

CURRICULUM VITAE

PERSONAL DATA

Name	Hela Al-Ferjani
Nationality	Tunisian
Position	Associate Professor
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EDUCATION

Year	Academic Degree	Institution
2014	Ph.D. Chemistry	University of Tunis El-Manar, Tunisia.
2010	M.Sc., Chemistry-Solid state chemistry	University of Tunis El-Manar, Tunisia.
2008	B.Sc., Physics, Chemistry & Mathematics	University of Tunis El-Manar, Tunisia.

WORK EXPERIENCE

Period	Position	Address
2022-Present	Associate Professor	Imam Mohammad Ibn Saud Islamic University,
2017-2021	Assistant Professor	Imam Mohammad Ibn Saud Islamic University,
2014-2016	Assistant Professor	Umm Al Qura University
2010-2014	Lecturer	University of Tunis El-Manar

RESEARCH INTERESTS

My primary research interests lie in the synthesis and exploration of organic-inorganic hybrid materials, nanomaterials, organic compounds, and organometallic complexes. I am particularly focused on their strategic design for applications in photovoltaic systems, optoelectronic devices, magnetic technologies, and their intriguing biological and pharmaceutical activities.

PUBLICATIONS

- 52 Sahar Abdalla; Ahmad Telfah; **Hela Ferjani**; Carlos Tavares; Johannes Etzcorn, Mixed ion-electron conductive fillers effect on the electrical conductivity of polyaniline nanocomposite films submitted for publication in Journal of Materials Science, **2024**.
- 51 Ahmad Telfah; S. Abdalla; **Hela Ferjani**; Carlos J. Tavares; Johannes Etzcorn, "Optical, Electrical, and Structural Properties of Polyethylene Oxide/Fullerene Nanocomposite Films" accepted for publication in Physica B: Condensed Matter, **2024**.
- 50 Ahmad Telfah; S. Abdalla; **Hela Ferjani**; Carlos J. Tavares; Johannes Etzcorn, Electronic and Ionic Conductivity Investigations of Polyethylene oxide/ dipotassium hexachloroplatinate composite films, accepted for publication in the Organic Electronics **2024**
- 49 **Hela Ferjani**, Sahar Abdalla, Opeyemi A. Oyewo Damian Onwudiwe, Facile synthesis of carbon dots by the hydrothermal carbonization of Avocado peels and the photocatalytic evaluation, Accepted in Inorganic chemistry communications, **2024**.
- 48 **Hela Ferjani**; Oluwasayo Ogunjinmi; Sahar Abdalla, Damian Onwudiwe, Phyto-Mediated synthesis of Ag, ZnO, and Ag/ZnO nanoparticles from leave extract of Solanum macrocarpon: evaluation of their antioxidant and anticancer activities, Submitted in inorganica chemical acta, **2024**.
- 47 Saadallah Yaakoub; Al-Wahaibi Lamy, **Hela Ferjani**, Setifi Fatima, Jelsch Christian, Setifi Zouaoui, Glidewell Christopher, El-Emam Ali, Gil Diego, Echeverría Jorge, First Phendione Ligand-Based 2D Molecular Network: Structure, Hirshfeld Surface Analysis, QTAIM and NCI analysis, Submitted in ACS Omega, **2024**.
- 46 Olalekan olatunde; **Hela Ferjani** and Damian Onwudiwe, Microstructural properties and persulfate activation evaluation of cobalt-doped copper bismuth oxide, Submitted in Journal of Molecular structure, **2024**.
- 45 **Hela Ferjani**, Youssef Ben Smida, Sahar Abdalla, Damian Onwudiwe, Eric Hosten, Tris(2-hydroxyethyl(methyl)amino-dithiocarbamate)indium(III) complex: insights into its molecular structure, bonding, morphology and physical properties, Submitted in Journal of Inorganic and Organometallic Polymers and Materials, **2024**.
- 44 Shawish Hana, **Hela Ferjani**, Gasibat Meftah, Al-Melah Eman, Schäfer Sasch, Klein Axel, Amairia Chahra, Taban Ismail, Abuzwaida Waqar, Alshawish, Yassmin, Submitted in Journal of Biological Inorganic Chemistry, **2024**.
- 43 Marwa Y. A. Mohamed, **Hela Ferjani**, Oluwasayo E. Ogunjinmi, Maroua jalouli and Damian C. Onwudiwe, Green synthesis of α -Fe₂O₃ nanoparticles using extract of Musa paradisiaca peels and evaluation of their anticancer and antioxidant activities, Submitted in nanomaterials, **2024**.
- 42 Hanen Alhussain; **Hela Ferjani**, Youssef Ben Smida, First-Principles Calculations to Investigate Structural, Phonon, Electronic and optical Properties of Tl₃AsS₃ Perovskite, Accepted in inorganic chemistry communications, **2024**.
- 41 **Hela Ferjani** and Hanen Alhussain, Supramolecular structure, Hirshfeld surface analysis, optical study and DFT calculations of a new flucytosine drug-based chlorostannate(II) hybrid material, Accepted in journal of molecular structure, **2024**.
- 40 **Hela Ferjani**, Rim Bechaieb, Mariem Ben Jemaa, Nasir A. Ibrahim, Seham M. Hamed, Marwa Yousry A. Mohamed, Flucytosine antifungal drug in organic-inorganic bismuth chloride material: Experimental, biological activities and computational insights, Accepted in journal of cluster science, **2024**.
- 39 Damian C. Onwudiwe, Violet Nkwe, Olalekan Olatunde, **Hela Ferjani**, "Synthesis of p-n GCN/CuBi₂O₄ heterostructures for enhanced visible light photocatalysis". Submitted in applied science **2024**.
- 38 Mohamed Ikbal Houchati, **Hela Ferjani**, Youssef Ben Smida, Oscar Fabelo, Jean-François Bardeau, Werner Paulus, Monica Ceretti and Ahmed Hichem Hamzaoui, Journal of Molecular Structure 1295, **2024**, 136687.
- 37 **Hela Ferjani**, Norah S. Almotlaq, Mohammed Fettouhi, Damian C. Onwudiw, " A novel Cd(II) compound of flucytosine drug: Synthesis, structure, and optical properties", November **2023**, Transition Metal Chemistry, 10.1007/s11243-023-00562-7.

- 36 **Hela Ferjani**, Youssef Ben Smida, Sahar Abdallah, Damian C. Onwudiwe, Eric Hosten, "Structural characterization, Hirshfeld surface analysis, optical properties, and DFT study of a new Copper (II) complex'. *Inorganic Chemistry Communications*, Volume 157, **2023**, 111314.
- 35 Olalekan Olatunde, Violet Nkwe, **Hela Ferjani**, "Dual heterojunction g-C₃N₄/Bi₂S₃/CuS composite with enhanced photocatalytic activity for methyl orange degradation'. *Inorganic Chemistry Communications*, 155, **2023**, 111075.
- 34 Olalekan C. Olatunde, **Hela Ferjani**, Damian C. Onwudiwe, "Bismuth sulfide nanorods by thermal decomposition of a complex: Effect of the reaction temperature on microstructural and optical properties', *Journal of Physics and Chemistry of Solids* 179, **2023**, 111388.
- 33 Damian C. Onwudiwe, Violet M. Nkwe, Olalekan C. Olatunde, **Hela Ferjani**, " Graphitic carbon nitride functionalized with Cu-doped Bi₂S₃ as a heterostructure photocatalyst for the visible light degradation of methyl orange ". *Ceramics International*, 49, **2023**, 19451-19462.
- 32 T. Trabelsi, O. Sghaier, **H. Ferjani** and J. S. Francisco, "Excited states and photodissociation mechanism of HMgNC and HMgCN ". *Astronomy & Astrophysics*, A&A 672, A79 **2023**.
- 31 Z.S. Afandi, S. A. Al-Jibori, **Hela Ferjani**, R.H. AlShammar, M. R.Hatshan, Ahmed S. Al-Janabi, "Ortho-palladated complexes with aromatic N-donor ligands, synthesis, characterization, molecular structures, antibacterial and anticancer activity". *Inorganic Chemistry Communications*, 149, **2023**, 110399.
- 30 M. P. Motaunga, J.O. Adeyemi, Y. Ben Smida, **Hela Ferjani**, M.M. Kaband, D.C. Onwudiwe, E. Hosten, " Synthesis, structural, and DFT studies of Cu (II) dithiocarbamate complexes". *Journal of Molecular Structure*, 1271, **2023**, 133988.
- 29 Zouaoui Setifi, **Hela Ferjani**, Youssef Ben Smida, Christian Jelsch, Fatima Setifi, Christopher Glidewell. "A Novel Cu^{II}/8-Aminoquinoline Isomer Complex [CuH₂O)₂(C₉H₈N₂)₂]Cl₂: Solvothermal Synthesis, Molecular Structure, Hirshfeld Surface Analysis, and Computational Study". *Chemistry Africa* 6, 891-901, **2023**.
- 28 **Hela Ferjani**, Y. Ben Smida and Yarub Al-Douri, "First-Principal Calculations to Investigate the Effect of Van der Waals Interactions on the Crystal and Electronic Structures of Tin-Based OD Hybrid Perovskites". *Inorganics* **2022**, 10(10), 155.
- 27 **Hela Ferjani** and Damian C. Onwudiwe, "Synthesis, Structural, Thermal, and Hirshfeld Surface Analysis of In(III) Tris (N-Methyl-N-Phenyl Dithiocarbamate)". *Inorganics* **2022**, 10(10), 146.
- 26 Layachi Merabet, Zouaoui Setifi, **Hela Ferjani**, David K. Geiger, Christopher Glidewell, Sibel Demir Kanmazalp, Fatima Setifi, Lakhemici Kaboub, "Dinuclear Azide-Bridged Copper(II) Polymer With Azido...π(pyridiyl) Interaction: Synthesis, Crystal Structure and Hirshfeld Surface Analysis". *Chem Crystallogr* **2022**.
- 25 S. Shaaban, **Hela Ferjani**, H.M. Abd El-Lateef, M.M. Khalaf, M. Gouda, M. Alaasar and T. A. Yousef. "Unexpected kinetically controlled organoselenium-based isomaleimide: X-ray structure, hirshfeld surface analysis, 3D energy framework approach, and density functional theory calculation". *Front. Chem.* **2022**, 10, 961787.
- 24 **Hela Ferjani**, Rim Bechaieb, Marzook Alshammari, O. M. Lemine and Necmi Dege. "New Organic-Inorganic Salt Based on Fluconazole Drug: TD-DFT Benchmark and Computational Insights into Halogen Substitution" *Int. J. Mol. Sci.* **2022**, 23, 8765.
- 23 Youssef Ben Smida, **Hela Ferjani**, Abdelwaheb Boukhachem, Damian C. Onwudiwe, Nuha Y. Elamin, Ahmed Hichem Hamzaoui. "Ab initio study of the optoelectronic properties of α-Ba₂SnS₄" *Materials Science in Semiconductor Processing* 150, **2022**, 106917
- 22 A.S. Al-Janabi, O.D.H. Al-Mouqdady, M.E.A. Al-Doori, **Hela Ferjani**, O.K. Al Duaij, Z.A. AlOthman, T.A. Yousef. "Synthesis and characterization of new HgS nanoparticles prepared by Hg(II)-triazole-3-thiol as precursor". *Journal of Saudi Chemical Society*, 26, 4, **2022**, 101507.
- 21 **Hela Ferjani**, Youssef Ben Smida, Damian C. Onwudiwe, Nuha Y. Elamin, Safa Ezzine and Norah S. Almotlaq. "An Experimental and Theoretical Study of the Optical Properties of (C₂H₇N₄O)₂BiCl₅ for an Optoelectronic Application". *Inorganics* **2022**, 10, 48.
- 20 M. Gouda, **Hela Ferjani**, Hany M. Abd El-Lateef, Mai M. Khalaf, Tarek Yousef and Saad Shaaban, "A Competition between Hydrogen, Stacking, and Halogen Bonding in N-(4-((3-Methyl-1,4-dioxo-1,4-dihydronaphthalen-2-yl)selenyl)phenyl)acetamide: Structure, Hirshfeld Surface Analysis, 3D Energy Framework Approach, and DFT Calculation". *Int. J. Mol. Sci.* **2022**, 23, 2716.

- 19 Saad Shaaban, **Hela Ferjani**, Tarek Yousef, Marwa Abdel-Motaal. "Supramolecular Self-Assembly Built by Hydrogen, Stacking and Br...Br Interactions in 4-((4-Bromobenzyl)Selanyl)Aniline: Structure, Hirshfeld Surface Analysis, 3D Energy Framework Approach and Global Reactivity Descriptors". *Journal of Inorganic and Organometallic Polymers and Materials*. 32, 1878–1890, **2022**.
- 18 **Ferjani Hela**, Rim Bechaieb, Necmi Dege, Wesam Abd El-Fattah Nuha, Y. Elamin, Wafa Frigui. "Stabilization of supramolecular network of fluconazole drug polyiodide: Synthesis, computational and spectroscopic studies". *Journal of Molecular Structure* 1263, **2022**, 133192.
- 17 Chandini K.M.; Fares Hezam Al-Ostoot; Eman E. Shehata; Nuha Y. Elamin; **Hela Ferjani**; Lokanath N. K. "Synthesis, crystal structure, Hirshfeld surface analysis, DFT calculations, 3D energy frameworks studies of Schiff base derivative 2,2'-((1Z,1'Z)-(1,2-phenylene bis(azanylylidene)) bis(methanylylidene)) diphenol". *Journal of molecular structure*, 1244, **2021**, 130910.
- 16 Zouaoui Setifi, **Hela Ferjani**, Christian Jelsch, Christopher Glidewell, Necmi Dege & Fatima Setifi. "Synthesis, Structure and Hirshfeld Surface Analysis of a New Iron Complex [Fe(N4Py)(tcnspr)] (tcnspr)". *J Inorg Organomet Polym*, 31, 3054-3061, **2021**.
- 15 Saad Shaaban, **Hela Ferjani**, Ismail Althagafi, and Tarek Yousef. "Crystal structure, Hirshfeld surface analysis, and DFT calculations of methyl (Z)-4-((4-((4-bromobenzyl) selanyl)phenyl)amino)-4-oxobut-2-enoate". *Journal of Molecular Structure* Volume, 1245, **2021**, 131072.
- 14 Mariem Ben Jomaa, Hammouda Chebbia, **Hela Ferjani**, Santiago García-Granda, Nedra Korbid, Noura Fakhar Bourguiba. "Structural and spectroscopic studies, DFT calculations, thermal characterization and antimicrobial activity of cobalt (II) organic-inorganic hybrid material with benzamidinium cation". *Journal of Coordination Chemistry*, 74:9-10, **2021**, 1505-1521.
- 13 **Hela Ferjani**, Hammouda Chebbi and Mohammed Fettouhi. "One-Dimensional Organic-Inorganic Material (C₆H₉N₂)₂BiCl₅: From Synthesis to Structural, Spectroscopic, and Electronic Characterizations". *Int.J. Mol.Sci.***2021**,22,2030.
- 12 Zouaoui Setifi, **Hela Ferjani**, Christian Jelsch, Christopher Glidewell, Necmi Dege & Fatima Setifi. "Synthesis, Structure and Hirshfeld Surface Analysis of a New Iron Complex [Fe(N4Py)(tcnspr)] (tcnspr)". *Journal of Inorganic and Organometallic Polymers and Materials* **2021**. 31, 3054–3061.
- 11 Zouaoui Setifi, **Hela Ferjani**, Fatima Setifi, Safa Ezzine and Mohammed Hadi Al-Douh. "Synthesis, crystal structure and Hirshfeld surface analysis of bis[2-[(pyridin-2-yl)amino]-pyridinium] tetra-cyano-nickelate(II)". *Acta Cryst.* **2020**. E76, 1794-1798.
- 10 **Hela Ferjani** . "Crystal structure, optical property and Hirshfeld surface analysis of bis-[1-(prop-2-en-1-yl)-1H-imidazol-3-ium] hexa-chlorido-stannate(IV)". *Acta Cryst.* **2020**. E76, 1624-1628.
- 09 **Hela Ferjani**. "Structural, Hirshfeld Surface Analysis, Morphological Approach, and Spectroscopic Study of New Hybrid Iodobismuthate Containing Tetranuclear OD Cluster Bi₄16·4(C₆H₉N₂) 2(H₂O)". *Crystals* **2020**, 10, 397
- 08 **Hela Ferjani**, Rim Bechaieb, Wesam Abd El-Fattah, Mohammed Fettouhi. "Broad-band luminescence involving fluconazole antifungal drug in a lead-free bismuth iodide perovskite: Combined experimental and computational insights". *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 237, **2020**, 118354.
- 07 **Hela Ferjani**, Hammouda Chebbi, Abderrahmen Guesmi, Obaid S. AlRuqi & Sami A. Al-Hussain. "Two-Dimensional Hydrogen-Bonded Crystal Structure, Hirshfeld Surface Analysis and Morphology Prediction of a New Polymorph of 1H-Nicotineamidium Chloride Salt". *Crystals* **2019**, 9, 571.
- 06 Fatma Garci, **Hela Ferjani**, Hammouda Chebbi, Mariem Ben Jomaa & Mohamed Faouzi Zid. "Crystal structure, Hirshfeld surface analysis and physicochemical characterization of bis[4-(dimethylamino)-pyridinium] di-μ-chlorido-bis-[dichloridomercurate(II)] ". *Acta Cryst. E*, **2019**, *Acta Cryst.* (2019). E75, 1600-1606.
- 05 **Hela Ferjani** and Habib Boughzala. "New Hybrid Material: (C₃H₆N₃)₄Bi₂Cl₁₀. Synthesis, Structural Study and Spectroscopic Behavior". *Russian journal of inorganic chemistry*, vol 63 N°3, **2018**, pp349-356.
- 04 **Hela Ferjani** and Habib Boughzala. "New Quasi-One-Dimensional Organic-Inorganic Hybrid Material: 1,3-Bis(4-piperidinium)propane Pentachlorobismuthate(III) Synthesis, Crystal Structure, and Spectroscopic Studies". *Journal of Materials*, Hindawi Publishing Corporation, **2014**, Article ID 253602, 8 pages.

- 03 **Hela Ferjani**, Habib Boughzala and Ahmed Driss., "Synthesis, Crystal Structure and Characterization of a New Organic-Inorganic Hybrid Material: $(H_3AEP)_2 \cdot (BiCl_6) \cdot 3Cl \cdot 2H_2O$ ". *Journal of Crystallography*, Hindawi Publishing Corporation, **2013**, 1-8.
- 02 **Hela Ferjani**, Habib Boughzala and Ahmed Driss., "Poly[bis-(1-carbamoylguanidinium) [tri-[mu]-chlorido-dichloridobismuthate(III)]]". *Acta Crystallographica* E68, **2012**, m615.
- 01 **Hela Ferjani**, Habib Boughzala and Ahmed Driss., "Synthesis, structural, and infrared studies of tris(2-ammonioethyl)aminium chloride hexachlorobismuthate (iii): $\{(C_2H_4NH_3)_3NH\}_4^+ \cdot Cl^- \cdot [BiCl_6]^{3-}$ ". *Journal de la Société Chimique de Tunisie* 13, **2011**, 203-209.