

Tuesday, 03 December 2019

ARRIVAL DAY

Wednesday, 04 December 2019

Venue: Hassan II Academy for Sciences and Technology, Rabat

09:30 – 10:00 WELCOME ADDRESS
Omar Fassi-Fehri, *Permanent Secretary of the Hassan II Academy for Science and Technology*
Mohammed Rhachi, *President of Mohammed V University in Rabat*
Lalla Btissam Drissi, *International Workshop coordinator*

10:00 – 11:00 **Session I**
Felix von Oppen, *Freie Universität Berlin, Germany*
Semiconductor Quantum Wires for Topological Quantum Computation

11:00 – 11:30 COFFEE BREAK & GROUP PHOTO

11:30 – 13:00 **Session II**
Jorge M. Garcia, *Instituto de Micro y Nanotecnología, IMN-CNM, CSIC, Spain*
Nanostructures for Energy Photovoltaics Solar Cells
Omer Nour, *Linköping University, Sweden*
Nanomaterials for Sustainable Energy Applications

13:00 – 14:30 LUNCH

14:30 – 16:00 **Session III**
Alexander Vasiliev, *M.V. Lomonosov Moscow State University, Moscow, Russia*
Advances in Multiferroicity: The Coupling between Magnetic Order and Polarization in Solids
François Le Normand, *Joint CNRS-University of Strasbourg, France*
Carbon Phase Transformation and GaN Nanoparticles Synthesis for Conductive Transparent Conductors

Thursday, 05 December 2019

Venue: Scientific Institute, Mohammed V University, Rabat

09:00 – 10:30 **Session IV**
Rajeev Ahuja, *Uppsala University, Sweden*
Energy Storage Materials
Jean-Baptiste Sanchez, *Institut FEMTO-ST, Besançon, France*
Advanced Nanoporous Materials for Gas Sensing Applications

10:30 – 10:45 COFFEE BREAK

10:45 – 12:15 **Session V**
Michele Saba, *Departimento de Fisica, Universitàde Cagliari, Italia*
Metal Halide Perovskite for Solar Cells
Mongi Bouaicha, *Research and Technology Center of Energy, Tunisia*
State of the Art and Perspectives of Evolution of Solar Cells Technologies

12:30 – 14:00 LUNCH

14:00 – 16:00 **Session VI**
Omer Nour, *Linköping University, Sweden*
Introduction to Nanotechnology
Sonia Haddad, *University of Tunis Al Manar, Tunisia*
Strain Tuned Topology in Topological Materials
El Hassan Saidi, *Mohammed V University in Rabat, Morocco*
Topological Quantum Systems with Odd TRS

Friday, 06 December 2019

Venue: Scientific Institute, Mohammed V University, Rabat

09:00 – 10:30 **Session VII**
Mahmoud Abdel-Hafiez, *AGYA Member, Harvard University, United States of America*
Materials under Extreme Conditions
Faycal Djeflal, *AGYA Alumnus, University Mostefa Benboulaïd-Batna 2, Algeria*
New Approaches for Modelling, Optimization and Elaboration of Optoelectronic Devices

10:30 – 10:45 COFFEE BREAK

10:45 – 12:15 **Session VIII**
Mustafa Abbas, *Materials and Nanotechnology Research Centre, University of Khartoum, Sudan*
Applications of Nanoparticles in the Oil and Gas Industry
Najem Hassannin, *Faculty of Sciences, Mohammed V University in Rabat, Morocco*
Magnetic Properties of Doped Multiferric BiFeO₃ Materials

12:15 – 14:00 LUNCH

14:00 – 15:30 **Session IX**
David Zopf, *Institute of Physical Chemistry, Friedrich Schiller University Jena, Germany*
Bioanalytics with Gold Nanoparticles
Ihab Hassan, *Faculty of Environmental Science-Omdurman Ahlia University, Sudan*

Application of Nanotechnology for the Control of Water Pollution

Kanga NGoye Bré-Junior, *University of Man, Ivory Coast*
Temperature Effects on Electronics Properties in 2D Carbon-Hybrids
Faycal Goumrhar, *Mohammed V University in Rabat, Morocco*

Spintronic Materials: Ab-Initio Study
Ghassen Jemai, *University of Tunis Al Manar, Tunisia*
Analysis of Quantum Localization in Functionalized Carbon Nanotubes

15:30 – 17:00 **Poster Session**

2D Materials as Promising for Heat Spreader Process in Electronics
M. H. Kourra, K. Sadki, L. B. Drissi
Modeling the Intermediate Band Solar Cells
L. Nouri, Z. Sakhi, M. Bennai
Thermal and Magnetic Properties of a Mixed Ferrimagnetic Ising Nanowire
A. Arbaoui, K. Htoutou
Effect of Te and V Doping on AlSb DMS Compound
A. Maftouh, R. Rami, O. El Fatni, R. Ahl Laamara
The Revealing of Half-Metallic Behaviour in Mn and V Doped Tin-Carbide SnC
T. El-Achari, F. Goumrhar, J. Sebbani
Potential Time-dependent and Graphene System
H. Chnafaa, A. Jellal
Electronic and Optical Properties of the Monolayer GeS
A.ElBekkali, S. Sadki
Anisotropic Electron-Phonon Superconductivity in Borophene for Electric Transport
I. Serifi, N. B-J. Kanga, L. B. Drissi
Thermoelectric Properties of Monolayer Monochalcogenides
S. Insad, F. E. Ramadan, N. Hassannin
Topological Surface States in 3D Topological Semimetals
M. Regragui, E. H. Saidi
Hydrogenation and Defect Formation Effect on Mechanical Properties of 2D MoS₂
M. Saaoud, K. Sadki
Tailoring Optoelectronic Behaviour of Hybrid Quantum Dots
H. Ouarrad, F. E. Ramadan, L. B. Drissi
(Pd, C) (Co)-Doping Effect on Electronic and Magnetic Properties of CeO₂
K. Sina, R. Rami, N. Rkhioui, M. Drissi El Bouzaidi
Modeling and Simulation of Multi-junction Solar Cell Using MATLAB/Simulink
S. Mdafai, A. Drighil, M. Bennai
Magnetic and Electronic Properties of Chrome and Manganese Doped GeC
N. Mediane, F.Goumrhar, K. Htoutou, M. Rassam
Electronic and Magnetic Properties of TiO₂ Doped with Double Impurities (Tc, V)
R. Rami, A. Maftouh, L. B. Drissi, O. El Fatni, R. Ahl Laamara
Phosphorene: New 2D Material for Nanoelectronic Devices
S. Sadki, L.B. Drissi

Topological Properties and Dynamics of Magnetic Skyrmions
 C. Kasbaoui, F. E. Ramadan, E. H. Saidi
 Thermal Transport in Graphene/Stanene Bilayer Heterostructure
 F. Z. Zanane, K. Sadki, A. Ouahmane
 Density of States of Electrostatic Confinement in Gapped Graphene
 A. Bouhlal, A. Jellal
 (As)/Symmetrical Functionalization Effect on Thermo-elastic Responses of C-Hybrid Sheets
 K. Sadki, L. B. Drissi
 Monte Carlo Study of Mixed Spin Ferrimagnetic Ising Nanowire with Alternate Layers
 B. Nmaila, K. Htoutou, R. Ahl Laamara
 Semi-Heusler Magnetic Semi-Conducteurs
 F. E. Azergue, S. Zriouel
 Ab-Initio Study of the Effect of (Ti, V) (Co)-Doping ALAs
 H. Nit Ben Ahmed, R. Rami, N. Rkhioui

Saturday, 07 December 2019

07:00 – 10:00 | BUS TRANSFER FROM HOTEL TO THE CITY OF FES

10:00 – 13:00 | Morning excursion

Excursion I

Visit to the Technological Platform of the Euro-Mediterranean University of Fes

13:15 – 14:30 | LUNCH

14:30 – 18:00 | Afternoon excursion

Excursion II

Visit to the Craft Leather Tanning (DAR Debagh): Materials, Liquids and Coulored Dyes Used in the Tanning Industry from the Past to the Present

Excursion III

Visit to University of al-Qarawiyyin, the oldest existing, continually operating higher educational institution in the world according to UNESCO

18:30 – 22:00 | DINNER and BUS TRANSFER TO RABAT

Sunday, 08 December 2019

| DEPARTURE DAY

Workshop Hotels

Hotel Rabat Farah

Place 16 Novembre, Hassan, Rabat, Morocco

Workshop Venues

Hassan II Academy for Sciences & Technology

Km 4 Mohammed VI Avenue, Rabat, Morocco

Faculty of Sciences, Mohammed V University in Rabat

Avenue Ibn Battouta, Agdal, Rabat, Morocco

Scientific Institute, Mohammed V University in Rabat

Avenue Ibn Battouta, Agdal, Rabat, Morocco

Euromed University of Fes

Fès Principal, Fes, Morocco

Workshop coordinator:

Lalla Btissam Drissi

CPCS, Hassan II Academy for Sciences and Technology, Morocco

FSR, Mohammed V University in Rabat, Morocco

Local organisers:

College of Physical and Chemical Sciences, Hassan II Academy for Sciences and Technology, Morocco

National Network of Young Scientists Researchers (RNJCS), Morocco

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International Workshop

Advanced Applications of Emergent Materials

04 – 07 December 2019

Rabat & Fes, Morocco

The Arab-German Young Academy of Sciences and Humanities & the College of Physical and Chemical Sciences in Hassan II Academy for Sciences & Technology

