

المؤتمر الدولي الثاني للاطيفاف والنمذجة الجزيئية  
2020 24-23 سبتمبر  
المركز القومي للبحوث - القاهرة - مصر



ICMMS2



تحت رعايه

الأستاذ الدكتور/محمد محمود هاشم

رئيس المركز القومي للبحوث

الرئيس الفخري للمؤتمر

الأستاذ الدكتور/أحمد عبدالرحمن فخري

رئيس المؤتمر

الأستاذ الدكتور/مدحت ابراهيم

نائباً رئيس المؤتمر

الأستاذ الدكتور/أسامه عثمان و الأستاذ الدكتور/حنان الحاييس

سكرتيرة المؤتمر

د. هند عزت

**The Second International Conference on Molecular  
Modeling and Spectroscopy  
23-24 September, 2020  
National Research Centre, Cairo, Egypt**



**ICMMS2**



Under the Auspices of  
**Prof. Mohamed Hashem**  
President of National Research Centre

Conference Honorary Chairperson

**Prof. Ahmed A. Fakhry**

Conference Chairperson

**Prof. Medhat Ibrahim**

Conference Co-Chairperson

**Prof. Osama Osman**

**Prof. Hanan Elhaes**

Conference Secretary

**Dr. Hend Ezzat**

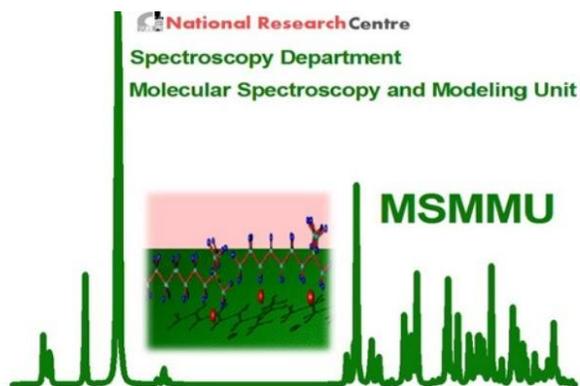
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## Sponsors



## Short Program

### First Day: Wednesday September 23, 2020

Time	Session
<b>09:00</b>	<b>S1: Opening Session</b> O-01 – O-03
<b>09:30</b>	<b>S2: Keynote Lectures-1</b> KNL01 – KNL06
	Open Discussion
<b>10:00</b>	<b>S3: Poster Session-1</b> P01- P20
<b>12:00</b>	<b>S4: Oral Session-1</b> O-04 – O-14
	Open Discussion
<b>14:30</b>	<b>S5: Oral Session -2</b> O-15 – O-22
	Open Discussion
<b>17:00</b>	End of Poster Session and Open Discussion

### Second Day: Thursday September 24, 2020

Time	Session
<b>09:00</b>	<b>S6: Keynote Lectures-2</b> KNL07 – KNL14
	Open Discussion
<b>10.00</b>	<b>S7: Poster Session-2</b> P21- P39
<b>12:00</b>	<b>S8: Oral Session -3</b> O-23 – O-33
	Open Discussion
<b>14:00</b>	<b>S9: Oral Session-4</b> O-34 – O-41
	Open Discussion
<b>16:30</b>	<b>End of Poster Session and Open Discussion</b> <b>Best Paper Award &amp; Best Poster Award &amp; Young Researcher Award</b>
<b>17:30</b>	<b>Recommendations &amp; Closing Ceremony</b>

Conference activities will be through the following links:

The Science Café YouTube channel:

[https://www.youtube.com/channel/UC7au-3\\_dZMX6BgRqLHDEBfQ](https://www.youtube.com/channel/UC7au-3_dZMX6BgRqLHDEBfQ)

The modeling and simulation Facebook page

<https://www.facebook.com/groups/728916337268494/>

## List of Keynotes

No	Title
KNL-01	Fabrication, Characterization of new Nanohybride Materials for Solid Phase Extraction of Trace Species Mustafa Soylak
KNL-02	Acknowledgments for Prof. Mustafa Soylak
KNL-03	Molecular Modeling and Molecular Spectroscopy at National Research Centre Medhat Ibrahim
KNL-04	The Perturbed Free Energy Landscape: Linking Ligand Binding to RNA Folding Fareed Aboul-ela
KNL-05	Single-Molecule Imaging by Surface-Enhanced Raman Spectroscopy Grigory Arzumanyan
KNL-06	Review of Solar Pumped Lasers Lotfia M. El Nadi
KNL-07	Contribution of Molecular Modeling and Spectroscopy to the Development of Methods for Proteomic Diagnostics of Coronavirus Diseases Gladyshev P. Pavel
KNL-08	The Study of Natural Microbial Community as a Tool for Assessing the Recovery of Polluted Environments. Grenni Paola
KNL-09	Recent Progress in Ultrafast Lasers and Laser Spectroscopy and its Environmental Applications Walid Tawfik
KNL-10	Molecular Dynamics Simulations of Lipid Membranes: the Cation-zwitterionic Lipid Interactions are Governed by the Lateral Area per Lipid Kholmirzo Kholmurodov
KNL-11	Ecology and Society. Impacted Ecosystems Marina Frontasyeva
KNL-12	Concordant Electron Paramagnetic Resonance and Thermoluminescence Age of a Romanian Plane Loess Deposit Octavian G. Dului
KNL-13	Spectra of Phosphorus for Astrophysical Modeling Sultana N. Nahar
KNL-14:	Overview of Sol - Gel Advanced Nano-structure Material Applications Inas Kamal Battisha

## List of Orals

No	Title
O-01	Preface: Welcome Speech Medhat A. A. Ibrahim Conference Chairman
O-02	The Second International Conference on Molecular Modeling and Spectroscopy

- Ahmed A. Fakhry  
Conference Honorary Chairman
- O-03 Welcome in the Second International Conference on Molecular Modeling and Spectroscopy  
Prof. Mohamed M. Hashem  
President of National Research Centre
- O-04 Removal of Pharmaceuticals from Aquatic Environment using Modified Biomaterials  
Ahmed M. Bayoumy
- O-05 Application of Natural Polymers Enhanced with ZnO and CuO as Humidity Sensor  
Hend A. Ezzat
- O-06 Optical, Conductivity and Dielectric Properties of Plasticized Solid polymer Electrolytes Based on Blends of Carboxymethyl Cellulose Sodium and Polyethylene Oxide  
Rania Badry
- O-07 Molecular Interactions of Fullerene-Based Derivatives and SARS-CoV-2  
Alaa El-Din A. Gawad
- O-08 Study of the Electronic Properties of Solid Polymer Electrolytes Based on Blends of CMC, PEO and Acetic acid  
Hanan Elhaes
- O-09 Physical and biophysical Analyses of Polyvinyl Alcohol/ Sodium Alginate/ZnO Composite  
Ahmed Fahmy
- O-10 Computational Notes on the Chemical Stability of Flutamide  
Alaa El-Din A. Gawad
- O-11 Dielectric Relaxation Behavior and AC Electrical Conductivity of Cellulose Acetate-Molybdenum Trioxide Nanoparticle Blended Film  
Dina Ezzat
- O-12 Effect of Substitutions on the Electronic Properties of Acetylsalicylic Acid  
**Yasmine O. Osman**
- O-13 A combination of Analytical Methods to Evaluate the Effect of Humidity Aging on the Painting Materials of Icon Models  
Mina Magdy
- O-14 Electronic Properties of Polyvinyl Alcohol/ TiO<sub>2</sub>/SiO<sub>2</sub> Nanocomposites  
Fatma Gamal
- O-15 Molecular Dynamics Simulations of the Alcohol Dehydrogenase Enzyme: The Solvent pH Influence on the Protein Conformation Behavior  
Ivan Andreyevich Baigunov
- O-16 First Principles Calculations of Geometrical Structure and Electronic and Optical Properties of Brom-Doped CsSnI<sub>3</sub> Perovskite for Photoelectric Applications  
Dilshod Nematov
- O-17 Investigation of the Optical and Photoelectronic Properties of Quantum Dots for Immunochemical Analysis  
Novikova Sagila
- O-18 The use of Quantum Dots as Fluorescent Labels in the Immunochemical Method of Analysis  
Novikova Sagila

- O-19 Physico-Chemical Bases Electrophoretic Behavior of the Quantum Dots  
Gribova Elena
- O-20 Hybrid Perovskite  $\text{CH}_3\text{NH}_3\text{PbI}_3$  Bulk Crystals Synthesis by Temperature Lowering Method  
Vladislav Kinev
- O-21 The use of Multivariate Data Analysis Methods for the Selection of Promising Heat Storage Materials Based on Hydrate Salts.  
Testov Dmitry Sergevich
- O-22 Novel Bimetallic Nano Particles for Sorption of Mercury (II) from Drinking Water: Adsorption Experiment and Computational Studies  
Rafi O Zaman Brohi
- O-23 Treatment of Breast Cancer using Photothermal Therapy Induced by laser-Activated Gold Nanoparticles  
Hend Gamal
- O-24 Assessment of Heavy Metals Content in the Agricultural Soils of Kafr El-Zayat City using Laser Ablation Inductively Coupled Plasma Mass Spectroscopy (LA-ICP-MS) and Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES)  
Asmaa F. Mankoula
- O-25 Determination of Electron Temperature of Cu I Lines 515.32, 521.82, and 522.0 nm using Ultrafast-LIBS  
Walid Tawfik
- O-26 Physical and Electrical Characterization of PVP/PVA Matrix Doped by Gold Nanoparticles Prepared by Laser Ablation  
Abdelrhman A. Menazea
- O-27 Alumina Surface Modified with Hydroxyapatite Sputtered via Pulsed Laser Deposition Technique for Biomedical Applications  
Mohamed Afifi
- O-28 Core-Shell of Au@Se Nanoparticles Incorporated via Laser Ablation Technique into the Polymeric Nanofibrous Scaffolds of Cellulose Acetate/PVDF for Wound Healing Applications  
Mohamed K. Ahmed
- O-29 Nanosecond Laser Assisted the Improvement of the Structural, Optical and Electrical Properties of Carboxymethyl Cellulose/ Polyvinyl Alcohol Blend Filled with Biosynthesized Gold Nanoparticles  
Mohamed Morsi
- O-30 Synthesis of Nanocomposite Materials via Pulsed Laser Ablation Technique  
Ayman M. Mostafa
- O-31 Facile Laser Assisted Fabrication of Carbon Nanostructure Decorated Membrane for Water Treatment  
Eman A. Mwafy
- O-32 Optical Emission Spectroscopy for Concrete Strength Evaluation Utilizing Calcium Lines  
Mohamed M. ElFaham
- O-33 Synthesis and Antibacterial Activity of Chitosan Inlaid by Various Ratios of Bimetallic Gold: Silver Nanoparticles via Laser Ablation  
Asmaa M. Ismail

- O-34 Different Concentrations of Er<sup>3+</sup> Ions Effect on Dielectric, Morphology and Structural Properties of Nano-Structure BaTiSnO<sub>3</sub> Prepared by Modified Sol – Gel Technique  
Olfat El-sayed
- O-35 Zinc Oxide Nano-Rods: Challenges for Glucose Biosensors.  
Hanan Abd El-Wahab
- O-36 Kinetic Studies of Unimolecular Thermal degradation of Isopropyl Esters as Biofuel Surrogates: DFT and Ab Initio Studies  
Lobna A. Heikal
- O-37 Dielectric, Structural and Optical Properties of Nd<sup>3+</sup> Ions Doped Phosphate Glasses  
Mahmoud Ismail
- O-38 Metal–Organic Frameworks for Hydrogen Storage and Carbon Capture: Theoretical Prospective  
Lobna A. Heikal
- O-39 Effect of the Implantation Biogenic Hydroxyapatite-Coated Ti/Al Alloy on the Wound Healing in Dogs  
E.M. Mahmoud, M. Sayed, M. Awaad, M. Blum, A. Killinger, R. Gadow, Ashraf M. Abu-Seida, S.M. Naga.
- O-40 Singlet Oxygen Generation by Nanocomposites Based on Quantum dots and Porphyrin in Chitosan Solution  
Fayza A. Sewid
- O-41 Antifouling PES/Cu@Fe<sub>3</sub>O<sub>4</sub> Mixed Matrix Membranes: Quantitative Structure-Activity Relationship (QSAR) Modeling and Waste Water Treatment Potentiality  
Ahmed Abdel-Karim

## List of Posters

No	Title
P-01	Science for the Society: Science Cafe Medhat Ibrahim
P-02	Molecular Spectroscopy and Modeling Group at Spectroscopy Department, Physics Division, NRC Medhat Ibrahim
P-03	Semiempirical Molecular Modeling Analyses for Graphene/Nickel Oxide Nanocomposite Islam Gomaa
P-04	Molecular Modeling Applied For Carbon Nano Materials Osama Osman
P-05	Application of Polyvinyl alcohol/Polypropylene/Zinc Oxide Nanocomposites as Sensor: Modeling Approach Ahmed Fahmy
P-06	Computational Notes on The Effect of (Li-Na-K) on Calcium Zinc Phosphate Oxide Glasses Hanan Elhaes
P-07	Molecular Modeling Analyses for Electronic Properties of CNT/TiO <sub>2</sub> Nanocomposites

- Hanan Elhaes
- P-08 Quantum Chemical Studies on Structural, Spectroscopic, Thermochemistry, Photo-physical and bioactivity properties of m-cresol purple dye  
Mohamed A.M. El-Mansy
- P-09 FT-IR, Molecular structure and nonlinear optical properties of 2-(pyranoquinolin-4-yl)malononitrile (PQMN): A DFT approach  
Sara M. Atef
- P-10 Modeling the Effect of Hydration on the Electronic and Vibrational Properties of AZT  
Nayera El-Sayed
- P-11 Computational Notes on the Molecular Modeling Analyses of Flutamide  
Abdel Aziz Mahmoud
- P-12 DFT:B3LYP/ LANL2DZ Study for the Removal of Fe, Ni, Cu, As, Cd and Pb with Chitosan  
Aya A. Mohamed
- P-13 Mapping Molecular Electrostatic Potential (MESP) for Fulleropyrrolidine and its Derivatives  
Ahmed M. Bayoumy
- P-14 Chitosan/Graphene Oxide Composite as an Effective Removal of Ni, Cu, As, Cd and Pb from Wastewater  
Samah A. Ibrahim
- P-15 Study of the Electronic Properties of Graphene Oxide/(PANi/Teflon)  
Sara H. Radwan
- P-16 Molecular Modeling Analyses and Vibrational Characteristics for Nitromethane  
Mohamed S. Abdel-Aal
- P-17 Theoretical investigation of hydrogen bonding between Adrenaline and hydrogen sulfide complexes utilizing DFT/ $\square$ B97XD/6-311G basis's set  
Amr Mohamed
- P-18 Steglich Esterification and Computational study of alkyl propiolate derivatives  
Asmaa M. Fahim
- P-19 Molecular Modeling Analyses for Modified Biopolymers  
Amina Omar
- P-20 Molecular Modeling Analyses for Polypropylene/Zinc Oxide Nanocomposite  
Dina Shehata
- P-21 Effect of Molybdenum Trioxide Nanoparticle Additions on the Structural and Optical Properties of Cellulose Acetate Film  
Dina Ezzat
- P-22 Molecular properties of polyvinyl alcohol/ sodium alginate composite  
Ahmed Fahmy
- P-23 Green technology for metal removal from contaminated water  
Paola Grenni
- P-24 Development of Natural Polymer/Metal Oxide Nanocomposite Reinforced with Graphene Oxide for Optoelectronic Applications  
Hend A. Ezzat
- P-25 Theoretical study of the cyclo-addition reaction  
Kherfia.Belabed
- P-26 First principles investigation of electronic properties of graphene doped with Al and

- N atoms  
Elham A. Mohamed
- P-27 Computer Aid Screening for Potential Antimalarial Choroquinone Compounds as Covid 19 Utilizing Computational Calculations and Molecular Docking Study  
Asmaa Aboelnaga
- P-28 Influence of Gamma radiation on nonlinear optical, semiconducting and dielectrical properties of In<sub>0.95</sub>Mn<sub>0.05</sub>Se thin films  
Ahmed Abdel Moez
- P-29 Enhancement of the dielectric and nonlinear optical properties of PbSe nanomaterial thin films with different contents of Polyethylene Glycol  
Ahmed Abdel Moez
- P-30 Influences the substitution of PbO by PbF<sub>2</sub> on structural properties and luminescence of Neodymium-doped lead borate glass  
Asmaa Ratep
- P-31 Synthesis, Antimicrobial, Anti-proliferative activities, Molecular docking and Computational studies of Novel heterocyclic compounds  
Eman H. I. Ismael
- P-32 Synthesis and Computational Study of New Unsymmetrical Tetradentate Schiff Base Ligand  
Boucherabine Djihed
- P-33 Combinatorial of Physical Phenomena affects the applicable Properties of  $\alpha$ -Bi<sub>2</sub>Se<sub>3</sub>-y Thin Films with Regard to its' Disordered Structure ,Quantum Size Effect, and others  
Hesham A. ELMeleeg
- P-34 Synthesis and Characterization of ZnO Nanoparticles in Presence of Triethanolamine (TEA) as Surfactant Via Sol-Gel  
Maroof A. Hegazy
- P-35 Comparative Study on Copper Oxide Nanocrystals Synthesized by Two Precipitation Methods  
Hayat H. El-Agamy
- P-36 How and why measure excited State Dipole Moments of Solute Molecules  
Wolfram Baumann
- P-37 Thermal Decomposition of isopropyl esters as a Potential Non fossil Fuel: A Computational Study  
Lobna A. Heikal
- P-38 Computational Notes on the Electronic Properties of Carboxylic Acid  
Asmaa Ibrahim
- P-39 Application of Cs/ZnO/GO Hybrid Nanocomposite for Enhanced Inter Behavior of Electronic Properties and Thermal Stability as Corrosion Inhibitor  
Hend A. Ezzat