Raed A. Al-Qawasmeh, Ph.D

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EDUCATION

**Post Doctoral Researcher, State University of New York** at stony Brook, 2000, mentor ***Prof. Scott Sieburth***, *Design and synthesis of novel silanediol inhibitors for matrix metalloproteases (MMP).*

**Ph.D., University of Tübingen** (Germany), 1999. Thesis adviser: ***Prof. Dr. Dr. h.c. Wolfgang Voelter.*** Thesis title: *Anhydropentoses as “Chirons“ for Regio- and Stereoselective Annulation of Aza-, Oxa, and Thiacyclic Systems on Carbohydrate Scaffolds and Novel Neutral Proteinase Inhibitors*.

**M. Sc. in chemistry, University of Jordan**, 1994. Thesis advisor: ***Prof. Musa Abu Zarga and Prof. Salim Sabri***. Thesis title: Chemical Constituents of Flora of Jordan (VII): Constituents of Artemisia arborescens and Alhagi maurorum.

**EXPERIENCES**

05/2010-present **Associate Prof**. in organic chemistry, Department of Chemistry. The University of Jordan.

01/05-present **Assistant Prof**. in organic chemistry, Department of Chemistry. The University of Jordan.

01/01-12/04 **Research Scientist** (**Project leader**): Organic Medicinal Chemistry. Lorus Therapeutics Inc., 2 Meridian Road, Toronto M9W 4Z7.

04/99-04/00 **Postdoctoral Researcher**, Department of Chemistry, State University of New York at Stony Brook.

10/94-01/99 **Ph. D. work** at University of Tübingen (Germany).

04/93-04/94 **Research assistant** at Department of Chemistry /University of Jordan.

09/90-04/93 **M. Sc.** in Chemistry, University of Jordan.

**Publications**

**Patents and patents applications**

1. **Raed Al-Qawasmeh**, “2, 4, 5 - Trisubstituted Imidazoles And Their Use As Anti-Microbial Agents” **United States Patent Application, 20070105929**
2. Huesca; Mari**o,** **Al-Qawasmeh; Raed**,Young; Aiping H, Lee; Yoon” Aryl imidazoles and their use as anti-cancer agents” **United States Patent Application, 20070123553**
3. Huesca; Mari**o, Al-Qawasmeh; Raed**,Young; Aiping H, Lee; Yoon” Aryl imidazoles and their use as anti-cancer agents” **United States Patent Application, 20080262015.**
4. Mario Huesca, Aiping Young, Yoon Lee, Aye Aye Khine, Jim Wright, Lisa Lock, **Raed AL-Qawasmeh “**2-INDOLYL IMIDAZO[4,5-D]PHENANTHROLINE DERIVATIVES AND THEIR USE IN THE TREATMENT OF CANCER” WO/**2006**/126177.

5. Mario Huesca, **Raed A. Al-Qawasmeh**, Aiping Young and Yoon Lee “ARYL IMIDAZOLES AND THEIR USE AS ANTI-CANCER AGENTS” WO/**2005**/047266.

6. Mario Huesca, **Raed A. Al-Qawasmeh**, Aiping Young and Yoon Lee “2,4,5-TRISUBSTITUTED IMIDAZOLES AND THEIR USE AS ANTI-MICROBIAL AGENTS” WO/**2004**/016086.

**Refereed International Journal**

28. Raed Ghanem, Hutaf Baker, Mobeen Abu Seif, **Raed A. Al-Qawasmeh**, Abdl-Azizi Mataneh, Samer Al-Gharabli. “Photochemical Transformation of colchicines: A kinetic study” **Journal of solution Chemistry**, 2009, accepted

27. Taleb. H. Al-Tel, **Raed A. Al-Qawasmeh**, Marco F. Schmidt, Amal Al-Aboudi, Shashidhar N. Rao, Salim S. Sabri and Wolfgang Voelter ‘ Rational Design and Synthesis of Potent Dibenzazepine Motifs as β-Secretase Inhibitors” **J. Med. Chem**, 52 (**2009**) 6484-6488.

26. **Raed** **A. Al-Qawasmeh,** Jalal A. Zahra, Franca Zani, Paola Vicini,  Mustafa M. El-Abadelah, **”** Synthesis and antibacterial activity of 9-cyclopropyl-4-fluoro-6-oxo-6,9-dihydro-[1,2,5]thiadiazolo[3,4-h]quinoline-7-carboxylic acid and its ethyl ester” **ARKIVOC** Accepted (2009)

25. Mario Huesca, Lisa S. Lock, Aye aye khine Stephane ViauRobert peralta , Howard Cukier, Hongnan Jin, **Raed A. Al-Qawasmeh,** Yoon Lee, Jim A. Wright and Aiping Young “a novel small molecule with potent anticancer activity inhibits cell growth by modulating intracellular labile zinc homeostasis” **Mol. Cancer Ther.** 8 (**2009**) 2586-2596.

24. Taleb. H. Al-Tel, **Raed A. Al-Qawasmeh**, Salim S. Sabri and Wolfgang Voelter”Differential Use of Anhydropyranosides for Enantiopure Routes to Bis-γ-butyrolactones: A New Approach to the Frameworks of Antibiotic and Anticancer Agents Isoavenaciolide and Ethisolide’ **J. Org. Chem**. 74 (2009) 4690-4696.

23. **Raed** **A. Al-Qawasmeh,** Jalal A. Zahra, Monther A. Khanfar, Yusuf M. AL-Hiari, Mustafa M. El-Abadelah and Wolfgang Voelter **”**  **Lett. Org. Chem** 6 (**2009**) 511-514.

22. Khalid M. Khan, Shahnaz Perveen, **Raed A. S. Al-Qawasmeh**, Mohammed S. Shekhani, Syed T. Ali Shah *and* Wolfgang Voelter “**A Method for the Syntheses of Enopyranosides”**  **Lett. Org. Chem** 6 (**2009**) 191-196.

21. **Raed A. Al-Qawasmeh,** Yoon Lee, Ming-Yu Cao, XiaopingGu, Stephane Viau, Jeff lightfoot, Jim A. Wright and Aiping Young ” 11-Phenyl-[b,e]-dibenzazepine compounds: novel antitumor agents” **Bioorg. Med. Chem. Lett**. 19 (**2009**) 104-107.

20. Monther A Khanfar, T Bassam A. Abu haher, Jalal A.Zahra, **Raed A Al-Qawasmeh**, Mustafa M. El-Abadelah, Wolfgang Voelter “Metal-assisted oxidative cyclization of arylamidrazones II [1]. Novel synthesis of 1,4-diaryl[1,2,4]triazino[6,5-h]quinolines”.  **Zeitschrift fuer Naturforschung, B: Chemical Sciences** 63(9) (**2008**), 1107-1111.

19. **Raed A.Al-Qawasmeh**, Taleb H.Al-Telb, Khalid M.Khan, Shahnaz Perveen, Wolfgang Voelter, **“**New entries for regio- and enantiopure syntheses of pyrrolidene systems fused to carbohydrate templates**”**  **ARKIVOC**  7 (**2007**) 310-317.

18. Raed A. Al-Qawasmeh, Yoon Lee, Ming-Yu Cao, Xiaoping Gu, Aikaterini Vassilakos, Jim A. Wright and Aiping Young” Triaryl methane derivatives as antiproliferative agents” Bioorg. Med. Chem. Lett. 14 (2004), 347-350.

17. Ming-Yu Cao, Yoon lee, Ning-Ping Feng**, Raed A. Al-Qawasmeh**, Stephane Viau, Xiao-Ping Gu, leo Lau, Hongnan Jin, Ming Wang, Aikaterenini Vassilakos, Jim A. Wright and aiping H. Young” NC-381, A novel Anticancer agent, arrest the cell cycle in G0-G1 and inhibits Lung Tumor cell growth in vitro and in vivo, **The Journal of Pharmacology and Experimental Therapeutics**. 308(2), (**2004**), 538-546.

16. R. J. Abdel-Jalil, **R. A. Al-Qawasmeh**, P. Heeg, M. El-Abadelah, S. S. Sabri and W. Voelter**\*.** “Synthesis and Properties of Some 2,3-Disubstituted-6-Fluoro-7(4-Methyl-1-Piperazinyl) qunioxalines” **J. Heterocycl. Chem**. 37 (2000) 1273.

15. Thurmer, Rene. Echner, Hartmut. Meisenbach, Mark. Weiler, Angelika. **Al-Qawasmeh, Raed A.** Korff, Ulrich. Schmitt-Sody, Wolfgang. Voelter, Wolfgang.”Monitoring of Polymer-Supported Peptide Syntheses with MALDI-TOF Mass Spectrometry**”** [**Peptides - Proceedings of the European Peptide Symposium**](http://runners.ritsumei.ac.jp/cgi-bin/swets/volume-query-e?mode=0&key=&issn=&tr=Peptides+%2d+Proceedings+of+the+European+Peptide+Symposium), 25 (**2000**), 298-299

14. **R. A. Al-Qawasmeh**, T. H. Al-Tel, R. J. Abdel-Jalil, W. Voelter\* “Carbohydrates to Heterocycles: a New Strategy for the Synthesis of Enantiomerically Pure Pyridazines and Oxazines Derived from Epoxypyranoside Scaffolds” **Chem.Lett**. 7 (**1999**) 541-542.

13. **R. A. Al-Qawasmeh**, T. H. Al-Tel, R. J. Abdel-Jallil, R. Thürmer, W. Voelter, „Anhydro Sugars to Enantiomerically Pure Building Blocks: Efficient syntheses of γ-Lactones and Furanoids“ **Polish J. Chem**. 73 (**1999**) 71-75.

12. R. Thürmer, M. Meisenbach, H. Echner, A. Weiler, **R. A. Al-Qawasmeh**, W. Voelter, U. Korff, W. Schmitt-Sody “Monitoring of Liquid-phase Peptide Synthesis on Soluble Polymer Supports via matrix-assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry“ ***Rapid Commun. Mass Spectrom*.** 12 (**1998**) 398-402.

11. **R. A. Al-Qawasmeh**, R. J. Abdel-Jallil, T. H. Al-Tel, R. Thürmer, W. Voelter, “A Useful Regioselective Approach to Episulfides via cis-oriented Anhydro Triflate Sugars“ ***Tetrahedron Lett*.** 39, (**1998**) 8257.

10. W. Voelter, R. Thürmer, **R. A. Al-Qawasmeh**, T. H. Al-Tel, R. J. Abdel-Jalil, Y. Al-Abed, “Epoxy Pyranoses, Chiral Synthons for Versatile Regio- and Stereocontrolled Functionalizations**“ *Polish J. Chem***. 73 (**1999**) 55-69.

9. H. Zhang, Y. Wang, R. Thürmer, **R. A. Al-Qawasmeh**, W. Voelter „Total Synthesis of the Nephritogenoside Glycopeptide“ **Polish J. Chem**. 73 (**1999**) 101-115.

8. H-J. Kohlbau, J. Tschakert, **R. A. Al-Qawasmeh**, T. A. Nizami, A. Malik, W. Voelter\* „Festphasensynthese von Muramyldipeptiden an isomeren Trialkoxybenzylamin-Harzen“. **Z. Naturforsch. 53b** (**1998**) 753-764

7. R. J. Abdel-Jalil, **R. A. Al-Qawasmeh**, W. Voelter „(4(4)-Di(2,3-anhydropentopyranosides), a Novel Class of Potential Enzyme Inhibitors“ **Tetrahedron Lett***.* 39 (**1998**) 6155.

6. R. J. Abdel-Jalil, **R. A. Al-Qawasmeh**, Y. Al-Abed, W. Voelter „A Stereospecific Synthesis of Tetra-Substituted Chiral Piperazines“ **Tetrahedron Lett**. 39 (**1998**) 7703.

5. M. H. Abu Zarga, **R. A. Al-Qawasmeh**, S. S. Sabri, M. Munsoor and S. Abdalla, „Chemical Constituents of Artemisia arborescens and the Effect of the Aqueous Extract on Rat Isolated Smooth Muscle“ *Planta Med*. 61 (**1995**) 242.

4. T. H. Al-Tel, **R. A. Al-Qawasmeh**, T. Kaiser and W. Voelter “A new strategy for Carbohydrate-Based Syntheses of Oxaspiro-Multichiral System: An Alternative Route to Pyranosidic Homologation“ **Tetrahedron Lett**. 36 (**1995**) 4599.

3. T. H. Al-Tel, **R. A. Al-Qawasmeh**, C. Schrِder and W. Voelter\* “An Efficient Route to Regio-and Stereoselective Synthesis of 3-Amino-3-Deoxy Sugars“ **Tetrahedron** 51 (**1995**) 3141.

2. M. H. Abu Zarga\*, **R. A. Al-Qawasmeh**, S. S. Sabri, T. H. Al-Tel and W. Voelter “New Colchicine and Homoaporphine-N-Oxide Alkaloids from Colchicum Ritchii: The First Homoaporphine N-Oxide Found in Nature“ ***Z. Naturforsch*. 50b** (**1995**) 1424.

1. T. H. Al-Tel, R. Thürmer, **R. A. Al-Qawasmeh** and W. Voelter “Synthese multifunktioneller polycylischer chiraler Furanoide durch Pyranoseanellierungen“ **J. Prakt. Chem**. 338 (**1996**) 320.

**Chapters in Books**

W. Voelter, T. H. Al-Tel, Y. Al-Abed, N. Khan, **R. A. Al-Qawasmeh**, R. Thurmer, Epoxy sulfonate pyranoses, valuable intermediate in carbohydrate syntheses, in **New Trends in Natural Product Chemistry** Editors: Atta-ur-Rahman and I.M. Choudry, Publisher: Harwood, Amesterdam, Neth. P. 47-56 (1998)

**International Conferences (Abstracts and attendances)**

1) Al-Tel, Taleb H.; **Al-Qawasmeh, Raed**; Voelter, Wolfgang. Diversity-oriented synthesis: Enantioselective synthesis of a pool of small molecules as drug candidates. 237th ACS National Meeting, Salt Lake City, UT, United States, March 22-26, **2009**

 2) **Raed A. Al-Qawasmeh,** **American Association for Cancer research,** Dead Sea Jordan ,March **2008.**

2) **Raed A. Al-Qawasmeh**, **Middle East and North Africa Cancer research Conference,** Amman-Jordan, September **2007**.

3) **Raed A. Al-Qawasmeh**, ***29th National Medicinal Chemistrty Meeting***, Madison- Wisconsin, June 26-July 01, **2004**.

4) Lisa Lock, Mario Husca, **Raed A. Al-Qawasmeh**, Stephane Viau, Eduardo Camisa, Valery Mykalo, Yoon Lee, Aiping Young “ Molecular mechanism of growth inhibition induced by novel triaryl imidazole compounds In human cancer cell lines, **IBC's 9th Annual World Congress Drug Discovery Technology®** 2004 to be held in Boston USA, from August 8-13, **2004** .

5) Yoon lee Ming-Yu Cao**, Raed A. Al-Qawasmeh**, Ning-Ping Feng, Stephane Viau, Keyong Xiong, Aiping H. Young and Jim A. Wright ” Promising pre-clinical indication for NC-381 In

6) R. J. Abdel-Jalil, **R. A. Al-Qawasmeh**, W. Voelter. *The 19th International Carbohydrate Symposium*, **1998**, San Diago, USA.

7) R. J. Abdel-Jalil, **R. A. Al-Qawasmeh**, W. Voelter. *The 19th International Carbohydrate Symposium*, **1998**, San Diago, USA.

8**) R. A. Al-Qawasmeh**, Y. Al-Abed, R. J. Abdel-Jalil, W. Voelter, *The 9th European Carbohydrate Symposium*, **1997**, A170, Utrecht, Netherlands.

9) R. J. Abdel-Jalil, Y. Al-Abed, **R. A. Al-Qawasmeh**, W. Voelter, *The 9th European Carbohydrate Symposium*, **1997**, A171, Utrecht, Netherlands.

10) **R. A. Al-Qawasmeh**, T. H. Al-Tel, R. Thürmer and W. Voelter, *The 18th International Carbohydrate Symposium*, **1996**, BO031, Milano, Italy.

11) R. Thürmer, **R. A. Al-Qawasmeh**, K. Pervez, T. H. Al-Tel, W. Voelter, *The 18th International Carbohydrate Symposium*, **1996**, BO054, Milano, Italy.

12) R. Thürmer, T. H. Al-Tel, **R. A. Al-Qawasmeh**, and W. Voelter, *International Symposium on “Selectivity in Basic and Applied Organic Chemistry*“, **1995**, 20, Jerusalem, Israel.

13) **R. A. Al-Qawasmeh**, T. H. Al-Tel, R. Thürmer and W. Voelter, *First EuroConference on Carbohydrate Mimics (ECCM1),* **1995**, Strasbourg, France

14) R. Thürmer, T. H. Al-Tel, **R. A. Al-Qawasmeh** and W. Voelter, *First EuroConference on Carbohydrate Mimics (ECCM1),* **1995**, Strasbourg, France.

**Professional Awards and fellowship**

1. Grant from from NIH (National Institute of Health) for my research at State University of New York at Stony Brook.

2. Scholarship from DAAD (Deutscher Akademischer Austausch Dienst, Germany) for Ph. D in organic chemistry at the university of Tübingen,

3. Grant from DFG (Deutsche Forschung Gemeinshaft) to attend the Polish-German workshop in Stare Jablonki-Poland.

4. Grant from DFG (Deutsch Forschung Gemeinshaft) to attend the XVIIIth International Carbohydrate Symposium, Milano-Italy.

5. Scholarship for the young researchers. The Commission of the European Communities.

6. Grant from ISESCO, Pakistan, for research works at the H. E. J. Research Institute of Chemistry at Karachi, Pakistan.

7. Scholarship from the University of Jordan. Studying for the M.Sc.

8. Scholarship from the UNRWA in Jordan. Studying for the B.Sc.