

**Palestinian Conference on Modern Trends in Mathematics and Physics II**  
**Faculty of Science, An-Najah National University, Nablus, Palestine.**

**2-4 August 2010**

**Conference Program**

**Day 1: Monday, 2 August 2010.**

<b>8:00 – 9:00</b>	<b>Registration at Entrance of Turki Bin Abdul Aziz Theatre</b>
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Session I	Opening Session at <b>Turki Bin Abdul Aziz Theatre</b>
9:00 – 9:05	Introduction and PNA
9:05 – 9:15	Welcoming message: <i>Prof. Rami Hamdalla ( President of An-Najah National University)</i>
9:15 – 9:25	Welcome & Overview of PCMTMP II: <i>Prof. Sami AL-Jaber ( Conference Chairman )</i>

**NOTE: All Presentations will be held at Faculty of Science's Auditorium lecture Hall**  
**(Which is about 2-3 minutes walking north east of the Theatre)**

Plenary Talk	<b>Chair: Prof. Ulrich Eckern</b>
9:40 – 10:20	<b>Polarization fingerprints in the clear sky</b> <i>Sir. Prof. Michael Berry</i> <i>Physics Department, Bristol University, UK.</i>

10:20 – 10:50	<b>Coffee Break</b>
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Session II : 10:50 – 12:35	<b>Chair: Prof. Sami M. AL-Jaber</b>
10:50 – 11:05	Extraordinary optical transmission revisited: how light gets through isolated or periodic arrays of sub wavelength slits and holes (or not). <i>Prof. John Weiner</i> <i>NIST/CNST Gaithersburg, USA</i>
11:05 -11:20	Particle acceleration by radially-polarized laser beams <i>Prof. Yousef Salamin</i>

	<i>Physics Department, American University of Sharjah, UAE</i>
11:20 – 11:35	Correlations effects and magnetism in transport properties of single molecules <i>Prof. Ferdinand Evers</i> <i>Karlsruhe Institute of Technology, Germany</i>
11:35– 11:50	The equation of state and thermodynamic properties of nuclear matter at low densities <i>Prof. Henry Jaqaman</i> <i>UNESCO Chair of Mathematics and Theoretical Physics, Bir Zeit University, Palestine</i>
11:50 – 12:05	Correlation of backscattered and recoil ions in violent ion-atom collisions by coincident Rutherford backscattering spectrometry <i>Dr. Hanan Sa'adeh</i> <i>Department of Physics, University of Jordan, Jordan</i>
12:05 – 12:20	An investigation of the size-dependent cohesive energy of spherical metallic nanoparticles. <i>Prof. Thabit Barakat</i> <i>Department of Physics, King Saud University, Saudi Arabia</i>

<b>12:20 – 1:30</b>	<b>Lunch at Main University Restaurant ( Next to Lecture Hall )</b>
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Session III 1:30 – 3:00	<b>Chair: Prof. Henry Jaqaman</b>
1:30 – 1:45	Spectroscopic study of the interaction of human serum albumin with steroid hormones "progesterone and its parent compound cholesterol <i>Mr. Jafar H. Ghithan</i> <i>Department of Physics, AL-Quds University/Abue Deis, Palestine</i>
1:45 – 2:00	Spectroscopic investigations of pentobarbital interaction with human serum albumin. <i>Dr. Swasan Abu Sharkh</i> <i>Physics department, AL-Quds University/Abue Deis, Palestine</i>
2:00 – 2:15	Distribution and clustering of sialic acids on single mucins and mucous gels <i>Dr. Monica Berry</i> <i>Academic Unit of Ophthalmology and HH Wills Physics Laboratory, University of Bristol, UK.</i>
2:15 – 2:30	Contribution to the study of a mathematical model of Erythropoiesis (Red Blood cell production). <i>Ms. Rana Abu Eisheh</i> <i>Department of Mathematics, Palestine Polytechnique University, Palestine.</i>
2:30 – 2:45	Hydrogen uptake in nano-sized metallic and bimetallic clusters. <i>Dr. Mohammad Shtaya</i> <i>Department of Chemistry, An-Najah National University, Palestine.</i>
2:45 – 3:00	Plasma assisted deposition of TiN-Ag ceramic/ metal composite coatings.

	<i>Dr. Shehdeh Jodeh</i> <i>Department of Chemistry, An-Najah National University, Palestine.</i>
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3:00 – 3:30	<b>Coffee Break</b>
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Plenary talk	<b>Chair: Prof. Talat Rahman</b>
3:30 – 4:10	Computing slowly advancing features in fast-slow systems without scale separation – A young measure approach <i>Prof. Edriss Titi</i> <i>Department of Mathematics, UCI, USA</i>

Session IV 4:40 – 6:10	<b>Chair: Prof. Roberto Raimondi</b>
4:10 – 4:25	On A-rings: A generalization of integral domains <i>Dr. Ayman Badawi</i> <i>Department of Mathematics, American University of Sharjah, UAE.</i>
4:25 – 4:40	The spectrum of the coloration matrix for the complete partite graph. <i>Dr. Subhi Ruzieh</i> <i>Department of Mathematics, An-Najah National University, Palestine.</i>
4:40 – 4:55	Empirical Post Hoc Conditional Power: Background, planning and use. <i>Dr. Monjed Samuh</i> <i>Department of Statistical Sciences, University of Padua, Italy.</i>
4:55 – 5:10	On the strong uniform consistency of a conditional mode estimator for randomly left truncated time series. <i>Dr. Abdelkader Tatachak</i> <i>Department de Probabilit'es et Statistique, U.S.T.H.B, Algeria</i>
5:10 – 5:25	Advanced meshing methods for complex multi-physics applications <i>Dr. Ahmad Khamayseh</i> <i>Oak Ridge National Laboratory, USA</i>

7:00 – 8:00	<b>Walking Tour in the old city of Nablus ( Optional)</b>
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8:00 – 10:00	<b>Dinner at AL-Yasmeen hotel</b>
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## Day 2: Tuesday, August 3, 2010.

Plenary Talk	<b>Chair: Prof. Annick Suzor Weiner</b>
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8:40 – 9:20	Persistent currents in normal metal rings: Old questions, new answers <i>Prof. Ulrich Eckern</i> <i>Institute of Physics, University of Augsburg, Germany.</i>
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Session V 9:20 – 10:35	<b>Chair: Prof. Michael Berry</b>
9:20 – 9:35	From neutron stars to Tokamaks: another way for solving the energy problem of the world. <i>Dr. Ahmad Hujeirat</i> <i>LSU, Heidelberg, Germany</i>
9:35 – 9:50	Some aspects of approximation techniques applied to quantum systems in multi-dimensional space. <i>Prof. Sami M. AL-Jaber</i> <i>Department of Physics, An-Najah National University, Palestine.</i>
9:50 – 10:05	Weyl and Weyl picture of quantum mechanics: An inverse problem for the Schrodinger operator. <i>Dr. Augusto Gerolin</i> <i>University of Joseph-Fourier, France.</i>
10: 05 – 10:20	The wave equation with energy-dependent potentials. The linear case. <i>Prof. Roland Lombard</i> <i>Institut de Physique Nucleaire, Orsay, France.</i>
10:20 – 10:35	Nanoalloys: Playing fields of Alchemists revisited and refined. <i>Prof. Talat Rahman</i> <i>Department of Physics, University of Central Florida, USA.</i>

10:35 – 11:05	<b>Coffee Break</b>
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Plenary Talk	<b>Chair: Prof. Ferdinad Evers</b>
11:05 – 11:45	Spin Hall effect in a two – dimensional electron gas <i>Prof. Roberto Raimondi</i> <i>CNISM and Dipartimento di Fisica, Universita Roma Tre, Italy</i>

Session VI 11:45 – 1:00	<b>Chair: Prof. John Weiner</b>
11:45 – 12:00	Project of modeling ion heating and wave-particle interaction in the magnetosphere of the earth. <i>Prof. Imad Barghouthi</i> <i>Department of Physics, AL-Quds Univesity, Abu Deis, Palestine</i>
12:00 – 12:15	Modeling of the current – voltage characteristics in the quantum Hall effect. <i>Prof. Mohammad Abu Samreh</i> <i>Department of Physics, AL-Quds Univesity, Abu Deis, Palestine</i>
12:15 – 12:30	GR-I-RMHD: a versatile numerical algorithm for modeling dissipative flow in high energy astrophysics.

	<i>Dr. Ahmad Hujeirat</i> <i>LSU, Heidelberg, Germany</i>
12:30 – 12:45	Validation of a computational fluid dynamics code (CASTEM) on some simple cases. <i>Mr. Ahmad Azzam Bassalat</i> <i>University of Paris Sud XI, France.</i>
12:45 – 1:00	Characterization of nonlinear properties on nano guides in Silicon. <i>Mrs. Hadil Abu AL Rob</i> <i>University of Paris Sud XI, France.</i>

<b>Lunch</b> <b>1:00 – 2:15</b>	<b>University Main Restaurant (Next to Lecture Hall )</b>
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Plenary Talk	<b>Chair: Prof. Saber Elaydi</b>
2:15 – 2:55	Critical points at infinity in the variational calculus: An overview. <i>Prof. Abbas Bahri</i> <i>Department of Mathematics, Rutgers University, USA.</i>

Session VII 2:55 – 3:55	<b>Chair: Prof. Claude Bardos</b>
2:55 – 3:10	Special boundary integral equations for approximate solutions of Laplace's equation in multi-dimensional regions <i>Dr. Y. Zahaykah</i> <i>Department of Mathematics, AL Quds University, Palestine.</i>
3:10 – 3:25	Bifurcation and invariant manifolds in competition models. <i>Prof. Saber Elaydi</i> <i>Department of Mathematics, Trinity University, USA.</i>
3:25 – 3:40	Mathematical modeling of faith and transport of underground water pollution. <i>Prof. Fathi Allan</i> <i>Department of Mathematical Sciences, United Arab Emirates University, UAE.</i>
3:40 – 3:55	Scaling in turbulent flow: Heuristics and rigorous results. <i>Dr. Fabio Ramos</i> Department of Mathematics, University of Bonn and Universidade Federal do Rio Janiro, Brazil.

3:55 – 4:25	<b>Coffee Break</b>
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Session VIII 4:25 – 5:25	<b>Chair: Prof. Abbas Bahri</b>
4:25 – 4:40	Coupled Parallel flow through porous layers of variable thicknesses. <i>Prof. Mohammad Hamdan</i> <i>Department of Mathematical Sciences, University of New Brunswick, Canada.</i> <i>Presented by: Prof. Fathi Allan</i> <i>Department of Mathematical Sciences, United Arab Emirates University, UAE.</i>
4:40 – 4:55	Strong solutions to a nonlinear fluid structure interaction system.

	<i>Dr. Amjad Tuffaha</i> <i>Department of Mathematics, University of Southern Carolina, USA.</i>
4:55 - 5:10	On Interpolation in Hardy – Orlicz spaces <i>Prof. Mahmud Masri</i> <i>Department of Mathematics, An-Najah National University, Palestine.</i>
5:10 – 5:25	Some Theorems on fractional integration of multivariable H-function and their applications. <i>Prof. Mohammad A. Hussain</i> <i>Department of Mathematics, Veer Kunwar University, India.</i>

<b>8:00 – 10:00</b>	<b>Live Soft Music Dinner at University Main Restaurant</b>
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### Day 3: Wednesday, August 4, 2010.

9:00 – 10:00	<b>Chair: Prof. Edris Titi</b>
Plenary Talk 9:00 – 9:40	Loss of smoothness and energy conservation in the 3D Euler equation with rough initial data. <i>Prof. Claude Bardos</i> <i>Department of Mathematics, University of Paris 7, France.</i>
9:40 – 9:55	Priority needs of Palestinian Universities that could be met through international academic cooperation. <i>Prof. Annick Suzor-Weiner</i> <i>Counselor for Science and Technology</i> <i>Embassy of France, Washington, USA.</i>
9:55 – 10:00	Commentary: <i>Dr. Suleiman Khalil</i> <i>Dean of Faculty of Science, An-Najah National University, Nablus, Palestine.</i>

10:00 – 10:30	<b>Coffee Break</b>
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Session IX 10:30 – 11:45	<b>Chair: Prof. Fathi Allan</b>
10:30 – 10:45	Algebraic properties of truncated Toeplitz operators. <i>Mr. Muath Karaki</i> <i>Mathematics Department, Universite claude Bernard Lyon 1, France.</i>
10:45 – 11:00	Matrix representation of molecular graph <i>Dr. Mukhtar Salah</i> <i>Department of Mathematics, AL-Quds Open University, Palestine.</i>
11:00 – 11:15	Closness centrality and epidemic spreading in networks. <i>Mr. Fares Rabay'a</i> <i>An-Najah National University, Palestine.</i>
11:15 – 11:30	The square root of 2 x 2 matrices.

	<i>Mr. Ihab AL Tamimi</i> <i>Department of Mathematics, Palestine Polytechnique University, Palestine.</i>
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Plenary Talk	<b>Chair: Prof. Yousef Salamin</b>
11:30 – 12:10	Materials research prospects in Palestine, case history; Semiconductor research at Najah. <i>Prof. Hikmat Hilal</i> <i>Department of chemistry, An-Najah national University, Palestine.</i>
12:10 – 12:25	The black hole - galaxy connection. <i>Dr. Adi Naseer</i> <i>Department of Physics, Technion, Haifa.</i>

12:25 – 1:45	<b>Lunch at Main University Restaurant</b>
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Session X 1:45 – 3:00	<b>Chair: Prof. Hikmat Hilal</b>
1:45 – 2:00	A comparative study for structural and electronic properties of ScN compound. <i>Dr. Rezek Estaiteh</i> <i>College of applied Sciences, Palestine Technical University, Palestine.</i>
2:00 – 2:15	A confined hydrogen atom in higher space dimensions <i>Mrs. Muzaian Shaqur</i> <i>Department of Physics, An-Najah National University, Palestine</i>
2:15 – 2:30	Effect of infrared laser on the activation energy of CR-39 solid state nuclear track detector. <i>Dr. Nidal Dwaikat</i> <i>Department of Physics, An-Najah National University, Palestine.</i>
2:30 – 2:45	The effect of noise pollution in arterial blood pressure and heart pulse rate on schools' children at Jenin city – Palestine. <i>Ms. Roba Saeed</i> <i>Department of Physics, An-Najah National University, Palestine.</i>
2:45 – 3:00	ZnO under direct sun light, replaced CdS@TiO <sub>2</sub> particles in photo-degradation of phenazopyridine. <i>Dr. Ahed Zayoud</i> <i>Department of Chemistry, An-Najah National University, Palestine.</i>
3:00 – 3:15	First principle study of Zincblende Fe <sub>x</sub> Ga <sub>1-x</sub> N alloys. <i>Mr. Mahmoud M. Eissa</i> <i>Department of Physics, An-Najah National University, Palestine.</i>

3:15 – 3:45	<b>Coffee Break</b>
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3:45 – 4:00	Guiding of 60 keV O <sub>6+</sub> ions through nanocapillaries in an uncoated Al <sub>2</sub> O <sub>3</sub> membrane. <i>Dr. Csert Ml</i> <i>Lanzhou University, USA.</i>
4:00 – 4:15	Simulation of the location of the earth bow shock by using PIC EM relativistic code. <i>Dr. Suleiman Baraka</i>

	<i>Department of Physics, ALaqa University, Gaza, Palestine.</i>
4:15 – 4:30	Lagrangian formulation of fractional field systems. <i>Prof. Sami Muslih</i> <i>Department of Physics, AL-Azhar University, Gaza, Palestine.</i>
4:30 – 4:45	The intersection operation in light of the concept of joint observables in fuzzy probability theory. <i>Dr. Taghreed Zaki Nasr</i> <i>Department of Mathematics, AL-Aqsa University, Gaza, Palestine.</i>

4:45 – 5:00	<b>Closing session and recommendations</b>
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**Poster Presentations: To be displayed at 10:30 Tuesday at Entrance of the Auditorium Lecture Hall.**

1. Effect of surface charge discretization on electric double layer  
*Dr. Khawla Qamhieh and Mirfit Amleh*  
*Physics Department, AL-Quds University, Palestine.*
2. Liouville type theorems for biharmonic maps  
*Dr. Seddik Quakkas*  
*Universite de Saida, Algerie.*
3. Local existence and exponential growth for a nonlinear viscoelastic hyperbolic equation  
*Dr. Khaled Zennir*  
*Universite Badji Mokhtar, Algerie.*
4. Indium oxide co-doped with tin and zinc (ITZO): preparation of highly conducting and high density targets for TCO thin-film fabrication.  
*Dr. Iyad Sadeddin*  
*Department of Physics, An-Najah National University, Palestine.*