OR)	

Lunch

Auditorium	*Room B*
Chair: D Tobia — S. Ammar OR)	Chair: C. Rinaldi — A. Espinosa (OR)
J. Depeyrot (OR)	A. Lopez-Ortega (OR)
L. Catanzaro (OR)	D. Cabrera (OR)
B. Pereira (OR)	M. Fernández-Gubieda (OR)
P. Bercoff (OR)	M. Hemadi (OR)
V. Bilovol (OR)	F. Terán (OR)

- Closing session. Best poster and oral presentation award. Forewords ICFPM 2028

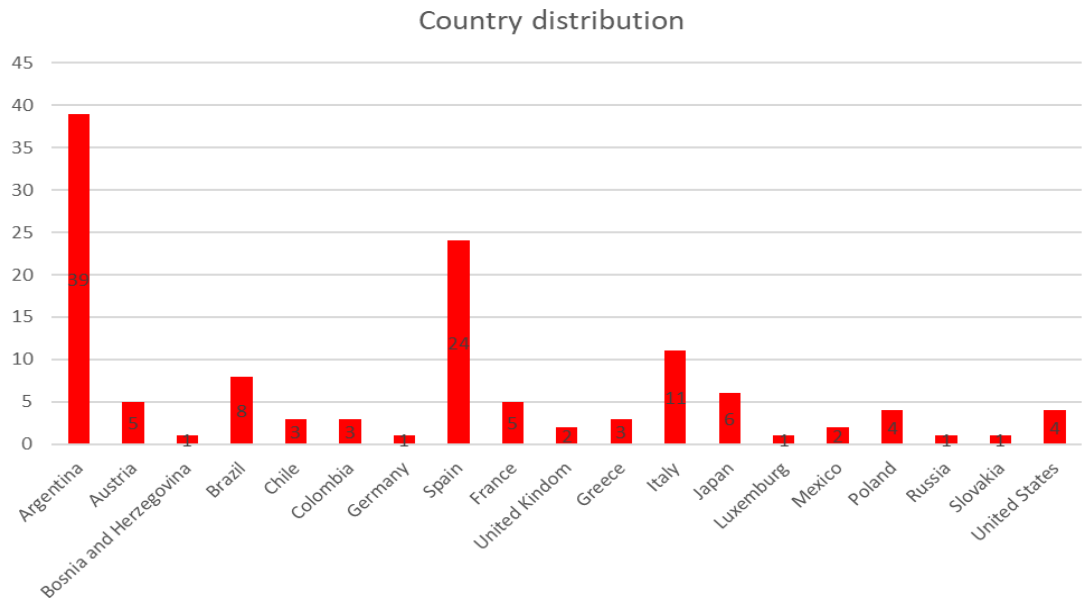
Topics

- Synthesis, characterization and functionalization
- Data storage & hard magnets
- Life science & biomedical applications
- Theory and modeling
- Experimental Techniques
- Fundamental Properties
- Environment applications

Participants
We had a total of 124 registered participants, of which 22 were graduate students or postdocs. 31 of the total participants were under 36 years old.

The breakdown by country is detailed below. This is the first time that Latin American countries have had a significant presence in this series of conferences.

Argentina	39
Austria	5
Bosnia and Herzegovina	1
Brazil	8
Chile	3
Colombia	3
Germany	1
Spain	24
France	5
United Kindom	2
Greece	3
Italy	11
Japan	6
Luxemburg	1
Mexico	2
Poland	4
Russia	1
Slovakia	1
United States	4



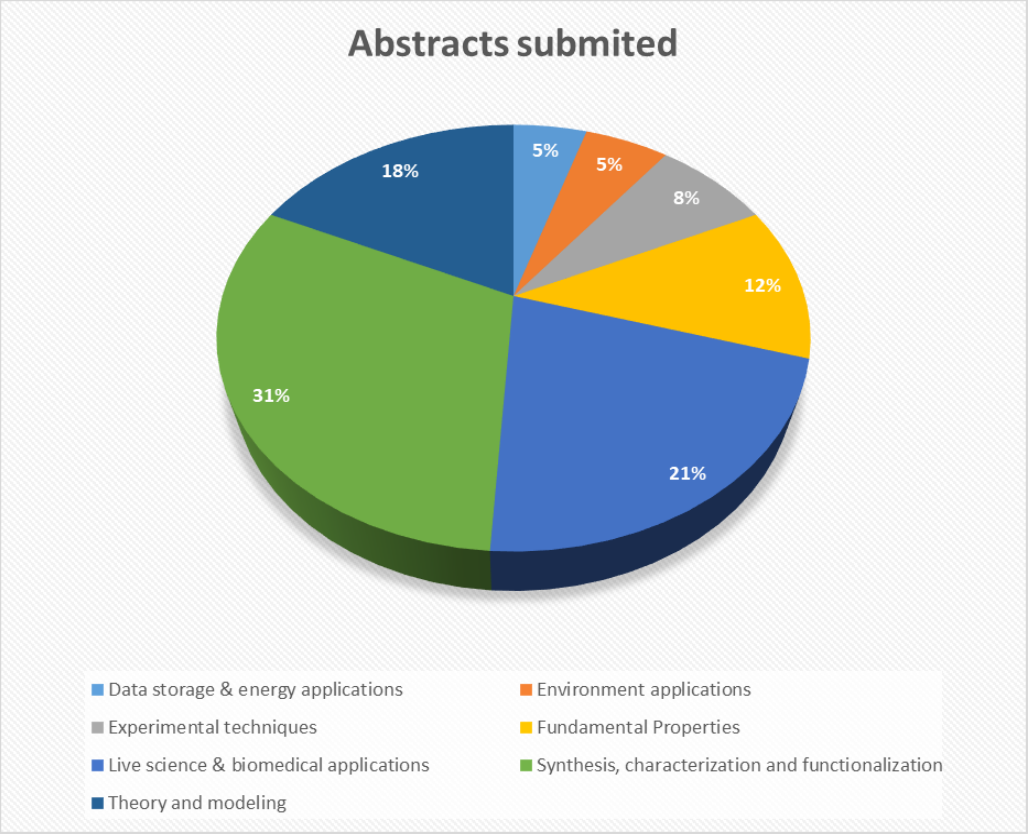
Gender Statistics: Female 50 (40%), Male 74 (60%)

Contributions

145 abstracts were received. The entire book of abstracts can be downloaded from https://icfpm2025.com.ar/. The papers presented at the congress may be published in a special issue of *Journal of Magnetism and Magnetic Materials* dedicated to "Magnetic Nanoparticles: Fundamentals and Applications". We have formed an editorial committee for this issue with prestigious researchers who will take care of everything related to the publication (see appendix).
Awards were given for the best posters presented and the best oral presentations by young researchers and students.

The distribution of the works presented in the different themes was as follows:

Data storage & energy applications	7
Environment applications	8
Experimental techniques	11
Fundamental Properties	17
Live science & biomedical applications	31
Synthesis, characterization and functionalization	45
Theory and modeling	26



The details of all oral presentations are as follows:

Sunday 19th

Tutorials – Auditorium

15:30-16:30 Tutorial-1
The magnetic nanoparticle iceberg
Dr. Xavier Batlle
Department of Condensed Matter Physics. Institute of Nanoscience and Nanotechnology (IN2UB), University of Barcelona, Spain
16:30-17:30 Tutorial-2
Modeling of static and dynamic properties of MNPs
Dr. Hamid Kachkachi
Laboratory of Processes, Materials and Solar Energy PROMES-CNRS, University of Perpignan, Perpignan, France
17:30-18:30 Tutorial-3
Developing efficient processes towards safe magnetic nanoparticles
Dra. Maria del Puerto Morales
Institute of Materials Science of Madrid (ICMM/CSIC), Madrid, Spain

18:30-20:00 Welcome Reception

Monday 20th

Opening address
Topic: Synthesis, characterization and functionalization - Auditorium
Chair: Xavier Batlle

Department of Condensed Matter Physics. Institute of Nanoscience and Nanotechnology (IN2UB), University of Barcelona, Spain

9:30-10:30 Plenary Lecture PT-1

Rational engineering of magnetic nanoarchitectures, from composites to hybrid materials

Davide Peddis

Department of Chemistry and Industrial Chemistry & INSTM RU, University of Genoa, Italy

10:30-11:00 Invited Talk IT-1

Designed synthesis of functional alloy nanostructures using non-aqueous techniques

Jeyadevan Balachandran

Graduate School of Environmental Studies, Tohoku University, Japan

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11:00-11:30 Coffee Break

Topic: Synthesis, characterization and functionalization – Room B

Chair: Ulf Wiedwald

Faculty of Physics, University of Duisburg-Essen, Germany

11:30-12:00 Invited Talk IT-2

Fe_3O_4 nanorods with tunable morphology and magnetic properties: a comprehensive synthetic framework

Alejandro Gómez Roca

Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Spain

12:00-12:30 Invited Talk IT-3

From molecular precursors to functional materials: advanced synthesis routes for chemically ordered binary and ternary alloys

Sara Laureti

CNR-ISM, nM2-Lab, Area della Ricerca Roma 1, Italy

12:30-12:50 Oral Talk OR-2

Metal magnetic nanoparticle synthesis by thermal plasma process

Kwangjae Park

Multi-Material Research Institute, Advanced Industrial Science and Technology (AIST), Nagoya, Japan

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Topic: Theory and modeling-Auditorium

Chair: Kalliopi Trohiodu

NCSR "Demokritos", Institute of Nanoscience and Nanotechnology, Athens, Greece

11:30-12:00 Invited Talk IT-4

Optimizing magnetic hyperthermia performance under safety limits: role of anisotropy, shape and interactions

Òscar Iglesias

Departament de Física de la Materia Condensada, Universitat de Barcelona, Barcelona, Spain

12:00-12:30 Invited Talk IT-5

Binary magnetic mixtures as tunable platforms for magnetic hyperthermia applications

Sofia Kantorovich

Faculty of Physics, University of Vienna, Vienna, Austria

12:30-12:50 Oral Talk OR-1

Shape-controlled magnetic dynamics of multicore magnetic nanoparticles for biomedical applications

Ekaterina Novak

Institute of Natural Sciences and Mathematics, Ural Federal University, Ekaterinburg, Russia

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Lunch

Topic: Fundamental Properties Auditorium

Chair: Luis Fernández Barquín

CITIMAC, Science Faculty, Cantabria University, Santander, Spain

14:30-15:30 Plenary Lecture PT-2
Expanding the nanomagnetism chart: non-exchange bias and non-dipolar interparticle interactions in dense assemblies of ferrimagnetic oxide nanoparticles
José A. De Toro
Regional Institute of Applied Scientific Research (IRICA), Castilla – La Mancha University, Ciudad Real, Spain

Topic: Fundamental Properties - Room B

Chair: Martín Saleta
Institute of Nanoscience and Nanotechnology INN (CNEA-CONICET) Centro Atómico Bariloche, Bariloche, Argentina
15:30-15:50 Oral Talk OR-3
Magnetic anisotropy and exchange bias in size-distributed ultrasmall nanoparticle systems
Guilherme Gomide
Complex Fluids Group, Physics Institute, Brasília University, Brasilía DF, Brazil
15:50-16:10 Oral Talk OR-4
β-Co1-xNix(OH)2 (x = 0.25; 0.50; 0.75) nanosheets: structural and magnetic analysis
Rodolfo D. Sanchez
Institute of Nanoscience and Nanotechnology INN (CNEA-CONICET) Bariloche Atomic Center and Balseiro Institute (UNCuyo), Bariloche, Argentina

Topic: Life science & biomedical applications - Auditorium

Chair: Patricia Diaz Saldivar
Cedenna Center, University of Santiago de Chile. Santiago, Chile
15:30-16:00 Invited Talk IT-6
High-performance magnetic nanoparticles towards clinical hyperthermia
Hao Zeng
Department of Physics, University at Buffalo, SUNY, Buffalo, United States
16:00-16:20 Oral Talk OR-5
Bioengineered magnetic nanoparticles for advanced theranostics
Ulf Wiedwald
Faculty of Physics, University of Duisburg-Essen, Germany

16:30- 18:00 Poster Session

18:30- 21:30 Students and Early-Career Researcher Events

Tuesday 21st

Topic: Theory and modeling Auditorium

Chair: Òscar Iglesias
Department of Condensed Matter Physics, University of Barcelona, Barcelona, Spain
9:00-10:00 Plenary Lecture PT-3
Models of interacting nanoparticle systems: present status and future developments
Roy Chantrell
School of Physics, Engineering and Technology, The University of York, York, UK
10:00-10:30 Invited Talk IT-7
Magnetization dynamics and thermal transport in heterogeneous nanosystems: application to magnetic hyperthermia
Hamid Kachkachi
Laboratory of Processes, Materials and Solar Energy PROMES-CNRS, University of Perpignan, Perpignan, France

10:30-11:00 Coffee Break

Topic: Theory and modeling Room B

Chair: Sofia Kantorovich

Faculty of Physics, University of Vienna, Vienna, Austria

11:00-11:30 Invited Talk IT-8

Magnetic nanoparticles in viscous environments under AC fields: beyond the “frozen ferrofluid” approximation

David Serantes

Applied Physics Department, Santiago de Compostela University, Spain

11:30-11:50 Oral Talk OR-6

Study of H_2O_2 decomposition on Fe_3O_4 nanoparticles in water

Veronica Muriel Sanchez

Department of Applied Physics, University of Santiago de Compostela, Spain

11:50-12:10 Oral Talk OR-7

Improved size fractionation of magnetic nanoparticles by dual field application

Manuel Wolfschwenger

Institute of Electrical and Biomedical Engineering, UMIT TIROL - Private University for Health Sciences and Health Technology,Hall in Tirol, Austria

12:10-12:30 Oral Talk OR-9

Thermal bistability and self-regulation in magnetic nanoparticles under alternating magnetic field

Andrey Kuznetsov

Faculty of Physics, Computational and Soft Matter Physics, University of Vienna, Vienna, Austria

12:30-12:50 Oral Talk OR-11

In silico self-assembly of magnetic colloidal polymer suspensions with explicit magnetization dynamics

Deniz Mostarac

School of Chemistry, University of Edinburgh, Edinburgh, Scotland

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Topic: Synthesis, characterization and functionalization - Auditorium

Chair: Alejandro Gómez Roca

Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Spain

11:00-11:30 Invited Talk IT-9

Chemical stability and cation diffusion-induced composition gradients in spinel ferrite nanoparticles

Gabriel Lavorato

Institute of Theoretical and Applied Physicochemical Research INIFTA (CONICET-UNLP), University of La Plata, La Plata ,Argentina11:30-12:00 Invited Talk IT-10

Aerobic ethanol oxidation by magnetic inductive heating of palladium on nickel foam

Beatrice Muzzi

Institute of Chemistry of Organometallic Compounds-National Research Council of Italy (ICCOM-CNR), Florence, Italy

12:00-12:20 Oral Talk OR-8

Hard/soft magnetic nanocomposites for the fabrication of rare-earth free permanent magnets

Claudio Sangregorio

Institute of Chemistry of Organometallic Compounds-National Research Council of Italy (ICCOM-CNR), Florence, Italy

12:20-12:40 Oral Talk OR-10

Synthesis of magnetic iron oxide nanoparticles (IONPs) for interferometric scattering microscopy (iSCAT)
Katarzyna Berent
Academic Centre for Materials and Nanotechnology, AGH University of Krakow, Mickiewicza, Krakow, Poland
12:40-13:00 Oral Talk OR-12
Magnetic characterization of Sm-Fe-N permanent magnet nanoparticles
Yuke Hirayama
National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan

Lunch

Topic: Fundamental Properties – Room B
Chair: Gabriel Lavorato
Institute of Theoretical and Applied Physicochemical Research INIFTA (CONICET-UNLP), La Plata University, La Plata ,Argentina
14:30-14:50 Oral Talk OR-14
Revealing interfacial coupling in magnetic nanocomposites via spectroscopic insights
Pierfrancesco Maltoni
Department of Chemistry and Industrial Chemistry, University of Genoa, Genoa, Italy
14:50-15:10 Oral Talk OR-16
Low-temperature Arrhenius relaxation in nanometric magnetite
Luis Fernández Barquín
Department of Earth Sciences and Condensed Matter Physics, University of Cantabria, Santander, Spain
15:10-15:30 Oral Talk OR-18
Toward magnetically tunable metasurfaces
Francesco Pineider
Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, Italy
15:30-15:50 Oral Talk OR-20
The effect of the organic ligands on the magnetic behavior of Fe oxide nanoparticles. A numerical study.
Kalliopi Trohidou
NCSR "Demokritos", Instituten of Nanoscience and Nanotechnology, Athens, Greece

Topic: Life science & biomedical applications - Auditorium
Chair: Ana Espinosa
Institute of Materials Science of Madrid ICMM-CSIC, Madrid, Spain
14:30-14:50 Oral Talk OR-13
Mn-ferrite nanoparticles and nanoflowers for tri-modal detection in rapid diagnostic tests
Vanessa Pilati
Physics Department, University of Oviedo, Gijón, Spain
14:50-15:10 Oral Talk OR-15
Spin dynamics of Fe_3O_4 MNPs: Zn^{2+}/Mn^{2+} doping effect on relaxometric properties
Margherita Porru
Department of Physics and INFN, University of Pavia, Pavia, Italy
15:10-15:30 Oral Talk OR-17
Characterization of chemical, physical, and biological properties of iron oxide nanocubes for magnetic hyperthermia.
Patricia Díaz Saldívar
Cedenna Center, University of Santiago de Chile, Santiago de Chile, Chile

15:30-15:50 Oral Talk OR-19
Label-free magnetic nanoparticles as dual nanoheater/nanothermometer systems.
Sebastian Thompson
Madrid Institute for Advanced Studies, Madrid, Spain

16:00- 18:00 Poster Session

18:30 20:30 Women in Nanomagnetism Event

Wednesday 22th

Topic: Experimental Techniques - Auditorium
Chair: Andreas Michels
University of Luxembourg, Esch-sur-Alzette, Luxembourg
9:00-10:00 Plenary Lecture PT-4
Nanoparticles, nanoxides, and the structure-properties relationships
Daniela Zanchet
Institute of Chemistry, State University of Campinas, Campinas, SP, Brazil
10:00-10:30 Invited Talk IT-11
Magnetic nanocomposites for efficient degradation of emerging pollutants in water remediation applications
Cristina Gomez-Polo
Science Department & Institute for Advanced Materials and Mathematics (INAMAT2), Public University of Navarra,Pamplona, Spain

10:30-11:00 Coffee Break

Topic: Environment applications - Room B
Chair Cristina Gomez-Polo
Science Department & Institute for Advanced Materials and Mathematics (INAMAT2), Public University of Navarra,Pamplona, Spain
11:00-11:30 Invited Talk IT-12
Magnetic nanocatalysis for sustainable applications
Alvaro Gallo Córdoba
Institute of Materials Science of Madrid (ICMM/CSIC), Madrid, Spain
11:30-11:50 Oral Talk OR-22
Microwave-assisted synthesis of nickel nanoparticles using biodegradable additives for sustainable printed electronics
Yilian Fernández Afonso
Institute of Materials Science of Madrid (ICMM/CSIC), Madrid, Spain
11:50-12:10 Oral Talk OR-24
Tailoring iron oxide magnetic nanocatalysts for high temperature environmental remediation applications via transition metal doping
Nahuel Nuñez
Institute of Nanoscience and Nanotechnology INN (CNEA-CONICET) and Balseiro Institute (UNCuyo), Bariloche, Argentina.

Topic: Experimental Techniques - Auditorium
Chair Daniela Zanchet
Institute of Chemistry, State University of Campinas, Campinas, SP, Brazil
11:00-11:30 Invited Talk IT-13
Direct magnetic imaging of magnetite nanoparticle assemblies via resonant x-ray dichroic ptychography
Karine Chesnel
Department of Physics and Astronomy, Brigham Young University, Utah, United States

11:30-11:50 Oral Talk OR-21
Neutron scattering as a tool to study nanoparticle spin structure
Andreas Michels
Department of Physics and Materials Science, University of Luxembourg, Luxembourg
11:50-12:10 Oral Talk OR-23
A Multimodal framework for evaluating the magneto-optical response of superparamagnetic nanoparticles
Maarij Syed
Physics, Optical Engineering & Nano Engineering, Rose-Hulman Institute of Technology, Terre Haute, United States
12:10-12:30 Oral Talk OR-25
Catalytic generation of free radicals in ferrite nanoparticles: the role of cation distribution
Dina Tobia
Institute of Nanoscience and Nanotechnology INN (CNEA-CONICET) Centro Atómico Bariloche, Bariloche, Argentina

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Lunch

15:19:30 Tour Circuito Chico and Cerro Campanario

19:30 22:00 Conference Dinner and Tango Show at Rincón Patagónico

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Thursday 23rd

Topic: Life science & biomedical applications - Auditorium
Chair: Yuko Ichiyanagi
Department of Physics, Yokohama National University, Yokohama, Japan
9:00-10:00 Plenary Talk PT-5
Magnetically driven nanoplatforms for biomedical and environmental catalysis: from chemotherapy to antibiotic degradation.
Gerardo F. Goya
Condensed Matter Physics Department, Science Faculty, University of Zaragoza, Spain
10:00-10:30 Invited Talk IT-14
In vivo quantitative tracking of nanoparticles and cell therapies using magnetic particle imaging
Carlos M. Rinaldi-Ramos
Department of Chemical Engineering and J. Crayton Pruitt Family Department of Biomedical Engineering, University of Florida, Gainesville, United States

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10:30-11:00 Coffee Break

Topic: Life science & biomedical applications – Room B
Chair: Gerardo F. Goya
Condensed Matter Physics Department, Science Faculty, University of Zaragoza, Spain
11:00-11:30 Invited Talk IT-15
Magnetic nanoparticles as active elements in Alzheimer's biosensing Makis Angelakeris
Magnetic Nanostructure Characterization: Technology & Applications, Centre for Interdisciplinary Research and Innovation, Aristotle University, Thessaloniki, Greece
11:30-12:00 Invited Talk IT-16
Probing biomolecule adsorption and elution on magnetic nanoparticles: A synchrotron study.
Claudia Elena Rodriguez Torres
La Plata Institute of Physics, CONICET–UNLP and Faculty of Exact Sciences, National University of La Plata, Argentina
12:00-12:20 Oral Talk OR-26

Towards more sensitive magnetic lateral flow diagnostics of pneumonia: role of the nanolabel
María Salvador
Department of Physics, University of Oviedo, Gijón, Spain.
12:20-12:40 Oral Talk OR-27
Mössbauer spectroscopy for investigating properties and biodistribution of Fe^{57}-labeled nanoparticles in biological systems.
Jakub Cieslak
AGH University of Krakow, Faculty of Physics and Applied Informatics, Krakow, Poland

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Topic: Data storage & hard magnets - Auditorium
Chair: Carlos Ramos
National Atomic Energy Commission CNEA Centro Atómico Bariloche, Bariloche, Argentina
11:00-11:30 Invited Talk IT-17
Nanowire arrays for sustainable energy harvesting and rare-earth-free magnetism
Fanny Béron
Institute of Physics Gleb Wataghin, State University of Campinas, Campinas, Brazil
11:30-12:00 Invited Talk IT-18
Materials for energy assisted magnetic recording media
Simon Greaves
Research Institute of Electrical Communication, Tohoku University, Sendai, Japan
12:00-12:30 Invited Talk IT-19
Design of exchange-coupled magnetic nanoparticles with enhanced anisotropy for rare-earth-free applications
Benoit P. Pichon
University of Strasbourg, CNRS,Strasbourg Institute of Physics and Chemistry of Materials, UMR 7504, Strasbourg, France. University Institute of France, Paris, France
12:30-12:50 Oral Talk OR-28
Probing the 3D spin texture of Fe-Ni nanowires by integrated microscopy techniques
Claudia Fernandez Gonzalez
ALBA Synchrotron Light Facility, Barcelona, Spain

Lunch

Topic: Life science & biomedical applications – Room B
Chair C. Rinaldi-Ramos
Department of Chemical Engineering and J. Crayton Pruitt Family Department of Biomedical Engineering, University of Florida, Gainesville, United States
14:30-14:50 Oral Talk OR-30
Iron oxide nanocarriers for tri-modal chemo-magneto-photothermal cancer therapy
Ana Espinosa
Institute of Materials Science of Madrid ICMM-CSIC and IMDEA Nanociencia, Madrid, Spain
14:50-15:10 Oral Talk OR-32
4D printed magnetically activated drug delivery nanosystems
Alberto López Ortega
Science Department and Institute for Advanced Materials and Mathematics (INAMAT2),Public University of Navarra, Pamplona, Spain
15:10-15:30 Oral Talk OR-34
Harnessing AC magnetic susceptibility for ex vivo evaluation of clot formation in human whole blood
David Cabrera
School of Life Sciences, Keele University, Keele, Guy Hilton Research Centre, United Kingdom
15:30-15:50 Oral Talk OR-36
Heating efficiency of different magnetotactic bacterial species
Malú Fernández-Gubieda

Department of Electricity and Electronics, University of Basque Country (UPV/EHU), Bilbao, Spain

15:50-16:10 Oral Talk OR-38

Magnetic actuation and photothermal effects of iron oxide nanoparticles for the treatment of bacterial biofilms

Miryana Hemadi

Interfaces, Dynamics, Processing and Systems Organization Laboratory ITODYS, University of Paris, CNRS, Paris, France.

16:10-16:30 Oral Talk OR-40

Exploiting dynamical magnetization of magnetic nanoparticles for monitoring thermal denaturation in proteins

Francisco J. Teran

Madrid Institute for Advanced Studies in Nanoscience IMDEA NANOCIENCIA, Madrid Spain

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Topic: Synthesis, characterization and functionalization - Auditorioum

Chair: Dina Tobia

Institute of Nanoscience and Nanotechnology INN (CNEA-CONICET) Centro Atómico Bariloche, Bariloche, Argentina

14:30-14:50 Oral Talk OR-29

Advancements in polyol synthesis of antiferromagnetic transition metal oxide nanoparticles: expanding néel temperature tuning and core@surface magnetic exchanges

Souad Ammar

Interfaces, Dynamics, Processing and Systems Organization Laboratory ITODYS, University of Paris, CNRS, Paris, France.

14:50-15:10 Oral Talk OR-31

Decoding magnetization and magnetic anisotropy in core/shell ferrite nanoparticles: interplay between local structure and spin disorder

Jerome Depeyrot

Complex Fluids Group, Institute of Physics, University of Brasília, Brasília, DF, Brazil

15:10-15:30 Oral Talk OR-33

Laser ablation-based synthesis: a top-down approach to prepare magnetic nanoparticles from Etna's volcanic rocks

Lucrezia Catanzaro

Department of Chemical Sciences, University of Catania, Catania, Italy

15:30-15:50 Oral Talk OR-35

Core/shell nanoparticles of mixed cobalt, zinc, and copper ferrite: synthesis and characterization

Barbara Pereira

Complex Fluids Group, Institute of Physics, University of Brasília, Brasília, DF, Brazil

15:50-16:10 Oral Talk OR-37

Cobalt ferrite magnetic nanofilms for enhanced oxygen evolution: catalytic activity improved by yttrium doping and applied fields

Paula Bercoff

Institute of Physics Enrique Gaviola (IFEG), Faculty of Mathematics, Astronomy, Physics and Computing, National University of Córdoba - CONICET, Córdoba, Argentina

16:10-16:30 Oral Talk OR-39

Effect of Co on the magnetic properties of spinel high-entropy oxides $Co_x(Fe,Mn,Cr,Ni)_{3-x}O_4$

Vitaliy Bilovol

Academic Centre for Materials and Nanotechnology, AGH, University of Krakow, Krakow, Poland

Appendix: Composition of the committees

Local Committee
Dr. Dina Tobia
Dr. Marcelo Vasquez Mansilla
Dr. Emilio De Biasi
Dr. Mariana Raineri
Dr. Enio Lima

Special sessions organizers
Students & young researchers
Bc. Nahuel Nuñez
Dr. Maria Salvador
Dr. Álvaro Gallo-Cordova

Women in Science
Dr. Paula Bercoff
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