



The Fourth Palestinian Conference on Modern Trends in Mathematics and Physics (PCMTMP-IV)
August 11-13, 2014



Conference Agenda

Day 1, Monday, August 11, 2014

07:45 – 08:30	Transportation from Grand Park Hotel in Bethlehem to Al-Quds University – Abu-Dies Campus	
08:30 – 09:00	Reception and Registration	
09:00 – 09:40 Chair:Abdulkarim Al_Sharif	Opening Ceremony – Conferences Hall, Abu-Dies Campus	
09:40 - 10:25 P l e n a r y T a l k Chair: Yousef Zahaykah	<i>Finite Number of Determining Parameters for the Navier-Stokes Equations with Applications into Feedback Control and Data Assimilation</i> <i>Edriss Titi</i> <i>Texas A&M University , USA</i>	
10:25 - 11:00	Morning Break	
Parallel Sessions	Mathematics and Statistics Chair:Lucia Zanutto	Physics Chair: Musa Abu Teir
11:00 - 11:30	Novel algorithms for distributed high performance computing Peter V. Coveney, Centre for Computational Science, University College London, U.K.	Hartree-Fock and Correlation Calculations for Atoms and Molecules John Morrison, Department of Physics, University of Louisville, USA
11:30 - 12:00	Analysis of Survey Data under Informative Sampling Design and Nonignorable Nonresponse Mechanism Abdulahkeem Eideh, Al-Quds University, Palestine	Future human brain neuroimaging and high-performance computing Adnan Alshaikh, An-Najah University, Palestine
12:00 - 12:30	Tour I in Al-Quds University, Palestine Abu Jihad Museum for Prisoner Movement Affairs	
12:30 – 13:30	L u n c h B r e a k	

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<p>13:30 – 14:15 Plenary Talk Chair: Edriss Titi</p>	<p><i>A kinematic explanation for gamma-ray bursts</i> <i>Robert S. MacKay</i> <i>University of Warwick, United Kingdom</i></p>	
Parallel Sessions	<p>Mathematics Chair: Saber Elaydi</p>	<p>Physics Chair: Mohammad Abu-Samreh</p>
14:15 – 14:45	<p>Riccati Theory for Bolza Type Boundary/Point Control of Coupled Systems of PDEs Amjad Tuffaha, The Petroleum Institute, UAE</p>	<p>Sensitivity Enhancement Methods of Nano-Plasmonic Sensing Techniques Ibrahim Abdulhalim, Ben-Guorion University, Beersheba</p>
14:45 – 15:15	<p>Parameter Estimation of the Marshall-Olkin Exponential Distribution under Type-II Hybrid Censoring Schemes Mukhtar M. Salah, Majmaah University, Kingdom of Saudi Arabia</p>	<p>Synopsis of Quantum Chromodynamics: The theory of the strong interactions Ahmad Idilbi, Pennsylvania State university, USA</p>
15:15 – 15:45	<p>An Exact Controllability Problem in a Domain with Oscillating Boundaries and its Homogenization A.T. Nandakumarn, Indian Institute of Science Bangalore, India (via Skype)</p>	<p>Finite Difference Time Domain Method (FDTD) for Simulation of Metamaterial waveguides for Solar Cells Energy Muhammad Shabat, Islamic University of Gaza, Palestine (via Skype)</p>
15:45 – 16:15	<p style="text-align: center;">Afternoon Break</p>	
Parallel Sessions	<p>Mathematics Chair: Mohammad Khalil</p>	<p>Physics Chair: Saleem Zaroubi</p>
16:15 – 16:35	<p>Minimum flows in the total graph of a finite commutative ring Khalida Nazzal, Palestine Technical University - Kadoorie, Palestine</p>	<p>Spectroscopic approach of the interaction study of Ceftriaxone and human serum albumin Musa Abu Teir, Al-Quds University, Palestine</p>
16:35 – 16:55	<p>Turán type theorems for separated bipartite convex geometric graphs Abdalla Kamal, Al-Quds University, Palestine</p>	<p>Time-odd mean field in covariant density functional theory Hazem Abusara, An-Najah National University, Palestine</p>
16:55 – 17:15	<p>On Numerical Solutions of First Order Systems of Hyperbolic Partial Differential Equations Yousef Zahaykah, Al-Quds University, Palestine</p>	<p>Transfer of Natural Radionuclides from Soil to Plants and Grass in the Western North of West Bank Environment- Palestine Khalil Thabayneh, Hebron University, Palestine</p>
17:15 – 17:35	<p>A Family of Stochastic Optimal Control Problems with Multiple Random Time Horizons Abdelrahim S. Mousa, Birzeit University, Palestine</p>	<p>Statistical Approach for Modeling of Daily Global Solar Radiation on Horizontal Surfaces Over Hebron City, Palestine Husain Alsamamra, Al-Quds University, Palestine</p>

Day 2, Tuesday, August 12, 2014

0 7 : 4 5 – 0 8 : 3 0	Transportation from Grand Park Hotel in Bethlehem to Al-Quds University-Abu-Dies Campus	
0 8 : 3 0 – 0 8 : 4 5	Reception and Registration	
0 8 : 4 5 – 0 9 : 3 0 P l e n a r y T a l k Chair: Ayman Badawi	<i>The evolution of the Universe and its many phases</i> <i>Saleem Zaroubi,</i> <i>Rijksuniversiteit Groningen, Netherlands</i>	
Parallel Sessions	Mathematics Chair: Omar Ramadan	Physics Chair: Yousef Salamin
0 9 : 3 0 - 1 0 : 0 0	Isomorphic vector-valued Banach-Stone theorems for subspaces Hasan Al Halees, Saginaw Valley State University, University Center, USA	Tools for Next Generation Redshift Galaxy Surveys Adi Nusser, Technion, Haifa
1 0 : 0 0 - 1 0 : 3 0	A new continuous data assimilation algorithm for the Benard problem Aseel Farhat, Indiana University Bloomington, USA	Complexes Formed between DNA and Dendrimers of different Generations – modelling DNA wrapping and penetration Khawla Qamhieh, Al-Quds University, Palestine
1 0 : 3 0 - 1 1 : 0 0	Graphs associated to commutative rings Ayman Badawi, American University of Sharjah, UAE	Space Weather Forecasting and Major problems in Space Weather Suliman Baraka, Al-Aqsa, Gaza, Palestine (via Skype)
1 1 : 0 0 - 1 1 : 3 0	Morning Break	
Parallel Sessions	Statistics Chair: Abdulhakeem Eideh	Physics Chair: John Morrison
1 1 : 3 0 - 1 1 : 5 0	Kurtosis indices form multivariate skew normal distribution Lucia Zanutto, Padua University, Italy	The effect of dynamical change of the line width enhancement factor in the pulse-pumped quantum dot laser Muayyad Abu Saa, ¹ Vrije Univ. Brussel (Belgium) & Arab American University Jenin, Palestine
1 1 : 5 0 - 1 2 : 1 0	Non-parametric Bayesian modeling of cervical mucus symptom Bruno Scarpa, University of Padova, Italy	Rotational dynamics of colloidal particles moving through a cholesteric liquid crystal Mohammad M. Abu-Samreh, Al-Quds University, Palestine
1 2 : 1 0 - 1 2 : 3 0	A longitudinal stochastic model: an approximation with application to melanoma data Khaled Salah, Al-Quds University, Palestine	On the Design and Fabrication of Nanoparticles-based Field Effect Transistors Falah Awwad, United Arab Emirates University, UAE
1 2 : 3 0 – 1 3 : 3 0	Tour II in Al-Quds University, Palestine Museum of Mathematics Museum of Science	
1 3 : 3 0 - 1 4 : 3 0	Lunch Break	

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<p>14:30 - 15:15 Plenary Talk Chair: Ahmad Khamayseh</p>	<p><i>Global dynamics of triangular maps: application to hierarchical population models</i> Saber Elaydi, <i>Trinity University, USA</i></p>	
<p>Parallel Sessions</p>	<p>Education Session</p>	
<p>15:15 - 16:25 Moderator: Ibrahim Almasri</p>	<ul style="list-style-type: none"> • <i>Why Students avoid Studying Mathematics and Physics?</i> • أسباب عزوف الطلبة عن الالتحاق بدوائر الرياضيات في جامعتي القدس وبيت لحم • <i>Ibrahim Al-Grouz, Al-Quds University, Palestine</i> • <i>Haifa Konkar, Bethlehem University, Palestine</i> • <i>Mahmoud Abu-Samrah, Al-Quds University, Palestine</i> • عزوف طلبتنا عن تعلم الفيزياء والرياضيات: رؤية إسلامية • <i>Mahmoud Abu-Samrah, Al-Quds University, Palestine</i> • سياسات وزارة التربية والتعليم العالي وانعكاسها في تعزيز توجه الطلبة نحو تخصص الفيزياء والرياضيات • <i>ShehnazElfar, National Institute for Educational Training, Palestine</i> • <i>Why do students avoid studying Mathematics and Physics?</i> • <i>Waleed Deeb, Academic Consultant-Arab American University in Jenin, Palestine</i> • عزوف طلبة الصف الثاني عشر العلمي في فلسطين عن دراسة الرياضيات في الجامعات (أسباب ودوافع) • <i>Omar Atwan, Ministry of Education, Palestine</i> • عزوف الطلبة عن التخصص في مبحثي الرياضيات والفيزياء • <i>Maher Al Hashweh, Birzeit University, Palestine</i> 	<p>Poster Session</p> <p>Northern Reception Al-Quds University, Abu Dies Campus</p>
<p>16:25 - 17:25</p>	<p>Discussion</p>	

Day 3, Wednesday, August 13, 2014

07:45 – 08:30	Transportation from Grand Park Hotel in Bethlehem to Al-Quds University- Abu-Dies Campus	
08:30 – 08:45	Reception and Registration	
08:45 – 09:30 Plenary Talk Chair: Elias Elias	<i>Computational Quantum Hamiltonian Physics -- Finite Nuclei With Strong Interactions</i> James P. Vary <i>Iowa State University, USA</i>	
Parallel Sessions	Mathematics Chair: Safa Hamed	Physics Chair: Imad Ahmad Barghouthi
09:30 - 10:00	Conservative Computational Methods for Multiphysics Coupling Ahmad Khamayseh, Palestine Polytechnic University, Palestine	Signatures of Dirac-Weyl fermions in spectral and transport properties of graphene nano-ribbons: streamlines and incommensurate spectral oscillations Ferdinand Evers, Karlsruhe Institute of Technology, Germany
10:00 - 10:30	Analytical and Numerical Aspects of an MHD Flow Problem Naji Qatanani, An-Najah National University, Palestine	Experimental and numerical study of square wave oscillations due to asymmetric optical feedback in semiconductor ring lasers Lilia Mashal, Hebron University, Palestine
10:30 - 11:00	Morning Break	
Parallel Sessions	Best Master thesis in Mathematics and in Physics	
	Mathematics Chair: Ibrahim Algrouz	Physics Chair: Hazem Abu Sarah
11:00 - 11:20	A Semi-Numerical Analytical Solution of Ordinary and Partial Differential Equations by Differential Transformation Method Nizar Abu Ghannam, Arab American University-Jenin, Palestine	Effects of Intracellular Crowded Environment on Biochemical Reactions Lamis Naddaf, Birzeit University, Palestine
11:20 - 11:40	Efficient Computational Methods for Spatial Search and Query Enas Abu-Munshar, Palestine Polytechnic University, Palestine	The Electronic Band Structure of Graphene and Carbon Nanotubes Asmahan Tiryaki, An-Najah National University, Palestine
11:40 - 12:00	Analytical and Numerical Solutions of Magentohydrodynamic Flow Problem Abdel Latif Khaleel Sa'ad Aldin, An-Najah National University, Palestine	Medium Effects on the Binding Energy of a Hot Helion (^3He) Nucleus Arij Abdul Rahman, Birzeit University, Palestine
12:00 – 12:20	On Primal compactly packed modules Ahmad Abu-Mallouh, Islamic University of Gaza, Palestine (via Skype)	Synthesis of Nano-Sized Cobalt oxide Nano Particles Stabilized in Surfactant and Polymer Matrix and their Magnetic Properties Fadi Mohammad Mostafa Naalweh, An-Najah National University, Palestine

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1 2 : 2 0 – 1 3 : 3 0	Lunch Break	
Parallel Sessions	Mathematics Chair: Robert S. MacKay	Physics Chair: James P. Vary
1 3 : 3 0 – 1 4 : 0 0	Kirkman's tetrahedron and the fifteen schoolgirl problem Marco Pavone, University of Palermo, Italy	Tailoring properties of single layer transition metal dichalcogenides: looking beyond graphene Talat Rahman, University of Central Florida, USA
1 4 : 0 0 – 1 4 : 3 0	Simulation of Human/Humanoid Postural Control Kareem Tahboub, Palestine Polytechnic University, Hebron, Palestine	Particle Acceleration by a Frequency-Chirped Laser Pulse Yousef Salamin, American University of Sharjah, UAE
1 4 : 3 0 – 1 5 : 0 0	Abrupt Bifurcations in Chaotic Scattering: view from the anti-integrable limit Claude Baesens, University of Warwick, United Kingdom	Parameterization of Nonlinear Multi-rate Ripple-Free Deadbeat Control Problem Using LMIs Hatem Elaydi, Islamic University Gaza, Palestine (via Skype)
1 5 : 0 0 - 1 5 : 2 5	Afternoon Break	
Parallel Sessions	Mathematics Chair: Hasan Al Halees	Physics Chair: Henry Jaqaman
1 5 : 2 5 - 1 5 : 4 5	Systematic Explicit and Implicit Dispersive Finite Difference Time Domain Formulations Omar Ramadan, Eastern Mediterranean University, Turkey	O⁺ behavior in the auroral ionosphere: The effect of O⁺ – O⁺ Coulomb collisions Imad Ahmad Barghouthi, Al-Quds university, Jerusalem, Palestine
1 5 : 4 5 - 1 6 : 0 5	Taylor series solution of ordinary differential equations -new approach Fathi M. Allan, United Arab Emirates University, Al Ain, UAE	PIXE-RBS Beamline in the University of Jordan Van de Graaff Accelerator: Development and Applications Hanan SA'ADEH, The University of Jordan, Jordan
1 6 : 0 5 - 1 6 : 2 5	Solving a Polynomial Equation By a Contractive Sequence Yousef Manasrah, Hebron University, Palestine	New generation of organic memory devices with composite nanoparticles as charge storage elements Ahmad I. Ayesh, United Arab Emirates University, Al Ain, UAE

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16:25 – 16:45	Information Technology and Pedagogy Integration in Higher Education Institutions: The Case of Developing Teaching Scenarios for Scientific Courses Nabeel Al-Qirim, College of Information Technology, UAE University, Al-Ain, UAE	Dielectric characterization of semiconducting ZnPc films sandwiched between Gold or Aluminum electrodes Rushdi Kitaneh, Al-Quds University, Palestine
16:45 – 17:05	Arithmetic Progression of more Squares Muneer Karama, Palestine Polytechnic University, Palestine	Memristor and STTRAM Device Modeling and Design Trade-offs Baker Mohammad, Khalifa University of Science and Technology, UAE
17:05 – 18:00	Business Meeting	
18:00 - 20:00	Dinner and Recognition Awards at Al-Quds University-Abu-Dies Campus	