Palestinian Conference on Modern Trends in Mathematics and Physics VII (2022)

Day 1: Saturday, 30 July 2022

08:00-09:00	Reception and Registration
09:00-09:30	Opening Session
09:30-10:10	**Keynote: Mathematics of Turbulent Flows: A Million Dollar Problem!** Edriss Titi, *University of Cambridge, UK and Texas A&M University, USA*
10:10-10:30	**Coffee Break**

Session #1

	Physics (Hall 243), Moderator: Nasser Abukhdeir	**Math (Hall 317), Moderator: Mohammad Saleh**
10:30-11:10	**Exploiting defects in 2D materials for a sustainable future – theory meets experiment** Talat Rahman, *University of Central Florida, USA*	**Recent trends in topological fixed point theory and applications** Hichem Ben-El-Mechaiekh, *Brock University, Saint Catharines, Canada*
11:10-11:50	**Physics Beyond the Standard Model with vector-like quarks** Margarida N. Rebelo, *University of Lisbon, Portugal*	**Automated identification of landslides** Hasan Hamdan, *James Madison University, USA*
11:50-12:30	**Simple strategies to prepare semiconductor nano-film electrodes with high stability and conversion efficiency in solar energy** Hikmat S. Hilal, *An-Najah National University, Palestine*	**Applications of Stochastic Processes for Graph Sampling and Machine Learning** Abdelrahman Eid, *An-Najah National University, Palestine*
12:30-13:30	**Lunch**	

Session #2

	Physics (Hall 243), Moderator: Zafer Hawash	**Math (Hall 317), Moderator: Monjed Samuh**
13:30-13:45	**String theory, gauge theories, and geometry** Marwan Najjar, *King's College London, UK*	**A lagged particle filter for stable filtering of certain High-dimensional state-space models** Hamza Ruzayqat, KAUST*, KSA*
13:45-14:00	**Stochastic and analytical solutions of confined brownian motion in 1D with different boundary conditions** Rami M. Amro, *Palestine Technical University--Kadoorie, Palestine*	**On weakly projective and weakly injective semi-modules** Jamil Rimawi, *Birzeit University, Palestine*
14:00-14:15	**Simultaneous Effects of Rashba, Magnetic field and Impurity on the Magnetization and Magnetic Susceptibility of a GaAs-Semiconductor Quantum Ring** Mohammad K. Elsaid, *An-Najah National University, Palestine*	**Alternative Approach to Teachers Preparation Programs** Ali S. Shaqlaih, *University of North Texas at Dallas, USA*
14:15-14:30	**Study of Optical Energy gap and Quantum Confinement Effects in Zinc Oxide Nanostructures** Ishaq Musa, *Palestine Technical University-Kadoorie, Palestine*	**The origin of Lie symmetry methods for differential equations and the rise of abstract Lie** Ryad Ghanam, *Virginia Commonwealth University in Qatar*
14:30-14:45	**Coffee Break**	

Venue: Annex Building to the Institute of Law

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Day 1: Saturday, 30 July 2022

Session #3

	Physics (Hall 243), Moderator: Mohammad K. Elsaid	Math (Hall 317), Moderator: Abdelrahim Mousa
14:50-15:30	**Physics with one, two and three Higgs doublets** Per Osland, *University of Bergen, Norway*	**Forecasting the long-term variations of temperature and precipitation in Jordan** Mario Lefebvre, *Polytechnique Montréal, Canada*
15:30-16:10	**Being a woman in (astro)physics** Jocelyn Bell Burnell, *University of Oxford, UK*	**Global dynamics and stability in discrete dynamical systems/difference equations and application to evolutionary population models** Saber Elaydi, *Trinity University, USA*
16:10-16:25	**Coffee Break**	

Session #4

	Physics (Hall 243), Moderator: Husain Alsamamra	Math (Hall 317), Moderator: Reema Sbeih
16:25-16:40	**Development of a prototype of a sustainable magnetocaloric cooling device** Fatima Batat, *Alquds University, Palestine*	**Risk prediction in health insurance Industry using supervised learning algorithms** Hassan Abuhassan, *Birzeit University, Palestine*
16:40-16:55	**Pressure and temperature effects on the magnetization and magnetic susceptibility of doped gaas/algaas quantum heterostructure subjected to a magnetic Field** Eshtiaq Hijaz, *An-Najah National University, Palestine*	**Amalgamated algebras and duplications with different applications** Farah Omar, *Birzeit University, Palestine*
16:55-17:10	**Interplay of magnetic states and hyperfine fields of iron dimers on mgo(001)*** Sufyan Shehada, *Jülich Research Center, Germany*	**Closed-form expressions for the distribution of function of independent Nakagami-m random variables: application to wireless communications** Monjed Samuh, *Palestine Polytechnic University, Palestine*
17:10-17:25	**Fullerene in inverted Perovskite solar cell** Raneen Zahran, *Birzeit University, Palestine*	**Self-Generating of Diophantine Equation $d^2-c^2 = b^2-a^2$ And N-Tuples** Muneer Karama, *Palestine Polytechnic University, Palestine*
17:25-17:40		**The descriptive complexity of approximation properties in an admissible topology** Ghadeer Ghawadrah, *An-Najah National University, Palestine*

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Palestinian Conference on Modern Trends in Mathematics and Physics VII (2022)

Day 2: Sunday, 31 July 2022

Session #1

	Physics (Hall 243), Moderator: Nasser Abukhdeir	**Math (Hall 317), Moderator: Ayman Badawi**
09:00-09:40	**A journey through the Swampland** Thomas Van Riet, KU Leuven, Belgium	**On the dynamics of mixed monotonicity maps in a partially ordered metric space** Ziyad AlSharawi, *American University of Sharjah, UAE*
09:40-10:20	**Exploration of Near Horizon CFT Dual Examples and Conformal Weyl Gravity** Raid Suleiman, *Harvard University, USA*	**Numerical Solution of Non-stationary Aerodynamic integrodifferential Equations** Gamal N. Elnagar, *University of South Carolina, USA*
10:20-10:40	**Coffee Break**	

Session #2

	Physics (Hall 243), Moderator: Ishaq Musa	**Math (Hall 317), Moderator: Ziad AlSharawi**
10:40-10:55	**A Comparative Study of Five Numerical Methods for the Estimation of Weibull Parameters for Wind Energy Evaluation at Eastern Jerusalem, Palestine** Ali Manasra, *Alquds University, Palestine*	**Estimation of Entropy and Extropy Based on Right Censored Data: a Bayesian NonParametric Approach** Luai Al-Labadi, *University of Toronto Mississauga, Canada*
10:55-11:10	**A Study of the Electrical Conductivity of Dead Sea Water and Some of its Constituent Salts (H2SO4, Na2SO4 and naclo4)** Shahd Habbash, *An-Najah National University, Palestine*	**Variable Selection Method Based on Relative Belief Ratio** Ayman Alzaatreh, *American University of Sharjah, UAE*
11:10-11:25	**Sn-based perovskites solar cells towards high stability performance** Wafa Ayaydeh, *Birzeit University, Palestine*	**Matrices having a positive determinant and all of their other minors nonpositive** Imad Hassona, *Palestine Polytechnic University, Palestine*
11:25-11:40	**Photoconductance Studies of Individual zno: Sb micro-wires** Khatab Abualrob, *Birzeit University, Palestine*	**Equilibrium and Stability for Socio – Economic Development of the State of Palestine** Nour Haj Ali, *Palestine Technical University-Kadoorie, Palestine*
11:40-11:55	**Achievements and Barriers of Renewable Energy in Palestine: Highlighting Oslo Agreement as a Barrier for Exploiting RE Resources** Husain Alsamamra, *Alquds University, Palestine*	**Interpolation of Radial Basis Functions Using Trapezoidal Fuzzy Numbers** Alia Al-Saifi, *An-Najah National University, Palestine*
11:55-13:00	**Lunch**	

Session #3

	Physics (Hall 243), Moderator: Hebah Fatafta	**Math (Hall 317), Moderator: Alaa Talahmah**
13:00-13:40	**Computational characterization of ordered nanostructured surfaces** Nasser M Abukhdeir, *University of Waterloo, Canada*	**Multi-Modal Characterization of Kesterite Thin-Film Solar Cells: Experimental results and numerical interpretation** Abdellatif Saadaldin, *University of Bordeaux, France*
13:40-14:20	**Modified Gravity and Observational Constraints** Anne Davis, *University of Cambridge, UK*	**Numerical Treatment of a Singularly Perturbed Two-Point Boundary Value Problem Using Some Non-Local Transformation** Basem S. Attili, *University of Sharjah, UAE*

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14:20-14:40   **Coffee Break**

Day 2: Sunday, 31 July 2022

Session #4

	Physics (Hall 243), Moderator: Abdallah Sayyed-Ahmad	Math (Hall 317), Moderator: Hamza Ruzayqat
14:40-14:55	**In Presence Mimicking in vivo conditions in simulations: the effects of lipid binding, neural membrane, and molecular crowding on amyloid aggregation** Hebah Fataftah, *Jülich Research Center, Germany*	**Optimal social welfare policy within financial and life-insurance markets** Abdelrahim Mousa, *Birzeit University, Palestine*
14:55-15:10	**Physical Pendulum Viscometer: A New Design and Method for Quantifying Liquids' Viscosity** Rand Aqra, *Birzeit University, Palestine*	**Optimal welfare strategies for a two-wage earners within a market of life-insurance and welfare providers** Ibtihal Mtour, *Birzeit University, Palestine*
15:10-15:25	**Electric field to improve olive oil extraction** Rushdi Kitaneh, *Alquds University, Palestine*	**Generalized game theoretical model with multiple types of homogeneous players** Salam Salah, *Birzeit University, Palestine*
15:25-15:40	**Effects of Rashba spin–orbit interaction and topological defect on the magnetic properties of an electron confined in a 2D quantum dot** Nouf Ibrahim, *Arab American University Palestine*	**On the rank of generalized transformation semigroups** Haytham Abusarris, *Çukurova University,Turkey*
15:40-15:55	**Operating the Photovoltaic Cell in Terahertz Frequency Using Single Walled Carbon Nanotubes (swcnts) as (i) Type** Khalid Abd-Haqq, *An-Najah National University, Palestine*	**Piecewise Linear, Discontinuous Petrov-Galerkin Method for Fractional Diffusion Equations** Basheer Abdallah, *Palestine Technical University-Kadoorie, Palestine*

15:55-16:10   **Coffee Break**

Session #5

	Physics (Hall 243), Moderator: Khalid Eid	Math (Hall 317), Moderator: Mario Lefebvre
16:10-16:50	**3D modelling of ferroelectric composite using X-ray micro tomography images: Effective permittivity and tunability** Dominique Bernard, *ICMCB-CNRS, France*	**N-zero-divisor graph of a commutative semigroup** Ayman Badawi, *American University of Sharjah, UAE*
16:50-17:30	**Cosmic inflation: generating the seeds of structure** Syksy Rasanen, *University of Helsinki, Finland*	**Looking through scales in molecular computational anatomy** *Alain Trouvé, ENS Paris-Saclay, France*
17:30-18:10		**Analysis of a feedback-control data assimilation algorithm and its applications** Aseel Farhat, *Florida State University, USA*

18:10-20:00   **Dinner (optional)**

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Palestinian Conference on Modern Trends in Mathematics and Physics VII (2022)

Day 3: Monday, 1 August 2022

Session #1

	Physics (Hall 243), Moderator: Zafer Hawash	**Math (Hall 317), Moderator: Marwan Aloqaili**
09:00-09:40	**Alternative Charge Transport Materials for Stable and Efficient p-i-n Perovskite Solar Cells** Zafer Hawash, *Birzeit University, Palestine*	**The multi-patch logistic equation** Tewfik Sari, *INRAE, Montpellier, France*
09:40-10:20	**JUVAC (The University of Jordan Van de Graaff Accelerator): Challenges and Future Prospects** Hanan Saadeh, *The University of Jordan, Jordan*	**Bifurcation analysis of a model of tuberculosis epidemic allowing treatment of wider population suggesting a possible role in the seasonality of this disease*** Rene Lozi, *University Cote d'Azur, France*

10:20-10:40   Coffee Break

Session #2

	Physics (Hall 243), Moderator: Wafaa Khater	**Math (Hall 317), Moderator: Tewfiq Sari**
10:40-10:55	**Macroscopic magnetic properties and magnetocaloric effect in single crystalline $Mn5Si3$ and derived compounds** Nour Abboushi , *Alquds University, Palestine*	**Hyperbolic fractional derivative** Amer Abu Hasheesh, *Palestine Polytechnic University, Palestine*
10:55-11:10	**Recycling of Waste cds Film Solar Cells by Different Depositions** Majd Sbeah, *An-Najah National University, Palestine*	**Fractional Linear Fokker - Planck Equation with Applications** Enas M. Kittaneh, *Palestine Technical University-Kadoorie, Palestine*
11:10-11:25	**Identification of Druggable Binding sites in Ras Proteins using TACTICS** Rana Moqady, *Birzeit University, Palestine*	**Elements of Weyl groups of classical Lie groups*** Faten Abu Shoga,
11:25-11:40	**Computational and experimental study of wurtzite phase zno nanoparticles*** Samy Mansy, *Al Azhar University-Gaza, Palestine*	**On Fractional forms of Bernoulli differential equation** Hala Alama, *Palestine Polytechnic University, Palestine*
11:40-11:55	**Synthesis and characterization of ferromagnetic cobalt oxide Nanoparticles*** Husam Musleh, *Al Azhar University-Gaza, Palestine*	**Singular values and spectral norm inequalities for matrix summation and multiplication** Ata Abu-As'ad, *Palestine Technical University-Kadoorie, Palestine*
11:55-12:10	**Towards the design and development FET-based glucose sensor** Falah Awwad*, United Arab Emirates University, UAE*	**On chaotic operators*** Abdallah Abu Jahel, *Islamic University of Gaza, Palestine*
12:10-12:25		**A new family of second-order iterative methods for computing the Moore-Penrose inverse based on Penrose equations** Zainab Abu-Iram, *Palestine Polytechnic University, Palestine*

12:25-13:30   Lunch
13:30-13:50   Rewards and Recognitions
14:00-15:00   Business Meeting

Venue: Annex Building to the Institute of Law