



# Symposium on Nanotechnology

## *Towards establishing advanced materials and nanotechnology research in Palestine*

27 – 28 June 2019

At Palestine Red Crescent Society, Ramallah & Al-Aqsa University, Gaza

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In collaboration with Prof. Munir Nayfeh, this symposium convenes a multi-disciplinary group of scientists from Palestine and abroad, to highlight the need for nanotechnology research and education in Palestine, to share the related research and development work undertaken in the field, while surveying its strengths and weaknesses, to promote collaboration of Palestinian scientists within the country and with international counterparts, and draw a roadmap for forming a vibrant national Palestinian Nanotechnology Hub endorsed by the Academy.

In partnership with:



الاتحاد العام للصناعات الفلسطينية  
Palestinian Federation of Industries

Sponsored by:

Friedrich Naumann  
STIFTUNG

**FÜR DIE FREIHEIT**

**First day: Thursday, 27 June 2019**

**First session: Muayad Abu Saa**

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| 8:30 – 9:00   | <b>Registration</b>   |
| 09:00- 9:20   | <b>Welcoming and Speeches</b><br><i>Marwan Awartani, President of Palestine Academy for Science and Technology;</i><br><i>Ulrich Wacker; Head of Jerusalem Office, Friedrich Naumann Foundation;</i><br><i>Bassam Walweel; President, The Palestinian Federation of Industries</i>      |
| 09:20 – 10:00 | <b>Role of nanotechnology in developing high tech from lab to consumer</b><br><i>Munir H. Nayfeh, Dep. of Physics, U of Illinois at Urbana-Champaign. President,</i><br><i>NanoSi Advanced Technologies Inc., Research Park, Champaign, IL, USA</i>                                     |
| 10:00 – 10:40 | <b>Agricultural and Biomedical Applications of Bionanotechnology to Tackle Grand Societal Challenges</b><br><i>Irfan S. Ahmad, Micro and Nanotechnology Laboratory, College of Engineering and</i><br><i>Carle Illinois College of Medicine, U of Illinois at Urbana-Champaign, USA</i> |
| 10:40 – 11:10 | <b>Nanotechnology in Palestine: Reality, Challenges, and prospects</b><br><i>Amal Al-kahlout, Al-Azhar U, Palestine;</i><br><i>Talal Shahwan, Birzeit U, Palestine</i>  |

11:10 - 11:25 **Coffee break**

**Second session: Mohammad Abu Samreh**

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| 11:25 – 11:45 | <b>Monitoring the effects of phase transitions on the structural and optical properties of Se/Ag/Se nanostructures</b><br><i>Atef Qasrawi, Hadil D. Aloushi; Dep. of Physics, Arab-American U, Palestine</i>  |
| 11:45 - 12:00 | <b>Theoretical and experimental analysis of energy in charging a capacitor by step-wise potential.</b><br><i>Sami M. AL-Jaber and Iyad Saaddin, Dep. of Physics, An-Najah N. U, Palestine</i>   |
| 12:00 - 12:15 | <b>Charge Carrier-Plasmon Interactions at the (In, Pb, La)/Cu<sub>2</sub>Se Interfaces</b><br><i>Arwa N. Abu Ghannam, A. F. Qasrawi. Dep. of Physics. Arab American U, Palestine</i>  |
| 12:15 - 12:30 | <b>Application of Nanotechnology in Cancer therapy: A Research Case in Palestine</b><br><i>Mohyeddin Assali. Dep. of Pharmacy, An-Najah N. U, Palestine</i>   |
| 12:30 - 12:45 | <b>Design and Optical Characterization of Indium Sandwiched Molybdenum Trioxide Thin Films</b><br><i>Haifaa' Kmail<sup>1</sup>, M. Abu Saa<sup>1</sup>, Hazem K. Khanfar<sup>2</sup>, A. F. Qasrawi<sup>1</sup>. <sup>1</sup>Dep. of Physics,</i><br><i>Arab American U, Palestine;<sup>2</sup> Dep. of Telecommunication Engineering, Arab American</i><br><i>U, Palestine</i>   |
| 12:45 - 13:00 | <b>Perovskite Materials and Spiro-MeOTAD in Perovskite Solar Cells</b><br><i>Zafer Hawash,<sup>1,2</sup> Luis K Ono,<sup>1</sup> Sonia R Raga,<sup>1,3</sup> Michael V Lee,<sup>1,4</sup> Dae-Yong Son,<sup>1,5</sup></i><br><i>Nam-Gyu Park,<sup>5,*</sup> Yabing Qi,<sup>1,*</sup>. <sup>1</sup>OIST Graduate U, Japan. <sup>2</sup>Karlstad U, Sweden.</i><br><i><sup>3</sup>Monash U, Australia. <sup>4</sup>Northern Arizona U, USA. <sup>5</sup>Sungkyunkwan U, Korea</i> |
| 13:00 - 13:15 | <b>Magnetic and thermal properties of a semiconductor quantum dot with Rashba spin – orbit parameter and applied external fields.</b><br><i>Amal Aldarawsheh, Mohammad Elsaid*, Ayham Shaer .Physics Dep., Faculty of</i><br><i>Science, An- Najah N. U, Palestine</i>  |
| 13:15 - 13:30 | <b>Heat assisted structural evolutions and related optical transitions in Yb nano sandwiched CuSe films</b><br><i>Olfat A. Omareya, A. F. Qasrawi. <sup>1</sup>Dep. of Physics, Arab American U, Palestine</i>  |

**13:30 – 14:30 Lunch**

## Gaza session: Sami Shaath

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| 14:30 - 14:50 | <b>Nanotechnology in Microbiology</b><br><i>Abdelraouf A. Elmanama, Islamic U of Gaza, Palestine</i>   |
| 14:50 – 15:05 | <b>Silver nanoparticles : controlled synthesis and application</b><br><i>Jamil K. Salem, Dep. of Chemistry, Al-Azhar U, Palestine</i>  |
| 15:05 – 15:20 | <b>Enhancement of Reactive Red 198 dye photocatalytic degradation using physical mixtures of ZnO-graphene nanocomposite and TiO<sub>2</sub> nanoparticles: an optimized study by response surface methodology</b><br><i>Samer Abuzerr<sup>1,2</sup>, Maher Darwish<sup>2</sup>, Ali Mohammadi<sup>2</sup>, Sara Sadat Hosseini<sup>2</sup>, Amir Hossein Mahvi<sup>2</sup>. 1Palestinian Ministry of Health, Unit of Quality Improvement and Infection Control, Palestine; 2Dep. of Environmental Health Engineering, Faculty of Public Health, Tehran U of Medical Sciences, Iran</i> |
| 15:20 - 15:35 | <b>Perovskite solar cells free of hole transport layer</b><br><i>Hussam S. Musleh, Physics Dep., Al Azhar U, Palestine</i>   |
| 15:35 - 15:50 | <b>Manganese oxides nanoparticles for <i>super capacitors</i> applications</b><br><i>Jehad Asaad, Islamic U of Gaza, Palestine</i>   |
| 15:50 – 16:05 | <b>Simulation of solar cell structure models based on Nanoparticles</b><br><i>Khoulud Kh. Abushaar, Islamic U Of Gaza, Palestine</i>   |
| 16:05 - 16:20 | <b>Antimicrobial &amp; Anticancer Activities of synthesized Green Metal Nanoparticles Using Minerals waste Recycling By green method's</b><br><i>Salah ElSadi<sup>1</sup>, Mahmoud ElHindi<sup>2</sup>, Reem Jaber<sup>2</sup>. 1Water &amp; Environment Studies, Al Azhar U, Palestine, 2Biotechnology, Islamic U of Gaza, Palestine</i>  |
| 16:20 – 16:35 | <b>Monitoring Titanium Dioxide Engineered Nanoparticles in Environmental Systems</b><br><i>Mohammed Baalousha, Center for Environmental Nanoscience &amp; Risk, Arnold School of Public Health, U of South Carolina, USA</i>   |

## Second day: Friday, 28 June 2019

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### First session: Sami Al Jaber

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| 09:00 - 09:40 | <b>Nanotheranostics for personalized cancer care</b><br><i>Bulent Aydogan, Director of Medical Physics, U of Chicago, USA</i>   |
| 09:40 - 10:20 | <b>National French Network in Micro and Nanotechnology Prospect of Cooperation with Palestinian Academic Institutes</b><br><i>Ahmad BSIESY, Director of CIME Nanotech, U Grenoble Alpes, France</i>   |
| 10:20 - 10:35 | <b>Nanoparticles and their applications in health and modern medicine (Nanomedicine)</b><br><i>Mohammad M. Abu-Samreh, Physics Dep., Arab American U, Palestine</i>   |
| 10:35 – 10:55 | <b>Photo-degradation of water-organic contaminants and bacteria with safe sensitized TiO<sub>2</sub> and ZnO nanoparticles: a green sustainable method for water purification</b><br><i>Ahed Zyoud<sup>1</sup>, Hikmat Hilal<sup>1</sup>, Muath Helal<sup>2</sup>, Majdi Dwikat<sup>1</sup>, Samar Al-Shakhshir<sup>1</sup>, Samer Zyoud<sup>3</sup>, Amani Zu'bi<sup>1</sup>, Raed Alkowni<sup>4</sup>. <sup>1</sup>Dep. of Chemistry, An-Najah U, <sup>2</sup>College of Pharmacy and Nutrition, U of Saskatchewan, Canada, <sup>3</sup>Dep. of Math and Science, Ajman U, UAE, <sup>4</sup>Dep. of Biology and Biotechnology, An-Najah U., Palestine</i> |

**10:55 – 11:05** Coffee break

**11:05 – 12:15** Poster session

**12:15 – 14:10** Free time and Lunch

### Second session: Atef Qasrawi

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| 14:10 - 14:25 | <b>Continuous flow photodegradation of olive Zear contaminants with simulated solar light using supported ZnO nanoparticles</b><br><i>Ibrahim Nassar<sup>1</sup>, Hikmat S. Hilal<sup>1</sup>, Ahed H. Zyoud<sup>1</sup>. <sup>1</sup>Dep. of Chemistry, An-Najah U, Palestine</i>  |
| 14:25 - 14:40 | <b>Construction and physical properties of engineered connective tissue Enriched with modified carbon nanotubes</b><br><i>Naim Kittana, An-Najah N. U, Palestine</i>  |
| 14:40 - 14:55 | <b>Controlling the Motion and Stopping of Ferrofluid Droplets Using Surface Tension Gradients and Uniform Magnetic Fields</b><br><i>Khalid F. Eid<sup>1,2</sup>, Mohan Panth<sup>2</sup>, Tyler Ody<sup>2</sup>, Mojtaba Edalatpour<sup>2,3</sup>, Andrew Sommers<sup>3</sup>. <sup>1</sup> Dep. of Physics, Birzeit U, Palestine <sup>2</sup> Dep. of Physics, Miami U, USA <sup>3</sup> Mechanical and Manufacturing Engineering, USA</i> |
| 14:55 - 15:10 | <b>Synthesis, characterization and optical properties of ZnO nanostructures: from nanoparticles to nanorods</b><br><i>Ishaq Musa. Dep. of Physics, Palestine Technical U-Kadoorie, Palestine</i>  |
| 15:10 - 15:25 | <b>Electrodeposited NiO Electrochromic Thin Films Prepared Using Low Deposition parameters</b><br><i>Iyad Saadeddin, Mohammed Suleiman, Haneen Salman, Aline Rougier, Al- Najah U, Palestine</i>  |

**15:25 – 15:35** Coffee break

### Final session: Hikmat Hilal

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| <b>15:35 – 16:30</b> | <b>Strategic session and concluding remarks</b> |
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