

Tuesday, 03 December 2019

ARRIVAL DAY

Wednesday, 04 December 2019

Venue: Hassan II Academy of Sciences and Technology, Rabat (Main Aula)

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

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

14:30 – 16:00 **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

11:30 – 13:00 **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 (Main Aula)

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 (Main Aula)

09:00 – 10:30 **Session VII**  
Mahmoud Abdel-Hafiez, *AGYA Member, Universität Frankfurt, Germany*  
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 BiFeO<sub>3</sub> 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. Chnafa, 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. Hassanain  
Topological Surface States in 3D Topological Semimetals  
M. Regragui, E. H. Saidi  
Hydrogenation and Defect Formation Effect on Mechanical Properties of 2D MoS<sub>2</sub>  
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 CeO<sub>2</sub>  
K. Sina, R. Rami, M. Vall, N. Rkhioui, M. Drissi El Bouzaïdi  
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  
Electronic and Magnetic Properties of TiO<sub>2</sub> 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. Bouhla, 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, M. Vall, N. Rkhioui

Saturday, 07 December 2019

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

Excursion I

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

13:15 – 14:30 | LUNCH

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

19:30 – 21:00 | DINNER

21:00 – 00:00 | BUS TRANSFER FROM HOTEL TO THE CITY OF 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

Euro-Mediterranean University of Fez

Fès Principal, Fes, Morocco

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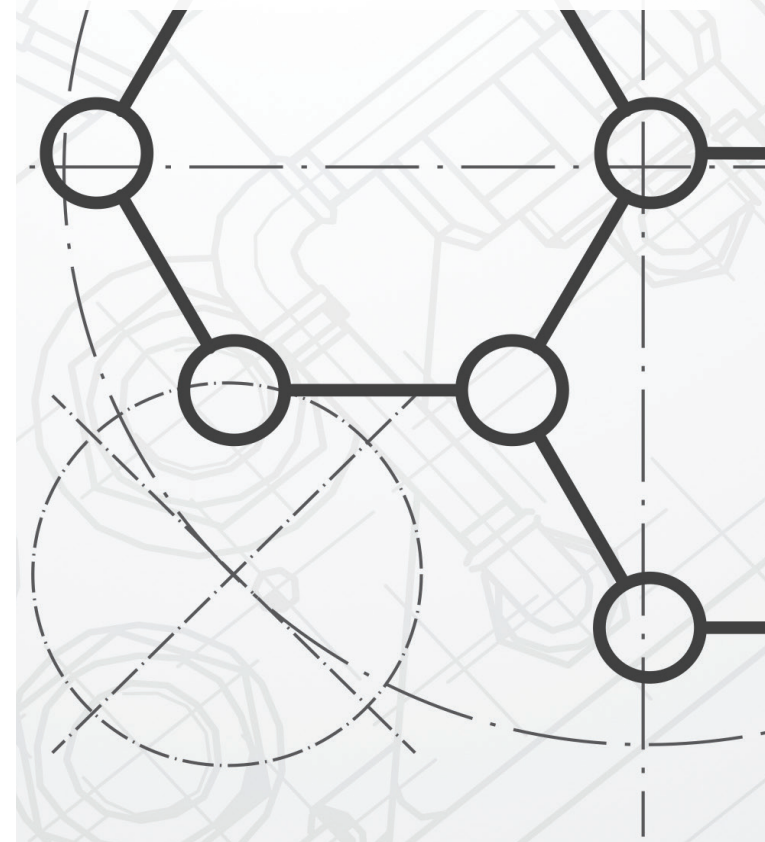
International Workshop of the Arab-German Young Academy of Sciences and Humanities (AGYA)

# Advanced Applications of Emergent Materials

04 – 07 December 2019

Rabat & Fes, Morocco

In Cooperation with the College of Physical and Chemical Sciences, Hassan II Academy of Sciences & Technology



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