



Humboldt Kolleg'17

«Nanoscale Science and Technology»

27-29 October, 2017, Yasmine Hammamet, Tunisia

Program

October 26, 2017

15:00 – 21:00: Open Registration

October 27, 2017

07:45 – 08:30: Registration

08:35 – 08:50: Opening Session

Welcome Address on behalf of the Alexander von Humboldt Foundation, **Prof. Adnane Abdelghani**, Tunisia

08:55 – 09:05: Alexander von Humboldt: Network for the future

Plenary lecture: Chairman: Prof. Dr. Michael J. Schöning

09:10 – 09:30: Activities of DAAD in Maghreb and funding programs for PhD and Post-Docs, **Mrs. Beate Schindler-Kovats**, Director of Tunisia DAAD Büro, Germany

09:35 – 10:10: Atmospheric electrons in nanobased everyday life macroapplications, **Prof. Dr. Theodor Doll**, Medizinische Hochschule, Hannover Medical School, Cluster of Excellence Hearing 4 All, Biomaterial Engineering, Hannover, Germany

10:15 – 11:00: Coffee Break/Group Photo

Session 1: “Nanostructures/Biophysics” Chairman: Prof. Dr. Axel Lorke	Session 2: “Nanomaterials/Sensors devices” Chairman: Dr . Chiraz Frydman
<p>11:00 – 11:35: Silicene a promising new 2D material for science and nanotechnology, Prof. Dr. Azzedine Boudenan, Synchrotron Soleil, France (Keynote)</p> <p>11:40 – 12:05: Nanomechanics of immune receptors: from molecular recognition to cell response, Dr. L. Limozin, CNRS-INSERM, Marseille, France</p>	<p>11:00 – 11:35: Thin-film sensors for aseptic food processing, Prof. Dr. Michael Schöning, Institute of Nano- and Biotechnologies (INB), Jülich, FH Aachen, Germany (Keynote)</p> <p>11:40 – 12:05: Fiber-optic refractive index sensor based on multimode interference in a coreless fiber, Prof. Dr. Rim Cherif, Sup'Com, Tunisia</p>
<p>12:10 – 12:35 : Effect of carbon nanotubes on surface</p>	<p>12:10 – 12:35: Enzyme-based biologic gates for</p>

<p>and electrochemical properties of poly (lactic acid) based nanocomposites, W. Loued, Faculty of Sciences of Monastir, University of Monastir, Tunisia</p> <p>12:40 – 13:05 Effect of Mn concentration and strain on the band structure of GaMnAs: theoretical study, S. Tilouche, Laboratory of Micro-Optoelectronic and Nanostructures, Faculty of Sciences of Monastir, Tunisia</p>	<p>biomedical applications, D. Molinnus, Institute of Nano- and Biotechnologies (INB), Jülich, FH Aachen, Germany</p> <p>12:40 – 13:05: Dynamic response of AFM cantilevers using an optical interferometer, Dr. Hatem Ben Taher, University of Sfax, Tunisia</p>
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13:05 – 15:00: Lunch

<p>Session 1: “Nanostructures/Biophysics” Chairman: Dr. Sami Lakhdar (Humboltianer)</p>	<p>Session 2: “Nanomaterials/Sensors devices” Chairman: Prof. Dr. Larbi Sfaxi (Humboltianer)</p>
<p>15:00 – 15:25: Enhanced NLO response of push-pull organic molecules encapsulated in carbon nanotubes: a DFT study, Prof. Dr. M. Sakkal, Faculty of Exact Sciences. Sidi Bel-Abbès, Algeria</p> <p>15:30 – 15:55: Electronic and structural properties of cluster Cd_nS_n and capped-$(Cd_3S_3)_n$ quantum dots, S. Nasraoui, University of Monastir, Tunisia</p> <p>16:00 – 16:25: Temperature dependant capacitance and DLTS characterizations of AlGaIn/GaN HEMTs transistors, I. Jabbari, University of Monastir, Tunisia</p> <p>16:30 – 16:55: Investigation of the storage phenomena of metal oxide semiconductor (MOS) structure containing Ge nanocrystals, Imen Jadli, University of Monastir, Tunisia</p> <p>17:00 – 17:25: Theoretical studies of linear and nonlinear optical absorption coefficients in wurtzite InGaIn/GaN vertically coupled quantum dots switching at 1.55 μm wavelength, Syrine Naceur, University of Monastir, Tunisia</p> <p>17:30 – 17:55: The effect of textured surfaces on the performance of p-i-n GaAs grown on high index substrates (11N), Imen Zeydi, University of Monastir, Tunisia</p> <p>18:00–18:25: Magnesium doping in III-V semiconductors lattice-matched to InP grown by MOVPE, Dr. Maher Ezzedine, University of Monastir, Tunisia</p>	<p>15:00 – 15:25: Study of SnO₂ thin film properties for gas chemical biosensors, Boutheina Bendahmane, University Frères Mentouri Constantine, Algeria</p> <p>15:30 – 15:55: Functionalized carbon nanotubes for neurotoxic gases detection, Dr. Atef Thamri, Carthage University, INSAT, Tunisia</p> <p>16:00 – 16:25: Nano-materials based electrochemical sensing platform for early stage detection of cancer biomarker, Zina Fredj, Sousse University, Tunisia</p> <p>16:30 – 16:55: Use of surface plasmon resonance imaging for a biosensing application, Syrine Gueffrache, Carthage University, INSAT, Tunisia</p> <p>17:00 – 17:25: A Facile route to glycated albumin detection, Dr. Nadra Bohli, Carthage University, INSAT, Tunisia</p> <p>17:30 – 17:55: Hydrogen photoproduction from water using metal loaded graphene oxide/TiO₂ nanophotocatalysis, Dr. Mohamed F. Nsib, University of Sousse, Tunisia</p>

18:30 – 19:30: Poster Session

October 28, 2017

Plenary lecture: Chairman: Prof. Dr. Azzedine Bouden (Humboltianer)

09:00 – 09:35: Force propagation in biomolecular complexes and sensory kinases, **Prof. Dr. Hermann Gaub**, Ludwig-Maximilians-Universität, Munich, Germany

09:40 – 10:15: Seeing is believing-thermo scientific unveils new Talos portfolio for advanced high resolution 2D & 3D S/TEM imaging and analysis, **Dr. Dominique Delille**, Thermo Fisher Scientific, The Netherlands

10:20 – 10:55: Coffee Break/Poster Session

Session 3: “Nanostructures/Nanodevices/Modelling” Chairman: Prof. Dr. Rim Cherif	Session 4: “Falling Walls Lab: Innovation and New Technology” Chairman: Dr. Laurent Limozin (Humboltianer)
<p>11:00 – 11:35: Indium-oxide nanoparticles resistive random-access memories using a CMOS back-end-off-line compatible process, Prof. Dr. A. Souifi, INSA-Lyon, France (Keynote)</p> <p>11:40 – 12:05: Ab-initio study of electronic proprieties of two-dimensional materials, Prof. Dr. Moncef Said, University of Monastir, Tunisia</p> <p>12:10 – 12:35: The Photothermal effects of gold nanorods under laser pulses; the phototherapy case, Prof. Remram Mohamed, University Constantine1, Algeria</p> <p>12:40 – 13:05: High-efficiency near-infrared anti-reflection coatings based on SiGe random metasurfaces, M. Bouabdellaoui, Aix Marseille University, France</p>	<p>11:00 – 11:35: Innovative cryogenics systems for high resolution scanning probe microscopy, Prof. Dr. Khaled Karrai, Attocube systems, Germany (Keynote)</p> <p>11:40 – 12:05: What SPRi brings the bio-nano world, Mrs. Chiraz Frydmann, Horiba Scientific, France</p> <p>12:10 – 12:35: Measuring porosity/flow in energy storage materials with microCT, dual beam serial sectioning electron microscopy with 3D modeling, D. Phifer, Thermo Fisher Scientific, Netherland</p> <p>12:40 – 13:05: Multi-FPGA based prototyping for pre-silicon SoC, Mr. Zied Marrakchi, Mentor Graphics, Tunisia</p>
<p>13:05 – 15:00: Lunch</p>	

Session 5: “Environment/Chemistry/Bio-polymers” Chairman: Dr. Nadra Bohli	Session 6: “ Fullerene/Solar Cells/ Devices” Chairman: Prof. Dr. Moncef Said (Humboltianer)
<p>15:00 –15:25: Visible light–mediated synthesis of organophosphorus compounds: synthetic and mechanistic investigations, Dr. Sami Lakhdar, ENSI-CAEN, France</p> <p>15:30 – 15:55: S-alkyldithiocarbonate complexes of iron: synthesis, characterization and structure of CpFe(CO)₂SC(O)SⁱPr, Prof. Dr. M. El-khateeb, Jordan University of Science and Technology, Jordan</p> <p>16:00 – 16:25: Toward A sustainable co-management of food industries by products: focus on dairy and soft drinks, Prof. Dr. Isamil Trabelsi, CERTE, Tunisia</p> <p>16:30 – 16:55: Development of materials for the extraction and quantification of contaminants in complex matrices, Prof. Dr. Saber Chatti, INRAP, Technopole Sidi de Thabet, Tunisia</p>	<p>15:00 – 15:25: Organic photovoltaics based on fullerene derivatives, Prof. Dr. Sule Erten Ela, Ege University Solar Energy Institute, Turkey</p> <p>15:30 – 15:55: Fully inkjet-printed flexible temperature sensors based on carbon and PEDOT:PSS, Dr. Chadha Bali, Siemens-AG, Munich, Germany</p> <p>16:00 – 16:25: Thermoformed smart objects, Imen Chtioui, Faculty of Sciences of Monastir, Monastir University, Tunisia</p> <p>16:30 – 16:55: Methylammonium lead bromide Perovskite based solar cells by one step deposition, Asya Mhamdi, Faculty of Sciences of Monastir, University of Monastir, Tunisia</p>

17:00 – 18:30: Poster Session

October 29, 2017

Plenary Lecture: Chairman: Dr. Moncef Bouaziz (Humboltianer)

09:00 – 09:35: Electronic and optical properties of quantum dots, **Prof. Dr. Axel Lorke**, University Duisburg-Essen, Germany

09:40 – 10:15: IoT: is market ready to adopt?, **Mr. Mohamed ben Ahmed**, STMicroelectronics, Tunisia

10:20 – 10:55: Coffee Break/Poster Session

Session 7: “IoT devices/Embedded Systems/Big data/Data Mining” Chairman: Dr. Mustapha Hamdi	Session 8: “Nanomaterials/Electrochemistry” Chairman: Prof. Dr. Saber Chatti (Humboltianer)
<p>11:00 – 11:35: Accelerating HEVC decoder using ARM NEON on Zedboard platform, Prof. Dr. Abderrazek Jemaii, INSAT, Tunisia (Keynote)</p> <p>11:40 – 12:05: Thinking big: An introduction to big data concepts, Dr. Lilia Sfaxi, LIP2 Laboratory, INSAT, Tunisia</p> <p>12:10 – 12:35: A context-aware augmented reality System for intelligent driver assistance based on Traffic sign recognition, Dr. Faten Chaieb, ENSI, Tunisia</p> <p>12:40 – 13:05: Bio-inspired SoC: towards multiscale modeling and characterization, Dr. Mustapha Hamdi, Carthage University, Tunisia</p>	<p>11:00 – 11:35: Titanate nanotubes as ethanol decomposition catalysts: effect of coupling photocatalysis with non-thermal plasma, Prof. Dr. Latifa Bergaoui, INSAT, Tunisia (Keynote)</p> <p>11:40 – 12:05: Post functionalization of electro-grafted films on metallic and semiconductive surfaces: applications in the fields of microelectronics and biosensors, Dr. Sami Ameer, Chatt-Meriem, Tunisia</p> <p>12:10 – 12:35: Dielectric study of P3HT: SiNWs hybrid layer: effect of the bias voltage and illumination, H. Saidi, Laboratoire de la Matière Condensée et des Nanosciences, University of Monastir, Tunisia</p> <p>12:40 – 13:05: Study, modeling and design of 2D photonic crystal waveguides, L. Ben Achour, University of Sciences and Technology, Constantine 1, Algeria</p>

13:00 – 15:00: Lunch

15:30 – 16:30: Success Story of Humboltians:

Alexander Von Humboldt Foundation and the International Network, **Prof. Dr. Adnane Abdelghani / Prof. Dr. Saber Chatti**, Tunisia – Discussions about AvH programs

17:00: Closing sessions

Posters

P1: Synthesis of new materials used as precursor in solar cells derives of arylene-cyano-vinylene characterization: cyclic voltammetry, spectroscopic (UV, IR, fluorescence, DSC) and impedance spectroscopy, **S. Mosbah**, Université des frères Mentouri, Constantine, Algeria

P2: Spin density and most active group of chitosan gallic (most stable radical) computed in the gas phase and water at the M05-2X/6-31+G (d,p) level of theory, **A. Fezazi**, University of Sidi Bel Abbes, Algeria

P3: Capacitive field-effect sensors for DNA sensing, **T. Bronder**, Institute of Nano- and Biotechnologies (INB) Jülich, FH Aachen, Marburg, Germany

P4: Improved remote sensing detection of soil degradation, **Dr. M. Bouaziz**, Gafsa University, Tunisia

P5: DFT and TDDFT study of the structure and optical properties of the complexes containing Nickel, **K. Bouchemella**, University of Mentouri Brothers Constantine, Algeria

P6: Numerical investigation of micro-fluidic flow in aligned and U geometry with flow confinement effect study in a micro-channel of a biosensor, **M. Bahri**, NANOMESENE Laboratory, Centre for Research on Microelectronics and Nanotechnology of Sousse, Technopole of Sousse, Tunisia

P7: Novel strategy for antigen TNF-detection using on three-dimensional nanostructure screen printed gold electrode, **L. Barhoumi**, NANOMESENE Laboratory, Centre for Research on Microelectronics and Nanotechnology of Sousse, Technopole of Sousse, Tunisia

P8: Effects of the solution molarity on the structural and composition properties of undoped ZnO thin films deposited by spray pyrolysis, **L. Saci**, University des frères Mentouri, Algeria

P9: Effects of interdigital electrodes geometrical parameters on chemical sensor response, **K. Dallah**, University Frères Mentouri of Constantine, Faculté des Sciences de la Technologie, Constantine, Algeria

P10: Conformational study of D-neocarrabiose in explicit solvent, **A.D.A. Touilsag**, L2MSM, Faculté des Sciences Exactes. Université Djillali Liabes de Sidi Bel Abbès, Sidi Bel Abbès, Algeria

P11: Hyperpolarizabilities of phenyl amine derivatives, **S.S. Boualem**, Micro-analyse de la Matière et Spectroscopie Moléculaire L2MSM, Faculté des Sciences Exactes. Université Djillali Liabes de Sidi Bel Abbès, Sidi Bel Abbès, Alegria

P12: Elaboration of new nanoporous nanocomposite materials with clay to strengthen by modified fiber cellulose, **F. Aloulou**, Laboratory of Energy and Materials, University of Sousse, Tunisia

P13: Immunosensor development for meat contamination detection, **M.B. Mejri**, Carthage University, Tunisia

P14: Biosensing approach for surface contamination analysis, **Heikel Ben Fredj**, Carthage University, Tunisia