

## Orwa Jaber Houshia

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### EDUCATION

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*University of Arkansas, Fayetteville, AR, USA*

**Ph.D., Chemistry (organic/polymer & mass spectrometry)**

**2005**

Dissertation: "Matrix Assisted Laser Desorption Ionization Fourier Transform Mass Spectrometry for Polymer and Copolymer Characterization"

*Pittsburg State University, Pittsburg, KS, USA*

**M.S., Chemistry (catalysis)**

**1998**

Thesis: "Low Temperature FT-IR Studies of Nitric Oxide Reactions on Modified Pd/Al<sub>2</sub>O<sub>3</sub> Surfaces"

*Pittsburg State University, Pittsburg, KS, USA*

**B.S., Biology (microbiology)**

**1994**

1<sup>st</sup> Minor: Chemistry

2<sup>nd</sup> Minor: Physics

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### AWARDS

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- AAUP Distinguished researcher **2023**
- Engineer Zuhair Hijjawi Award for Scientific Research **2011**
- University of Arkansas Graduate School Fellowship **2001-2006**
- W. Cordes Outstanding Teaching Assistant Award, Department of Chemistry and Biochemistry, University of Arkansas **2001**
- Excellence in Teaching Award, Department of Chemistry, Pittsburg State University **1998**

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### TRAINING EXPERIENCE

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- 1) Synthesis and retro-synthesis of biologically active compounds
- 2) Analytical chemistry, classification of methods, steps in analysis, units of measurements, concentration units, and chemical stoichiometry.
- 3) Properties of precipitates and precipitating reagents, steps in gravimetric analysis, and general calculations.
- 4) Acid-base theory, strong acids and bases titrations, General aspects, standard solutions, indicators, volumetric calculations, weak acids and bases titrations, buffer solutions, titration curves, and carbonate mixtures
- 5) Light properties, Radiation and Matter interact, Absorbing light, Instruments for measuring absorption, UV-Visible instruments
- 6) Identification of functional groups: alkene, alcohol and aldehydes & ketones
- 7) Chromatography, TLC and CC
- 8) Extraction
- 9) Recrystallization
- 10) Fractional distillation
- 11) Safety rules and knowing some basic techniques

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### TEACHING EXPERIENCE

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*The Arab American University, Jenin, Palestine*

**Associate Professor**

**2014**

*The Arab American University, Jenin, Palestine*

**Chairman of the Department of Chemistry,**

**2013-2016**

*The Arab American University, Jenin, Palestine*

<b>Assistant Professor</b> – “Organic/Polymer Chemistry/ Industrial Chem.” <i>University of Arkansas, Fayetteville, AR, USA</i>	<b>2008-2016</b>
<b>TA/Instructor</b> – “General, Organic and Analytical Chemistry Labs” Developed syllabus and overall course structure and Exams.	<b>2000-2007</b>
<b>Substitute Instructor</b> – “Various courses.” Lectured, and administered Exams.	<b>2002-2004</b>
<b>Mini Lecture</b> – “General Chem. Drill” Discussion sessions and problem solving <i>Pittsburg State University, Kansas, USA</i>	<b>2000-2004</b>
<b>Teaching Assistant</b> – “General chemistry Labs and Basic Chemistry for non-science majors”	<b>1995-1998</b>

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#### INDUSTRIAL EXPERIENCE

<i>Oread Pharmaceuticals, Lawrence, KS, USA</i> <b>Scientist II</b> Conducted research in the Metabolism and Pharmacokinetics Department	<b>1998-1999</b>
<i>Mission Clay Products, Pittsburg, KS, USA</i> <b>Lab Technician</b> Fluoride analysis in clay using electrochemical techniques	<b>1998</b>
<i>Q.W.A.L. Laboratories, Pittsburg, KS, USA</i> <b>Lab Technician</b> Organics preparation department for GC-MS analysis	<b>1995-1997</b>

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#### SELECTED PUBLICATIONS

- Orwa Houshia**, Moncef Benmansour, Lionel Mabit, Emil Fulajtár, Saber Abu-Jabal, Ismail Hroub, Rafat Odeh. “COMPARING SOIL EROSION RATES ON TERRACED AND SLOPING CULTIVATED LAND IN PALESTINE USING FRN <sup>137</sup>Cs TRACE” *International Journal of Analytical Chemistry*, (**Scopus Q3**) (**Clarivate-SCIE**), Volume: 2022 Issue: 22 Pages From: 1 to: 6 Date: Tuesday, August 30, **2022**  
<https://www.hindawi.com/journals/ijac/2022/2933661/>
- Orwa Houshia**, Fuad Al-Rimawi, Oday Zaid, Motasem Zaid, Jaber Imoor, Rami Casey, and Harbi Daraghme, “INFLUENCE OF TREATED WASTEWATER ON THE PERCENTAGE OF PROTEIN CONTENT DURING FODDER INTERCROPPING” *International Journal of Agronomy*, (**Scopus, Q2**), Volume: 2022 Issue: 1, Pages From: 1 To: 6 Date: Wednesday, March 2, **2022**,  
<https://www.hindawi.com/journals/ija/2022/1822328/>
- Orwa Houshia**, Harbi Daraghme, Naba Abuhafez, Ahmad Abdelraouf Jrar. “MODEL EQUATION BASED ON THE 8 GROUPS AND THE 7 PERIODS IN THE PERIODIC TABLE OF ELEMENTS” *International Research in Education*, (**2021**) **ERA**, Volume: 9 Issue: 2 Pages From: 14 To: 26.  
<https://www.macrothink.org/journal/index.php/ire/article/view/18723>
- Orwa Houshia**, Abdalla Walwil, Hanan Jumaa, Hisham Qrareya, Harbi Daraghme, Iqab Daraghme, Areej Owies, Abeer Qushtom. *Assessment of the Ratio of Geometric Isomers of Dibenzalacetone Spectroscopically*. *Journal of Pharmaceutical Research International* (**2019**) **isi**, 31, 4, pages 1-9  
<http://journal.jpri.com/index.php/JPRI/article/view/30307>
- Orwa Houshia**, Hazem Sawalha, Anan Hussein, Nael Abo-Hasan, Aseel Turkman, Rana Deeb, Salam Hamad & Samah Abo-Ilaya. *Growing Wheat and Vegetable Crops on Medium Composed of Olive Mill Wastewater, Pomace, and Limestone*. *Modern Applied Science* (**2019**) **ERA**, 13, 11, pages 56-61  
<http://www.ccsenet.org/journal/index.php/mas/article/view/0/41027>
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**Orwa Jaber Houshia,\*** Mohamad abuEid, Oday Zaid, Hazem Shqair, Motasem Zaid, Wala Nashariti, Batool Noor and Fuad Al-Rimwai. *Alteration of Nabali Baladi EVOO chemical parameters as a function of air and sunlight exposure.* OCL - Oilseeds and fats, Crops and Lipids. **scopus Q2,( 2019) isi 26, 36,** pages 1-10

<https://www.ocl-journal.org/articles/ocl/abs/2019/01/ocl190041/ocl190041.html>

**Orwa Jaber Houshia,** Sundus Almasri, Mamoon Asem Tawfeeq, Harbi Daraghmeh, *Germination of Seeds Grown on Medium from Olive Mill Liquid Waste, Olive Mill Pomace, and Stone Sludge Waste.* chemistry and material research. **(2017),** Volume: 9 Issue:10 Pages 11-14

<https://iiste.org/Journals/index.php/CMR/article/view/39076>

Yudong Zhang, Saeed Balochian, Praveen Agarwal, Vishal Bhatnagar, **and Orwa Jaber Houshey** *Artificial Intelligence and Its Applications,* Mathematical Problems in Engineering Volume 2016 **(2016),** Article ID 3871575, 6 pages

<http://dx.doi.org/10.1155/2016/3871575>

**Orwa Jaber Houshia,** Oday Zaid, Hazem Shqair, Motasem Zaid, Nashida Fashafsheh, Reeman Bzoor, Effect of Olive Oil Adulteration on Peroxide Value, Delta-K and on the Acidity Nabali-Baladi Olive Oil Quality, "Advances in Life Sciences **2014,** 4(5): 235-244, DOI: 10.5923/j.als.20140405.04

<http://article.sapub.org/10.5923.j.als.20140405.04.html>

**Orwa Jaber Houshia,** Mohammed Abueid, Ruba Abu Amshah2, Ramiz Obaid, Deena Arafat, Mohamad Riyad Qadri, Marina Qadry, Maazoz Jaber, Omayya Hammad, "Assessment of Olive Oil Mills Efficiency and Olive Oil Quality in the West Bank for the Years 2012/2013" World Environment **2014,** 4(4): 180-184,

<http://article.sapub.org/pdf/10.5923.j.env.20140404.04.pdf>

Orwa Jaber **Houshia,** Ansam Qutit, Oday Zaid, Hazem Shqair, Motasem Zaid, "Determination of Total Polyphenolic Antioxidants Contents in West-Bank Olive Oil" Journal of Natural Sciences Research, Vol.4, No.15, **2014,** pages 71-76, <http://iiste.org/Journals/index.php/JNSR/article/view/14588>

Hazem Sawalha, **Orwa Houshia,** Anan Hussein, Qasim Mahariq, Abdallah Khader "Scope of Using Treated Olive Mill Wastewater in Tomato Production" International Journal of Agriculture and Forestry, **2014;** 4(4): 304-309, <http://article.sapub.org/10.5923.j.ijaf.20140404.07.html>

**Orwa Jaber Housheya,** Mohamad AbuEid, Odayy Zaid, Motasem Zaid, Omayya Hamad Raed Illary, Majed Jeneedi "Influence of Peacock-eye Disease and Fruit-fly Infection on  $\Delta$ -7-Stigmasterol in Olive Oil" International Journal of Ecosystem, 4(4): 184-189 **(2014),**

<http://article.sapub.org/10.5923.j.ije.20140404.04.html>

Abdalla Alimari, Mohammed Boufaroua, BouBaker Dhehibi, Jamal Y. Al-Dadah, Haneen Al-Sbaihi, Yousra Abu Sharekh, **Orwa Jaber Houshia,** "Performance Indicators for Wastewater Reuse Systems in Gaza Governorates" Civil and Environmental Research Journal, Vol 3, No 9 **(2013)**

<http://www.iiste.org/Journals/index.php/CER>

Oday Zaid, **Orwa Jaber Houshia,** Mohammad Abu-Eid, Motasem Zaid," Palestinian Nabali-Baladi Olive Oils Quality: Premium Ultra Fine Extra Virgin Olive Oil Classification" United States of America Research Journal, vol 1. No 2: **(2013)** pages 29-34, <http://usarij.org/article/view/11>

Hazem Sawalha, Saif Al-Badawi, Hasan Hamdan, **Orwa Houshia,** "Chemical Antibacterial Agents Used to Disinfect Cultivation Tools against the Crown Gall Disease of Stone Fruits" Journal of Biology, Agriculture and Healthcare, Vol.3, No.11, **(2013),** pages 30-39,

<http://www.iiste.org/Journals/index.php/JBAH/article/view/7251>

Ismail Masri, **Orwa J. Jaber,** Iqab Daraghmeh "Measurements of Mercury Concentrations at the Arab American University Dental School Clinics" United States of America Research Journal, vol 1. No 1: **(2013).**page 21-24, <http://usarij.org/issue/view/4>

**Orwa Jaber Houshia,** Mohammed Boufaroua, Abdallah Alimari, and Nahawand Souqia. "Assessing the Efficiency of Ateel Wastewater Treatment Station and Its Suitability for Rehabilitation: Improving Water Quality and Its Safe and Practical Application." British Journal of Applied Science & Technology, Vol 3, No. 3, **(2013),** Pages 536-545, <http://www.sciencedomain.org/abstract.php?iid=210&id=5&aid=1238>

**Orwa Jaber Housheya,** Mohamad AbuEid, Odayy Zaid, Motasem Zaid, Najat Al-daqqa." *Assessment of the Value of the Antacid Contents of Selected Palestinian Plants.*" American Journal of Chem, **(2012);**

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**Orwa Jaber Housheya**, Mohamad AbuEid, Aziz Barghouti, Odayy Zaid, Ismail Hroub, Solena Assaf. "Measurements of the Environmental Natural Radiation in the Northern WestBank Governorate of Jenin-Palestine" Journal of Science, Vol. 2, No. 1, (2012). Pages,91-95  
<http://worldsciencepublisher.org/journals/index.php/JOS/article/view/918/705>

**Jaber Orwa Houshia**; Wilkins C. "Compositional Analysis of the High Molecular Weight Ethylene Oxide Propylene Oxide Copolymer by MALDI Mass Spectrometry" International Journal of Chemistry; Vol. 4, No. 3; (2012) <http://dx.doi.org/10.5539/ijc.v4n3p14>

**Orwa Jaber Houshia**, Najat Al-daqqa, Tahani Alawneh, Ismail Elmasri "Evaluation of Benzo-[a]-Pyrene Residue on Olive Fruits and in Oil within the Jenin Governorate" American Journal of Chemistry, Vol2, No 4, (2012), <http://article.sapub.org/10.5923.j.chemistry.20120204.08.html>

**Orwa Jaber Houshia**, Mohamad Abueid, Abdelhadi Daghlis, Motasem Zaid, Odayy Zaid, Jaber Al Ammor, Nahawand Souqia, Raed Alary, Naser Sholi "Characterization of Grey Water from Country-Side Decentralized Water Treatment Stations in Northern Palestine" Journal of Environment and Earth Science, Vol 2, No 2, (2012), <http://www.iiste.org/Journals/index.php/JEES/article/view/1514>

**Jaber, orwah** ; Wilkins, Charles L. "Hydrocarbon Polymer Analysis by External MALDI Fourier Transform and Reflecta and Time-of-Flight Mass Spectrometry" J. Am. Soc. Mass Spectrom. (2005), Volume 16, Issues 12, Pages 2009-2016

**Jaber orwah**; Kaufman, Jacob M.; Liyanage, Rohana; Marney, Samuel; Akhmetova, Eugenia; Wilkins, Charles L. "Trapping of Wide Range Mass-to-Charge Ions and Dependence on Matrix Amount in Internal Source MALDI-FTMS" J. Am. Soc. Mass Spectrom. (2005), Volume 16, Issues 11, Pages 1772-1780

Kaufman, Jacob M.; **Jaber, orwah J.**; Stump, Michael J; Simonsick, William J. Jr.; Wilkins, Charles L. "Interference from multiple cations in MALDI-MS spectra of copolymers" Int. J. Mass Spectrom. (2004), Volume 234, Issues 1-3, , Pages 153-160

Stump, Michael J.; Fleming, Richard C.; Gong, Wei-Hong; **Jaber, orwah J.**; Jones, Jeffrey J.; Surber, Charles W.; Wilkins, Charles L. "Matrix-Assisted Laser Desorption Mass Spectrometry" Applied Spectroscopy Reviews (2002), Volume 37, Issues 3, Pages 275-303

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#### PROFESSIONAL PRESENTATIONS

- 1<sup>st</sup> conference on Teaching Research Methods for Students of Medical and Social Sciences in Palestine, Nablus, Al-qalaa convention Center, June, 28, 2012, Palestine
- 1<sup>st</sup> conference on Water Crisis and Agricultural Development in Palestine, Palestine Technical University-Kadoorie, May 21-22, 2012, Palestine
- 53<sup>rd</sup> American Society for Mass Spectrometry Conference, June 5 – 9, 2005, San Antonio, Texas
- 52<sup>nd</sup> American Society for Mass Spectrometry Conference, May 23 – 27, 2004, Nashville, Tennessee
- The Pittsburgh Conference (PITTCO), March 9 – 14, 2003, Orlando, Florida
- 215<sup>th</sup> American Chemical Society National Meeting, March 1998, Dallas, Texas
- 33<sup>rd</sup> American Chemical Society Midwest Regional Meeting, November, 1998, Wichita, Kansas

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#### LANGUAGES

- Arabic – native language
- English – speak fluently and read/write with high proficiency
- Spanish-good spoken, read/write with good proficiency

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#### REFERENCES

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**Dr. Charles Wilkins**

Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701, USA

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**Dr. Gwen Mattice**

Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701, USA

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email: [gmattice@uark.edu](mailto:gmattice@uark.edu)

**Dr. David Paul**

Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR 72701, USA

Phone(479) 575-5190

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**Member of the Editorial Board of the following Journals:**

1. Chemical and Process Engineering Research
2. Innovative Systems Design and Engineering
3. Advances in Physics Theories and Applications
4. Journal of Natural Sciences Research
5. Advances in Pure and Applied Chemistry
6. Guest Editor: Artificial Intelligence and Its Applications

**Miscellaneous**

- Consultant for the Institute Agronomic Overseas (IAO) –Italy, 1<sup>st</sup> February - 31<sup>th</sup> August 2012
- عضو في اللجنة العلمية. "في" المؤتمر الدولي الثاني للزيتون في فلسطين: الواقع والتحديات 2013
- External funding ( Research Grant 12,600 USD) from the EU-UNDP-FAO: 2014-2015
- External funding ( Research Grant 68,900 Euro) from the IAEA: 2016-2018

Thesis title	year	student name	
<b>OLIVE INDUSTRY SOLID WASTE WITH IONIC FUNCTIONALITY: PREPARATION, THERMAL BONDING AND USE AS A METAL ADSORBENT FROM WASTE WATER</b>	2022	<b>Angham Salahat</b>	Dr. Orwa Houshia, External examiner
The Influence of Salinity on the Chemical, Physiological and Morphological Changes of <i>Rosemarinus Officinalis</i>	2021	<b>Dina Al-Aker</b>	Dr. Orwa Houshia/co-supervisor
Design, Synthesis, Antimicrobial and Cytotoxicity of Curcumin Based Benzodiazepines, Diazepines, Diazoles and Amines ( <b>Doctoral Dissertation</b> )	2021	<b>Rola Al-Kerm</b>	Dr. Orwah Houshia / External examiner
Design, Synthesis and In vitro Evaluation of Anticancer Activity of Curcumin Based Benzodiazepines, Diazepines, Diazoles and Amines ( <b>Doctoral Dissertation</b> )	2021	<b>Rana Al-Kerm</b>	Dr. Orwah Houshia / External examiner
Determination of Lead, Cadmium and Arsenic in Human Milk of Lactating Women in Jenin, Palestine	2020	حنان احمد ابراهيم سعيد	Dr. Orwah Houshia / External examiner
Characterization of Bioactive phytochemicals from <i>micromeria fruticosa</i>	2019	Anwar Afeef Alhajeh	Dr. Orwah Houshia / External examiner
Extraction and characterization of Essential oil from Native Palestinian Plants	2017	Muna AboAlrub	Dr. Orwa Housheya/co-supervisor
Monomer design strategy to create curcumin based polymers with demanding functionality	2017	Sanaa mohmamd saqer	Dr. Orwah Houshia / External examiner
Enrichment of Phenolic Compounds from Palestinian Olive Mill Wastewater and in-vitro Evaluation of their Medicinal Activities	2017	Mahmoud Sami Hasan AlNatsheh	External Examiner: Dr.ORWA Houshia
The effect of harvesting date on the oil chemical properties of Nabali baladi olive cultivar	2016	Nihad Said Qasid Ibrahem	External Examiner: Dr.ORWA Houshia
Evaluation of the Performance Indicators for Safety reuse of Treatment Greywater in Northern West Bank	2016	Abeer Afif Jomma	Dr. Orwa Houshia/ External Examine
Kinetic Determination of Bromate in Bread	2015	Shatha Mohammed Salah AbuHasan	Dr. Orwa Houshia/ External Examine
Purification of Agricultural Soil from Organic Contaminants by Solar-Driven Photo-degradation with ZnO Nanoparticles: Laboratory and Pilot-Plant Scale Study	2015	Razan Ahmad Ali Khraim	Dr. Orwa Houshia/ External Examine
Preparation of aromatic esters of 2-phenoxyethanol and exploring some of their biological activities	2015	Nadine Mohammed Kamel Qalalweh	Dr. Orwa Housheya/co-supervisor
Enzymatic Hydrolysis Of Olive Industry Solid Waste Into Glucose, The Precursor Of Bioethanol	2015	Israa Jamal Mohammad Dagher	Dr. Orwah Houshia / External examiner
Spectrophotometric determination of some metal ions via complex formation with carboxylated tris(2-aminoethyl)amine chelating agent	2014	Julnar Adnan Ibrahim Masharqah	Dr. Orwa Houshia/ External Examine
Synthesis of Amide-Linked Minor Groove Binders (MGBs) to Target the Androgen Response Element (ARE) Sequence	2013	Saber Mahmoud Abu Jabal	Dr. Orwa Houshia/ External Examine
Synthesis of Specialty Polymer from Cellulose Extracted from Olive Industry Solid Waste	2013	Nisreen Riyadh As'ad yousef Alhaj	Dr. Orwah Jaber Hoosheyeh /(External Examiner)
New Routes for Synthesis of Environmentally Friendly Superabsorbent Polymers	2012	Firas Jaber Abd Alateef Abu Jaber	Dr. Orwa Houshia/ External Examine