

"The 1st International Conference for Science and Pharmacy"

(MSPC1)

Mutah University

Al-Karak, Jordan

October 26 – 28, 2022

Under the patronage of HE Prof. Dr. Arafat Awajan

President of Mutah University

Conference Chairman

Prof. Dr. Marwan S. Mousa

Vice President of Mutah University

(for Research, Planning, and International Affairs)

ORGANIZING COMMITTEE

Prof. Dr. Marwan S. Mousa (Vice President)

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SCOPE OF THE CONFERENCE
The International Conference of the
Faculty of Sciences & Faculty of Pharmacy
at Mutah University

"The 1st International Conference for Science and Pharmacy"

(MSPC1)

26-28 October 2022

Aims and Themes of the Conference:

- Bringing together the scientists from Mutah University and colleagues from around the world to Exchange and share their research.
- Establishing a network among those researchers
- Presenting advancement in research at Mutah in two main tracks:
 - a- Science (i) Applied Physics, Industrial Chemistry and Materials, Biotechnology & (ii) Archaeology
 - b- Pharmaceutical research & industry
- Generating long-term collaborations.
- Publish fully refereed Proceedings in Scopus Jordanian Journals

--Deadline for full paper submission for refereeing: 30.11.2022

Mutah University, AlKarak, Jordan

00962792301035&00962795659761

Website: www.mutah.edu.jo

Username: mspc1@mutah.edu.jo

CONFERENCE PROGRAMME

Main Auditorium

(Students Deanship of Mutah University)

Under the Patronage of HE Prof. Dr. Arafat Awajan

26, October, 2022

First Session

Chairlady: Dr Afaf H. Al-Nadaf

10:00 Opening Session

Prof. Dr. Marwan S. Mousa (Conference Chairman)

Prof. Dr. Nizar Mheidat (General Director of the Jordanian Drug and Food Administration)

Prof. Dr. Arafat Awajan (President of Mutah University)

Group Photo

10:30 Coffee Break and Poster Session

Second Session

Chairmen: Prof. Mohammed A. Al-Anber and Prof. Oskar Baksalary

11:30 Prof. Abdul Samad Salahaddin Ahmad

President of Tishk University, Erbil, Iraq)

Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Tishk

International University, Erbil, Kurdistan, Iraq

State of art of Molecular Modelling Approaches: A Testimony of Paradigm shift in Drug Discovery

11:55 Prof. EdanTulman, Dr. Paulo Verardi, Dr. Steven Szczepanek, S.J.

Geary, A.A. Aqel

College of Agriculture, Health and Natural Resources, University of Connecticut
USA

Implementation of biosafety bio-security curriculum at Mu'tah University, a US DTRA-funded program for Jordan

12:20 Prof. Rajni Hatti Kaul, Adel Abuhamad

Division of Biotechnology, Department of Chemistry, Lund University, Sweden

Designer lytic enzymes active against mycobacteria

12:45 Prof. Aleksandra Cvetanovic Kljatic

Dept. of Pharmaceutical Engineering and Biotechnology, University of Novi Sad, Serbia

A modern approach for the extraction of bioactive principles from under-utilized resources

13:10 Prof. Rupert Schreiner

Applied Physics and Microsystems Technology, OTH Regensburg, Germany

Silicon Field Emission Source with individually controllable single emitters

Chairmen: Prof. Amin Aqel and Alexandr Knapek

13:35 Dr. Ahmad Telfah

Leibnitz-Institut für Analytische Wissenschaften -ISAS- Dortmund, Germany

Magnetic Resonance Spectroscopic Imaging (MRSI) for Spatiotemporal Investigations of Anticancer Drug Concentration in 3D cancer Cell Cultures

14:00 Prof. Mohammad El-Khateeb¹, Wolfgang Weigand²

¹Chemistry Department, Jordan University of Science and Technology, Irbid, Jordan

²Institut für Anorganische und Analytische Chemie, Friedrich-Schiller-Universität Jena, Jena, Germany

[FeFe]-hydrogenase Model Complexes with Diselenolato Linkers: Synthesis, Characterization and Catalytic Activity

14:25 Prof. Yaseen Al-Soud

Department of Chemistry, College of Science, University of Al al-Bayt, Al-Mafraq, Jordan

4-Nitroimidazoles: Synthetic Approaches and Pharmacological Importance

14:50 Prof. M.-Ali Al-Akhras (Al-Omari)

Bio-Medical Physics Laboratory, Department of Physics, Jordan University of Science & Technology (JUST), P.O. Box 3030, Irbid 22110, Jordan.

Novel therapeutic approach of using herbal nanopowder in Photodynamic therapy (PDT)

15:15 Prof. Jaafar Hussein Khidir

Director of International Relations Office at Tishk University

Mutah and Tishk International Universities Cooperation

15:15 Lunch in Al Karak by the Castle with possibility for visiting the castle

18:00 Return to Amman

End of Day 1

Day 2

27 October, 2022

Third Session(Physics)

Chairman: Mohammad Al Share & Muath Tarawneh

09:10

09:30 Alexandr Knápek, Mohammad Allaham, Daniel Burda, Miroslav Horáček

Institute of Scientific Instruments of the Czech Academy of Sciences, Brno,
Czech Republic

Quasi-Harmonic Field Emitter Based on Epoxy-Coated Tip

**09:50 Mohammad M. Allaham^{a,b}, Alexandr Knápek^{a*}, Amer Z. Almaani^c,
Dinara Sobola^d and Marwan S. Mousa^c**

^a Institute of Scientific Instruments of Czech Academy of Sciences, Brno,
Czech Republic

^b Central European Institute of Technology, Brno University of Technology,
Czech Republic

^c Department of Physics, Mu'tah University, Al-Karak 61710, Jordan

^d Department of Physics, Faculty of Electrical Engineering & Communication,
Brno University of Technology, Brno, Czech Republic

*Energy band diagrams for the UPR-4, E-478, and Resinpal 2301 epoxy resins
for the use as coating materials in field emission experiments*

10:10 R. Chaabouni¹, M. Ellouze^{1*}, E. K. Hlil², R. Massrour³, R. Jotania⁴

¹Sfax University, Faculty of Sciences of Sfax, LM2EM, Sfax Tunisia

²Institut Néel, CNRS et Université Joseph Fourier, Grenoble Cedex 9, France

³Laboratory of Solid Physics, Faculty of Sciences Dhar El Mahraz, Sidi Mohamed Ben Abdellah University, Fez, Morocco

⁴Department of Physics, Electronics and Space Sciences, University School of Science, Gujarat University Ahmedabad - 380 009, India

Role of Nickel Substitution in the structural, Magnetic Properties and Magnetocaloric Effect in La_{0.67}Ba_{0.22}Sr_{0.11}Mn_{0.95}Ni_{0.05}O₃ sample

10:30 Mabrouk Chaabane

Département de Physique, Faculté des Sciences de Sfax, Tunisie

Laboratoire des Sciences de l'Environnement et Développement Durable

Characterization of a solar photometer designed for the study of the optical Properties of atmospheric aerosols

10:50 Batool M. Almarzoq¹, Marwan S. Mousa¹, Inshad Y. Jum'h²

¹ Department of Physics, Mutah University, AL-Karak, Jordan.

² German-Jordanian University, Madaba , Jordan

PANI-CSA/TiO₂- Fe₂NiO₄ Nanocomposite Films: optical, Morphological, and Structural Properties

11:10 Coffee Break and Poster Session

Chairman: Khaldoun Tarwaneh and Areen Khattabi

Session 4 (Pharmacy)

Chairman: Yasser Gaber and Aleksandra Cvetanovic Kljajic

11:40 Amin Aqel

Dean of Pharmacy Faculty, Mutah University, Al-Karak, Jordan

Programs, Plans, Int. Accreditation, and Int. world-wide cooperation

12:00 Abdul-Wahab Razoqi, Hamad AL-Saeedi,

College of Pharmacy, Mutah University, Al-Karak, Jordan

Role of oxidative stress and Chlamydia trachomatis in infertile women with anti-zona Pellucida autoantibodies

12:20 Nasruddin E. EL-Reyani*, Sana K. Almugadmi, Kholoud M. Ben Amer, and Mohamed A. Ehmeid.

Department of Pharmacology and Clinical Pharmacy, Faculty of Pharmacy, University of Tripoli, Tripoli, Libya

Prevalence of Metabolic Syndrome Among Domestic Ischemic Heart Disease Patients: A Uni-Center Prospective Controlled Study

12:40 Ildiko Tulbure^{1,2,3}, Marwan S. Mousa⁴, Karam AlQalawi⁴

¹ University "1 Decembrie 1918" Alba Iulia, Romania

² Technical University of Cluj-Napoca, Romania

³ Clausthal University of Technology, Clausthal-Zellerfeld, Germany

⁴ Mu'tah University, Al-Karak, Jordan

Applying Possibilities of Systematic Approaches in Pharmacy

Chairman: Yahya Al-Khatatbeh

13:00 Adam Łukaszewicz

Faculty of Archaeology, University of Warsaw, Warsaw, Poland

A quest for experience: archaeologists and travelers on the way to discovery

13:20 Lunch

Session 5 (Physics)

Chairman: Hmoud Dmour and Prof Rupert Schreiner

14:30 Oskar Maria Baksalary

Faculty of Physics, Adam Mickiewicz University,

ul. Uniwersytetu Poznańskiego 2, PL 61-614 Poznań, Poland

Generalized inverses of matrices – useful mathematical tools with numerous applications

14:50 Fawzeia Khamis¹ and D.-E. Arfah²

¹Physics Department, Faculty of Science, Tripoli University, Tripoli, Libya.

²Department of Physics, University of Jordan, Amman 11942, Jordan.

f.khamis@uot.edu.ly and ID: <http://orcid.org/0000-0001-8269-4621>

Temperature Effects on the Glow Curve and Kinetic Parameters of a Potential Soil Salt Thermoluminescent phosphor

15:10 Joanna Baksalary^{a,b} and Krzysztof Romanowski^b

^aFaculty of Physics, Adam Mickiewicz University,

ul. Uniwersytetu Poznańskiego 2, PL 61-614 Poznań, Poland

^bITTI Sp. z o.o., ul. Rubież 46, 61-612 Poznań, Poland

SPACEMAN 2: Towards Multi Protocol Network Management

15:30 Hatem A. Al-Braikat ^a, Mohammad M. Allaham ^{b,c}, Amer Z.

Almaani ^a, M-Ali H. Al-Akhras ^d, Marwan S. Mousa ^a

^a Department of Physics Mutah University Al-Karak 61710 Jordan.

^b Central European Institute of Technology Brno University of Technology
Purkyova 123 612 00 Brno Czech Republic.

^c Institute of Scientific Instruments of Czech Academy of Sciences, Brno Czech
Republic.

^d Department of Applied Physics Jordan University of Science and Technology
Irbid 3030 Jordan

*The characteristics of polymer carbon graphite microflakes and their
behaviour as a field emission electron sources when mounted inside and on the
surface of glass micro-tips*

15:50 Areen M. Khattabi

Department of Pharmaceutical Sciences and Pharmaceutics, Applied Science
Private University, Amman, Jordan

*Studying the Effect of Surface Functional Group of Silica Nanoparticles on the
In Vitro Characteristics of Lomustine*

16:10 Coffee Break

Session 6 (Chemistry)

Chairman: Mohammad Ellouze and Prof. Oskar aksalary

16:40 Faiez Gargouri

Vice President of the University of Sfax

Professor of Computer Science. ISIM Sfax – Tunisia

*RAIED-SMQ-USf: Strengthening of Innovation, Entrepreneurship and QMS
Development Activities of the University of Sfax*

17:00 Khaldoun Tarawneh*, and Yahya A-Khatatbeh

Department of Basic Sciences, Princess Sumaya University for Technology,
Amman 11941, Jordan

*Corresponding author: khaldoun@psut.edu.jo

*Electronic and magnetic properties of Stone-Wales defective penta-graphene in the
presence of boron and nitrogen doping: A first-principles study*

17:20 Ahmed A. Al-Tabbakh^{1,*}, Marwan S. Mousa², Mazen A. Madanat^{2,3}

1,* Department of Physics, College of Science, Al-Nahrain University,
Baghdad, Iraq

2 Surface Physics and Materials Technology Lab., Department of Physics,
Mutah University, Al-Karak 61710, Jordan.

3 Light Metal Alloys Research Unit, Advanced Research Centre, Royal
Scientific Society, Amman, 11941, Jordan

*Application of Fractional Fowler-Nordheim Law on Nano-scaled Field
Emitters*

17:40 Fathy M. Abdelrazek

Chemistry Department, Faculty of Science, Cairo University, Giza, Egypt
Synthetic Approaches to Biologically Active N-Heterocycles

18:00 Samir Mustafa Hamad

Scientific Research Center- Soran University, Kurdistan Region, Iraq
*Ecosynthesis of ZnO Nanoparticles for Environmentally Friendly Applications and
High Efficient Treatment of Sewage Waters*

18:40 Azeez Abdullah Barzinjy

¹Department of Physics, College of Education, Salahaddin University-Erbil, Iraq
²Physics Education Department, Faculty of Education, Tishk International University,
Erbil, Iraq
*Eutectic-based ionic liquids: a novel medium for synthesizing metal and metal
nanoparticles at low temperature*

END of DAY 2

Day 3

28 October, 2022

Marriott Hotel, Dead Sea

10:00

**Closing Session
Recommendations
Future Collaborations**

Poster Session

Chair: Prof. Joanna Baksalary and Mohammad Allaham

P-1 Dr. Radomir Kljakić

AIK "Bačka Topola" doo, Maršala Tita, Bačka Topola, R. Serbia

Ethics of Pharmacy and the Health System

P-2 Aleksandra Cvetanović Kljakić¹, Miha Ocvirk², Ksenija Rutnik², Izstok Jože Košir², Pavle Mašković³, Branimir Pavlič¹, Marija Radojković¹, Nemanja Teslić⁴, Alena Stupar⁴, Zoran Zeković¹

¹Faculty of Technology, Bulevar cara lazara 1, 21000 Novi Sad, Serbia

²Institute of Hops and Brewing of Slovenia, Cesta Žalski tabora 2, 3310 Žalec, Slovenia

³University of Kragujevac, Faculty of Agronomy, Cara Dušana 34, Čačak, 32102, Serbia

⁴Institute of Food Technology in Novi Sad, Bulevar cara lazara 1, 21000 Novi Sad, Serbia

Biological and pharmaceutical potential of supercritical carbon-dioxide extracts of hops

P-3 E. Ababneh^{a,*}, A. Qbelat^a, M. M.A. Imran^a, S. Al-Bashaish^b, S. Okoor^c, A. Darabee^d, M.S. Mousa^b

^aDepartment of Physics, Faculty of Science, Al-Balqa Applied University, Salt 19117, Jordan

^bDepartment of Physics, Mutah University, Al-Karak 61710, Jordan

^cPhysics Department, Yarmouk University, Irbid 21163, Jordan

^dDepartment of basic sciences, Faculty of Arts and Sciences, Al-Ahliyya Amman University, Amman 19328, Jordan

Energy and time characterization of the newly acquired clover detector in Jordan

P-4 Zaid K. Fuqara, Adel M. Abuamr, Qassem A. Hroub, Marwan S. Mousa*

Surface Physics and Materials Technology Lab., Department of Physics, Mutah University, Al-Karak 61710, Jordan.

Characterization of graphite nanofibers as electron source

P-5 Ammar Al Soud¹, Adel M. Abuamr², Kipkurui Ronoh¹, Karel Liedermann³, Alexandr Knápek⁴, Dinara Sobola^{1,3}, M. Ali. Al Akhras⁵, and Marwan S. Mousa²

¹Central European Institute of Technology, Brno University of Technology, Brno, Czech Republic

A Study of Field Electron Emission from Epoxy-Based Silicon Dioxide Nanoparticles Coated Tungsten Tips

P-6 Ammar Al Soud¹, Adel M. Abuamr², Wala' Al Qaisi², Karel Liedermann³, Alexandr Knápek⁴, Dinara Sobola^{1,3}, M. Ali. Al Akhras⁵, and Marwan S. Mousa²
Field Emission Studies of Tungsten Cathodes Coated with Silicon Dioxide /Epoxy Based Silicon Dioxide Nanoparticles

P-7 Ammar A. Al Soud¹, Torben Boll², AlexandrKnápek* ,³, Mohammad M. Allaham^{1,3}, and Marwan S. Mousa⁴

Field Ion Microscopy of tungsten nano-tips coated with thin layer of epoxy resin

P-8 Aseel A. Aljabarat¹, Adel M. Abuamr¹, Ahmad Telfah², Mazen Madanat³, Marwan S. Mousa^{1*}

¹Surface Physics and Materials Technology Lab., Department of Physics, Mutah University, Al-Karak 61710, Jordan.

²Leibniz-Institut für Analytische Wissenschaften – ISAS – e.V. (ISAS), Bunsen-Kirchhoff-Str. 11, 44139 Dortmund.

³Head of Metallurgy and Materials Technology Research Group, Royal Scientific Society (RSS), Amman, Jordan

Field Electron Emission from Molybdenum Nanotips coated with LR Gold and their Characterization

P-9 Aseel Aljabarat¹, Adel M. Abu amr^{1*}, Wala' Al-Qaisi³ , Ahmad Telfah², Marwan S. Mousa^{1*}

¹Surface Physics and Materials Technology Lab., Department of Physics, Mutah University, Al-Karak 61710, Jordan.

²Leibniz-Institut für Analytische Wissenschaften– ISAS – e.V. (ISAS), Bunsen-Kirchhoff-Str. 11, 44139 Dortmund.

³ Department of Chemistry, Faculty of Science, Mu'tah University, Al-Karak 61710, Jordan.

High Current Electron Emission from Gold Tips and their Characteristics

P-10 Alla Jaafreh¹, Ahmad M.D.Assa'd², Marwan S. Mousa^{1*}

¹: Department of Physics, Mu'tah University, Al-Karak 61710, Jordan.

²:AL-Ahliyya Amman University/ Faculty of Arts and Science, Basic Sciences, Amman, Jordan

Field electron emission from molybdenum tips preparation and characterization

P-11 Heba I. Abu-Radwan^{1*}, Ahmad A. Mousa¹ and Emad K. Jaradat²

¹Department Heba I. Abu-Radwan^{1*}, Ahmad A. Mousa¹ and Emad K. Jaradat² Middle East University, Amman, Jordan

²Dept. of Physics, Mutah Universty, Al-Karak 61710, Jordan

First principles study of structural, electrical, magnetic, optical and elastic properties of the cubic Perovskite oxides SrTMO₃ (TM: Ti and Zr) compounds

P-12 Madleen H. Fasatleh¹ Ahmed A. Mousa² Emad K. Jaradat¹

¹ Physics Department, Mutah University, Al-Karak, Jordan

² Physics Department, Middle East University, Amman, Jordan

P-13 Mohammed A. Al-Anber *, **Wala' Al-Qaisi**

Department of Chemistry and Industrial Chemistry, Faculty of Sciences, Mutah University, P.O. Box 7, 61710 Al-Karak, Jordan

Hosted of 1,3-Diphenyl-1,3-Propanedione into Silica Sol-Gel Matrix for Capturing U(VI) Ion from Water

P-14 Ali F. Al Qaisi¹ , **Adel M. Abuamr¹** , **M-Ali AL-Akhras²**
Marwan S. Mousa^{1*}

¹ Surface Physics and Materials Technology Lab., Department of Physics, Mutah University, Al-Karak 61710, Jordan.

².Bio-Medical Physics, Jordan University of Science and Technology, Irbid, Jordan
Effects of Epoxy Resin 478 Coating layer on the Field Electron Emission Characteristics of Carbon Fiber Emitters

P-15 Areen A Bani-Salameh¹, **Qais M. Al-Bataineh^{1,2,3}**, **Ahmad D. Telfah²**,
Roland Hergenröder²

¹ Department of Physics, Jordan University of Science & Technology, P.O. Box 3030, Irbid-22110, Jordan

² Leibniz Institut für Analytische Wissenschaften-ISAS-e.V., Bunsen-Kirchhoff-Straße 11, 44139 Dortmund, Germany

³ Experimental Physics, TU Dortmund University, 44227 Dortmund, Germany
H NMR, FTIR, and XRD Characterizations of Ampicillin Antibiotic Tethered to ZnONPs for Higher Antimicrobial Activity

P-16 Qais M. Al-Bataineh^{1,2}, **Ahmad D. Telfah^{1,3}**, **Victoria Shpacovitch¹**,
Carlos J. Tavares⁴, **Roland Hergenröder¹**

¹Leibniz Institut für Analytische Wissenschaften-ISAS-e.V., Bunsen-Kirchhoff-Straße 11, 44139 Dortmund, Germany.

² Experimental Physics, TU Dortmund University, 44227 Dortmund, Germany.

³ Nanotechnology Center, The University of Jordan, 11942, Amman, Jordan.

⁴ Centre of Physics of Minho and Porto Universities, University of Minho, 4804-533, Guimaraes, Portugal

Switchable Polyacrylic Acid Polyelectrolyte Brushes as a Functional Biosensor Surface

P-17 Adel M. Abu Amr¹, **Mazen A. Madanat²**, **Marwan S. Mousa³**

¹ Surface Physics and Materials Technology Lab., Department of Physics, Mutah University, Al-Karak 61710, Jordan.

² Metallurgy and Materials Technology Research Unit, Advanced Research Center , Royal Scientific Society , Ammn , 11941, Jordan

Fabrication of high-purity copper wires as electron emitters

P-18 Dr. Mohammad Alwahsh

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan,
P.O. Box 130, Amman 11733, Jordan

Metabolic Profiling of Thymic Epithelial Tumors and Investigation of anticancer drug toxicity and metabolic alteration on TCs cell lines employing Novel Nuclear Magnetic Resonance Technique