Biographical Sketch ----------

Khalid Widyan is Associate Professor of Organic Chemistry at Tafila Technical University. He studied, researched, and taught in Jordan and Germany at Jordan University of Science and Technology, Al al-Bayt University and University of Hamburg before crossing the Atlantic in 2005 to take up an Adjacent Post Doctor and group leader postion at the Center of Heteocylic Compounds at University of Florida with Professor Alan Katritzky performing both academic and collaborative industrial research with Exxonmobil. In 2007 he was appointed a full time lecturer at Tafila Technical University. In 2009 he joind Professor Christina Moberg group at Royal Institute of Technology (KTH)-Sweden as a researcher funded by Erasmus Mundus and the Wenner Gren Foundation. In 2012 he returned to Tafila Technical University and has been working there ever since. His research interests include organic synthesis, heterocyclic chemistry and synthesis of pharmaceutical and relevant intermediates. He is an Author and coauther for twenty seven papers in peer reviewd significant journals and One Patent.

CURRICULUM VITAE

Name:	Khalid Saleh Mahmoud Widyan
Nationality:	Jordanian
Martial Status:	Married
Date of Birth:	April 1st, 1973
Languages:	Arabic: Mother language, English: Excellent, German: Fair
Work Address:	Department of Chemistry Tafila Technical University Tafila- Jordan
E-mail Address:	k.widyan@ttu.edu.jo and khalidwidyan@yahoo.com

EDUCATION:

2002- 2005:

Ph.D. student and teacher assistant at Institute of Pharmacy-University of Hamburg-Germany.

Ph.D. Thesis Title: "A Novel Approach to 4-Functionalized Imidazolidin-2-ones, α-Hydroxyhydroxamic Acids and α-Hydroxyamidoximes" under the supervision of Prof. Detlef. Geffken and Prof. Thomas Kurz.

- Novel CDI and CDT mediated methods for the synthesis of previously unknown 4-functionalized oxazolidin-2-one and hydantoin derivatives.
- Sodium methoxide supported decarbonylation of oxazolidin-2,4-diones as a novel method in the synthesis of 2-hydroxycarboxylic acid derivatives.
- CDT mediated synthesis of areno[1,3]oxazin-2-ones.
- Microwave assisted synthesis of organic compounds

1997- 2001:

M.Sc. student at Al al-Bayt University- Jordan

1991- 1995:

B.Sc. student at Jordan University of Science and Technology.

AWARDS:

Erasmus Mundus Action II

Wenner Gren Foundation

ACADEMIC ASSIGNMENTS:

2014- Present:

Associate Professor of Organic Chemistry at Department of Chemistry-Tafila Technical University.

2007- 2014:

Assistant Professor of Organic Chemistry at Department of Chemistry-Tafila Technical University.

2009-2011:

Post-Doctoral at Organic Chemistry Department- Royal Institute of Technology (KTH), Sweden. Mentor: Prof. Christina Moberg.

- **Development of new enantioselective catalytic synthetic methods.**
  A "minor enantiomer recycling" principle is developed in which the undesired minor enantiomer from a catalytic process is transformed to starting material by using a second chiral biocatalyst. The two chiral catalysts (Chiral Ti catalyst and an enzyme) reinforce each other, resulting in higher product enantiomeric ratios than obtained with any of the single catalysts.

2005-2007:

Post-Doctoral Associate and Group Leader at Florida Center for Heterocyclic Compounds-University of Florida. Mentor: Prof. Alan Katritzky.

- **Efficient synthesis of reactive reagents in organic chemistry and heterocyclic chemistry**
  Benzotriazole mediated synthesis of novel reagents and alternative efficient routes to existing ones are developed. A mild and general method for the preparation of various acyl azides, sulfonyl azides and polyfunctionalized aminomethyl acrylates is accomplished.
- **Collaborative research with industry (Exxonmobil).**

- Synthesis of various ethers for industrial applications.
- Investigation of the competitive reactivity of the components of mixtures of aromatic and hetretoaromatic compounds towards electophilic aromatic substitu-tion.

ADMINSTRATIVE ASSIGNMENTS:

- Dean, Faculty of Science, Tafila Technical University, Sept. 2015 to 2019.
- Chairman of Department of Chemistry and Chemical Technology, Tafila Technical University, Sept.2012 to Sept. 2014.

COURSES TAUGHT:

- General Chemistry I
- General Chemistry II
- General Chemistry Lab I
- General Chemistry Lab II
- Organic Chemistry I
- Organic Chemistry II
- Organic Chemistry III
- Organic Chemistry Lab I
- Organic Chemistry Lab II
- Organic Chemistry for engineering students.
- Organic Chemistry for biology students.

- Systematic Identification of Organic Compounds
- Organic Spectroscopy
- Medicinal Organic Chemistry
- Named Organic Reactions
- Heterocyclic Chemistry
- Advanced Organic Chemistry
- Chemistry of Free Radicals
- Special Topics in Organic Chemistry
- Management and Industrial Economy
- Green Chemistry
- Industrial Waste Management

COMMITTEES:

- A member in TTU Council.
- A member in TTU Deans Council
- A member in the Society of Science Faculties in the Arab World Universities as a dean of Science at TTU.
- A chairman of a committee for the accreditation of the Faculty of Science.
- Rapporteur for Scientific Research Committee at the Faculty of Science
- Rapporteur for Course Schedule Committee at the Faculty of Science
- Rapporteur for Graduate Studies Committee at the Faculty of Science.
- A member in and Rapporteur for different activities in different committees at the Faculty of Science such as Scientific committee, Conferences and Scientific Day Committee, Scientific research committee, Graduate studies committee.
- A Head of committee to construct the curriculum for the Faculty of Nursing and the curriculum for the Faculty of Veterinary Medicine.

SCIENTIFIC ACTIVITIES:

Reviewer: Tetrahedron, Bioorganic Chemistry, and Microbial Pathogenesis.

PUBLICATIONS IN LEARNED JOURNALS:

Numbers of Publications:	27
Number of Patents:	1

LIST OF PUBLICATIONS IN LEARNED JOURNALS

PATENT:

a- Kurz, T.; Widyan, K.; Geffken, D.; *Preparation of organophosphoric 4-imino-hydantoin derivatives useful as pharmaceutical or herbicidal agent*; BioAgency AG, WO 2005016942, 2005.

b- Kurz, T.; Widyan, K.; Geffken, D.; *Phosphororganische 4-iminohydantion-derivate*, BioAgency AG, DE 10337761.

PAPERS:

1: Widyan, K. A Concise Sequential Synthesis of 2-Aryl(Heteroaryl) Flavones via Cyclization of *o*-(Alkynon-1-yl)phenols in Ionic Liquid. *Australian Journal of Chemistry*. **2025**, 78, CH25044.

2: Widyan, K. 3,5-Disubstituted-1*H*-Pyrazoles: Sequential Syntheses from *N*-Acylbenzotriazoles, Alkynes and Hydrazine in Ionic Liquid, *Chemical Papers*. **2025**, 79(3):1649-1655.

3: Widyan, K. Coupling of *C*-Benzotriazolated Nitrones with Grignard Reagents: Access to Ketonitrones, *Russian Journal of Organic Chemistry*. **2024**, 60(5):950-955

4: Widyan, K. Acylation of Terminal Alkynes with *N*-Acylbenzotriazole: Synthesis of Conjugated Ynones in Ionic Liquids; *Monatshefte für Chemie - Chemical Monthly*. **2023**, 154, 645.

5: Widyan, K. Synthesis and Reactivity of Novel 5-Imino-1,2-oxazole; *HETEROCYCLES*. **2022**, 104(1), 85.

6: Widyan, K. An Improved Synthesis of sulfonyl azides in Ionic Liquids; *Organic Preparations and Procedures International: The New Journal for Organic Synthesis.* **2021**, 53(5), 455.

7: Widyan, K. An Improved Synthesis of Polyfunctional Acyl Azides in PEG 40. *Organic Preparations and Procedures International: The New Journal for Organic Synthesis*, **2021**, 53(2), 120.

8: Nash, A. L.; Widyan, K; Moberg, C. Recycling Powered by Release of Carbon Dioxide. *ChemCatChem*, **2014**, 6(12), 3314.

9: Widyan, K. *C*-Benzotriazolated nitrones as useful synthons for the synthesis of 2,3-disubstituted isoxazol-5-ones. *European Chemical Bulletin*, **2014**, 3(8), 850.

10: Hertzberg, R.; Widyan, K.; Heid, B.; Moberg, C. Enantioenriched ω-bromocyano-hydrin derivatives. Improved selectivity by combination of two chiral catalysts. *Tetrahedron*, **2012**, 68, 7680.

11: Fransson, L.; Laurell, A.; Widyan, K.; Wingstrand, E.; Hult, K.; Moberg, C. Minor Enantiomer Recycling-Effect of Two Reinforcing Catalysts on Product Yield and Enantiomeric Excess. *ChemCatChem*, **2010**, 2(6), 683.

12: Li, Fei; Widyan, K.; Wingstrand, E.; Moberg, C. Chiral Lewis Base Catalyzed Enantioselective Acetylcyanation of α-Oxo Esters. *European Journal of Organic Chemistry* **2009**, 23, 3917.

13: Katritzky, A. R.; Widyan, K.; Kim, M. S.; Siskin, M.; Fransisco, M. The Sulfonation of Aromatic and Heteroaromatic Polycyclic Compounds; *Tetrahedron*, **2009**, 65, 1111.

14: Katritzky, A. R.; Widyan, K.; Gyanda, K. Synthesis of sulfonyl azides; *Synthesis*, **2008**, 1201.

15: Katritzky, A. R.; Kim, M. S.; Widyan, K. The Baylis-Hillman reaction of substituted aminomethylbenzotriazoles; *Arkivoc*, **2008** (iii), 91-101.

16: Katritzky, A. R.; Widyan, K.; Kirichenko, K. Preparation of Polyfunctional acyl azides. *J. Org. Chem.* **2007**, 72, 5802.

17: Kurz, T.; Khankischpur, M.; Widyan, K. Rapid microwave assisted synthesis of 3-aryl(arylalkyl)-4-thioxo-oxazolidin-2-ones: A novel class of 4-thioxo-oxazolidin-2-ones. *Tetrahedron Lett.* **2006,** 47 (38), 4241.

18: Kurz, T.; Widyan, K., Khankischpur, M. Microwave-assisted base catalysed rearrangement of 3-aryl(arylalkyl)-4-imino-oxazolidin-2-ones into 4-aryl-imino- and 4-arylalkylimino-oxazolidin-2-ones. *Synthesis* **2006**, 1803.

19: Kurz, T.; Widyan, K., Elgemeie, G. Novel synthesis of fluorinated cyanoketene *N,S*-acetals and their conversions to fluorinated pyrazole derivatives. *Phosphorus, Sulfur and Silicon and the Related Elements* **2006**, 181(2), 299

20: Kurz, T.; Widyan, K. Microwave-assisted conversion of *N*-substituted oxazolidin-2,4-diones into α-hydroxyamides. *Tetrahedron* **2005**, 61, 7247.

21: Widyan, K.; Kurz, T. Synthesis of novel 4-functionalised oxazolidin-2-ones. *Synthesis* **2005**, 1340.

22: Kurz, T.; Widyan, K. Conventional and microwave-assisted conversion of substituted 3-amino-oxazolidin-2,4-diones into *N′,N′*-disubstituted alpha-hydroxy-hydrazides. *J. Org. Chem.* **2005**, 70(8), 3108.

23: Kurz, T.; Widyan, K.; Wackendorff, C.; Schlüter, K. One-pot synthesis of 4-methoxy(aralkoxy)imino-areno[1,3]oxazin-2-ones. *Synthesis* **2004**, 1987.

24: Kurz, T.; Widyan, K. Efficient conversion of *O*-substituted 3-hydroxy-4-imino-oxazolidin-2-ones into *O*-substituted α-hydroxyamidoximes. *Org. Lett.* **2004**, 6 (24), 4403.

25: Kurz, T.; Widyan, K. *O*-Protected 3-hydroxyoxazolidin-2,4-diones: novel precursors in the synthesis of alpha-hydroxyhydroxamic acids. *Org. Biomol. Chem.* **2004**, 2 (14), 2023.

26: Kurz, T.; Widyan, K. A convenient synthesis of 3-amino-4-imino(thioxo)-imidazolidin-2-ones. *Tetrahedron Lett.* **2004,** 45 (38), 7049.

27: Kurz, T.; Geffken, D.; Widyan, K. Synthesis and reactivity of 3-aralkoxy-4-imino-imidazolidin-2-ones: a novel class of 4-imino-hydantoins. *Tetrahedron* **2004**, 60 (10), 2409.

COFERENCES

1: Widyan, K.; *Novel synthesis of substituted(un-substituted) 3-hydroxy-4-thioxo-imidazolidin- and oxazolidin-2-ones*; Poster(P26-Tu); 21st international symposium on the organic chemistry of sulfur ISOCS-XXI; Madrid-Spain, July 4-9, 2004.

2: Widyan, K.; *Convenient Synthesis of Acyl Azides*; Poster 18; The 7th Annual Florida Heterocyclic Conference, USA, March 12-15, 2006.

3: Widyan, K. *Preparation of Polyfunctional Acyl/Sulfonyl Azides*; Oral lecture; 3rd International Meeting on Molecular Chemistry and Development, Marrakesh-Morocco, November 22-24, 2007.

4: Widyan, K. *Synthesis and Reactivity of 4-Functionalized Oxazolidine-2-Ones;* Oral Lecture, the 8th Jordanian conference in Chemistry, Petra University, October 7, 2008.

5: Widyan, K. *Minor Enantiomer Recycling*; Oral lecture; Erdtman Day, Royal Institute of Technology, Sweden, October 19, 2010.

ATTENDED WORKSHOPS

1: Second Deusto International Staff Week-DISW. "New partnerships for a new Higher Education era" held online at the University of Deusto from 26th to 30th of April 2021.

2: "THE DIGITAL WORK AND THE WORLD IN THE TIME OF PANDEMIC" 5th International Staff Training Week (Virtual) Middle East Technical University (METU) - June 21-25, 2021.

3: Deusto International Virtual Meeting - ISVM 2023: "Inclusion, diversity and equal access to education". Held online at the University of Deusto- 15th February 2023.

SUPERVISION AND EXAMINER FOR MSc THESES:

Supervision:

1. **Advisor** for MSc student, Tareq Al-Faraheed, Department of Chemistry and Chemical Technology, Faculty of Science. Aspirin Analogues with additional N-spacers: Design, Synthesis and Properties.

2. **Co-Advisor** for MSc student, Ahmed Al-Shabatat, Department of Chemistry and Chemical Technology, Faculty of Science. Design, Synthesis, and Properties of Hydrazide Analogues of Aspirin.

Examiner for MSc Theses:

1. External Examiner and a member of the examination committee for MSc Student, Aaya Jaber, entitled " Synthesis, Characterization, and Biological Activities of-N-Arylacetamide with Mercapto Triazole Starting from Nalidixic acid.". Department of Chemistry, Yarmouk University, 2025, supervised by Dr. Ibrahim Mhaidat and Dr. Abed Abdel Monem Rawashdeh.

2. External Examiner and a member of the examination committee for MSc Student, Yazan Okour, entitled " Improving Corrosion Resistance of Copper by Synthesizing New ethyl 2-((5-(3-(5-((3-methoxy-2-oxopropyl)thio)-4-(aryl)-4*H*-1,2,4-triazol-3-yl)phenyl)-4-(*p*-tolyl)-4*H*-1,2,4-triazol-3-yl)thio)acetate and 2,2'-((1,3-phenylenebis(4-(paryl)-4*H*-1,2,4-triazole-5,3-diyl))bis(sulfanediyl))di(acetohydrazide) in Acidic Medium". Department of Chemistry, Yarmouk University, 2024, supervised by Dr. Fadel Alwedian and Dr. Ibrahim Mhaidat.

3. External Examiner and a member of the examination committee for MSc Student, Farah Alzu'bi, entitled " Synthesis, Characterization, Antioxidant and Antibacterial Activities of 2,2'-((1,3 and 1,4-phenylenebis(4-aryl-4*H*-1,2,4-triazole-5,3-diyl)) bis(sulfanediyl)) bis(N-substitutedacetamide) ". Department of Chemistry, Yarmouk University, 2024, supervised by Dr. Ibrahim Mhaidat and Dr. Fadel Alwedian.

4. A member of the examination committee for MSc Student, Osama Al-Akayleh, entitled " Azo-based Organic Polymers Bearing Fluorinated Linkers Versus their Poly(azomethane)s Analogue: Thermal and Optical Properties and their Role Toward Benzene and Phenol Separation from Water- A Comparison Study". Department of Chemistry and Chemical Technology, Tafila Technical University, 2021, supervised by Dr. Suha Al-Tarawneh.
5. A member of the examination committee for MSc Student, Afnan Al-Bdour, entitled " Platinum(II)-Aspartic Acid Conjugates: Synthesis and Characterization". Department of Chemistry and Chemical Technology, Tafila Technical University, 2021, supervised by Dr. Loay Al-Momani and Dr. Anas Lataifeh.

6. A member of the examination committee for MSc Student, Mohammad Alhnifat, entitled " Preparation of chirality organized 1,n'-ferrocene dipeptide conjugates of hydroxyl-L-proline". Department of Chemistry and Chemical Technology, Tafila Technical University, 2020, supervised by Dr. Anas Lataifeh and Dr. Lo'ay Al-Momani.