⬛ Wednesday, 17 July 2019
Venue: Faculty of Sciences, Mohammed V University in Rabat

08:00 – 09:00 | **Registration and Words of Welcome**

09:00 – 10:30 | **Tutorials and Demos I**
Anders Bergman, Uppsala University, Sweden
Atomistic Spin Dynamics
Abeer Abu Raeed, American University of Ras Al Khaimah, United Arab Emirates
Virtual Reality in Architecture

10:30 – 10:45 | **COFFEE BREAK**

10:45 – 12:15 | **Tutorials and Demos II**
Lalla Btissam Drissi, Mohammed V University Rabat and Hassan II Academy of Sciences and Technology, Morocco & AGYA Alumna
Application of DeepAIMD for Energy and Environment
Asier Eiguren, International Physics Center in San Sebastian, Spain
Visualization of Fermi Surfaces Using Wannier Functions with Python Mayavi/Xcrysden Packages

12:15 – 14:00 | **LUNCH BREAK**

14:00 – 15:30 | **Tutorials and Demos III**
Faycal Djeffal, University Mostefa, Algeria & AGYA Alumnus
Photovoltaic and Photodetector Devices: New Design Approaches
Julen Ibanez, Materials Physics Center in San Sebastián, Spain
New Features in Wannier90

15:30 – 15:45 | **COFFEE BREAK**

15:45 – 17:15 | **Tutorials and Demos IV**
Rachid Ahl Laamara, CRMEF-Fes and Meknes Center of Physics & Mathematics in Rabat, Morocco
Mathematical Computation Program for Big Data
Hamid Rassam, University of Perpignan, France
Applications of Nanomagnetization's Switching in Medicine & Environment

⬛ Thursday, 18 July 2019
Venue: Hassan II Academy of Sciences and Technology

09:00 – 09:45 | **Welcome Addresses & Opening Remarks**
Omar Fassi-Fehri, Permanent Secretary of the Hassan II Academy of Science and Technology
Mosto Bousmina, Chancellor of Hassan II Academy of Science and Technology & President of Euro-Mediterranean University of Fes (UEMF)
Mohammed Rhachi, President of Mohammed V University
Mourad El Belkacemi, Dean of Faculty of Sciences, Rabat
Lalla Btissam Drissi, Mohammed V University Rabat and Hassan II Academy of Sciences and Technology, Morocco & AGYA Alumna
Welcome and Introduction of AGYA

09:45 – 10:15 | **Introductory Lecture**
Aawatif Hayar, President of University Hassan II, Casablanca
Chair of Casablanca IEEE Core Smart City Project
President of GreenTIC Research Centre

E-Co Dar: A Moroccan Maslow Concept for Affordable Social Sustainable Smart Housing

10:15 – 10:45 | **COFFEE BREAK & GROUP PHOTO**

10:45 – 12:45 | **Session I: Big Data and Smart Cities**
Antonio Puliafito, University of Messina, Italy
A Self-Configurable Control System for Software-Defined Smart Cities
Ahmad Sakhrieh, American University of Ras Al Khaimah, United Arab Emirates & AGYA Member
Energy Efficiency in Buildings
Assia Belbachir, Polytechnic Institut for Advanced Sciences, Sorbonne University, France
Smart Mobility
Marc Ringel, HFWU – Nuertingen-Geislingen University, Germany & AGYA Member
Digitisation and Big Data in the Energy Sector in Germany

Abdelouahid Lyhyaoui, Ecole des Sciences Appliqués de Tanger, Morocco
SmarTa Project: Scientific Contributions of LTI/ MedSoftworks
Discussion

12:45 – 14:00 | **LUNCH BREAK**

14:00 – 15:30 | **Session II: Soft Computing in Energy & Health**
Helder Araujo, Institut for Systems and Robotics, University of Coimbra, Portugal
Localization and visual odometry for endoscopic capsules with multiple cameras
Anders Bergman, Uppsala University, Uppsala, Sweden
Realistic finite-temperature descriptions of magnetic materials
Ismail Al Hinti, German Jordan University, Amman, Jordan
Prospects of smart integration of photovoltaic systems
Asier Eiguren, International Physics Center (DIPC), San Sebastian, Spain
Efficient treatment of Fermi Surface dependent physical propertie
Discussion

15:30 – 15:45 | **COFFEE BREAK**

15:45 – 17:45 | **Session III: Data Mining & Machine Learning in Environment**
Youcef Djenouri, Department of Computer and Information Science, NTNU, Trondheim, Norway
Data Mining Techniques for Smart City Applications: Case Study on Intelligent Transportation Systems
Dafir Mann, Architect and Expert in Urban Design, United Arab Emirates
Sustainable Urbanism/ Urban Forms in The Gulf Region
Julen Ibanez , Materials Physics Center, CSICUPV/EHU, Spain
Nonlinear Photovoltaics in Non-Centrosymmetric Materials from First Principles

Maisa Farahat, American University of
Ras Al Khaimah, United Arab Emirates
*Support Vector Machine for PV System Efficiency
Improvement*
Younes Raoui, Faculty of Sciences,
Mohammed V University in Rabat, Morocco
*Spatial Navigation of Artificial Agents Using
Machine Learning*
Discussion

▼ Friday, 19 July 2019
Venue: Scientific Excursion to the City of Tanger for Speakers

07:00 – 10:00 ❙ **BUS TRANSFER FROM HOTEL
TO CITY OF TANGER**

10:00 – 13:00 **Morning Excursions**
Excursion I: El Koudya El Bida
The first wind farm for wind turbine blades
in the Middle East & Africa.
Excursion II: Tangier-Med Port
The port is known as an integrated
competitiveness hub and as an industrial
platform aggregating economic zones.

13:15 – 14:30 ❙ **LUNCH BREAK**

14:30 – 18:30 **Afternoon Excursions**
Excursion III: Tangier Tech City
Visit to the furture Moroccan smart city.
Excursion IV: Faculty des Sciences Techniques
Visit to the laboratories of FST in Tangier.
Excursion V: Ecole Nationale des Sciences
Appliquées
Visit to the laboratories of ENSA in Tangier
Excursion VI: City Rally Tangier
Intercultural Team-Building Activity

19:00 ❙ **DINNER AND RETURN TO THE HOTEL**

▼ Workshop coordinators:
Lalla Btissam Drissi
Hassan II Academy of Sciences & Technology,
Morocco
Mohammed V University & Agya Alumna,
Morocco
Ahmed Sakhrieh
American University Ras Al Khaimah &
AGYA Member, United Arab Emirates
Marc Ringel
HFWU – Nuertingen-Geislingen University &
AGYA Member, Germany

▼ Conference Hotel
Hotel Rabat
21, Chellah Avenue, Hassan, Rabat, Morocco

▼ Conference 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

Contact: **agya@bbaw.de**
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Facebook: f www.facebook.com/agya.info
www.agya.info

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YOUNG ACADEMY
OF SCIENCES AND
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Faculté des Sciences
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ARAB-GERMAN YOUNG ACADEMY
OF SCIENCES AND HUMANITIES

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

Soft Computing and Data Mining
for Energy, Environment & Health

17 – 19 July 2019
Rabat & Tanger, Morocco

In cooperation with the
**College of Physical and Chemical Sciences, Hassan II
Academy of Sciences & Technology**
The workshop is organized by the AGYA Working Group *Energy, Water
and Environment*