Yasmeen M. Abouelhassan

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Academic Background:

2013- Present Ph.D., Medicinal Chemistry, College of Pharmacy, University of Florida. Advisor: Dr. Robert W. Huigens III.

2007-2012 B.Sc. in Pharmaceutical Sciences, College of Pharmacy, Cairo University, Egypt.

Career-Related Experience:

2014 - present Research Assistant, Medicinal Chemistry Department, College of Pharmacy, University of Florida; **Advisor**: Professor Robert W. Huigens III.

2013 - 2014 Teaching Assistant, Medicinal Chemistry Department, College of Pharmacy, University of Florida; **Advisor**: Professor Robert W. Huigens III.

July - Dec 2012 Community pharmacist in **El Fetouh Pharmacy**, Maadi, Cairo, Egypt.

Publications:

13. Yousaf, H. H.; Garrison, A. T.; **Abouelhassan, Y**.; Basak, A.; Jones, J. B.; Huigens III, R. W. "Identification of Nitroxoline and Halogenated Quinoline Analogues with Antibacterial Activities against Plant Pathogens." *ChemistrySelect*, **2017**, *2*, 6235-6239.

12. Basak, A.; **Abouelhassan, Y**.; Zuo, R.; Yousaf, H.; Ding, Y.; Huigens III, R. W. "Antimicrobial Peptide-Inspired NH125 Analogues: Bacterial and Fungal Biofilm-Eradicating Agents and Rapid Killers of MRSA Persisters." *Org. Biomol. Chem.*, **2017**, *15*, 5503-5512.

11. Yang, H.; **Abouelhassan, Y.**; Burch, G. M.; Kallifidas, D.; Huang, G.; Yousaf, H.; Jin, S.; Luesch, H.; Huigens III, R. W. "A Highly Potent Class of Halogenated Phenazine Antibacterial and Biofilm-Eradicating Agents Accessed Through a Modular Wohl-Aue Synthesis." *Sci. Rep.*, **2017**, *7*, 2003.

10. **Abouelhassan, Y.**; Basak, A.; Hussain, Y.; Huigens III, R. W. "Identification of *N*-Arylated NH125 Analogues as Rapid Eradicating Agents against MRSA Persister Cells and Potent Biofilm Killers of Gram-Positive Pathogens." *ChemBioChem*, **2017**, *18*, 352-357.

    - Front Cover Art Selection: http://onlinelibrary.wiley.com/doi/10.1002/cbic.v18.4/issuetoc

9. **Abouelhassan, Y.**; Yang, Q.; Nguyen, M. T.; Rolfe, M.; Yousaf, H. Schultz, G. S.; Huigens III, R. W. "Nitroxoline: A Broad-Spectrum Persister Cell- and Biofilm-Eradicating Agent Against Pathogenic Bacteria." *Int. J. Antimicrob. Agents*, **2017**, *49*, 247-251.

8. Garrison, A. T.; **Abouelhassan, Y.**; Yang, H.; Yousaf, H. H.; Nguyen, T.; Huigens III, R. W. "Microwave-Enhanced Friedländer Synthesis for the Rapid Assembly of Halogenated Quinolines with Antibacterial and Biofilm Eradication Activities against Drug Resistant and Tolerant Bacteria." *Med. Chem. Commun.*, **2017**, *8*, 720-724.

   -Hot Article; Invited for Themed Issue: "New Talent: Americas."

7. Basak, A.; **Abouelhassan, Y.**; Norwood IV, V. M.; Bai, F.; Nguyen, M.; Jin, S.; Huigens III, R. W. "Synthetically Tuning the 2-Position of Halogenated Quinolines: Optimizing Antibacterial and Biofilm Eradication Activities via Alkylation and Reductive Amination Pathways." *Chem. Eur. J.* **2016**, *22*, 9181-9189.

   -Hot Paper, Cover Art Selection, Highlighted in Angew. Chemie. Int. Ed.

6. Garrison, A. T.; **Abouelhassan, Y.**; Norwood IV, V. M.; Kallifidas, D.; Bai, F.; Nguyen, M.; Rolfe, M. Burch, G. M., Jin, S., Luesch, H.; Huigens III, R. W. "Structure-Activity Relationships of a Diverse Class of Halogenated Phenazines that Targets Persistent, Antibiotic-Tolerant Bacterial Biofilms and *Mycobacterium tuberculosis." J. Med. Chem.* **2016**, *59*, 3808-3825.

5. Garrison, A. T.; **Abouelhassan, Y.**; Kallifidas, D.; Bai, F.; Ukhanova, M.; Mai, V.; Jin, S.; Luesch, H.; Huigens III, R. W. "Halogenated Phenazines that Potently Eradicate Biofilms, MRSA Persister Cells in Non-Biofilm Cultures and *Mycobacterium tuberculosis*." *Angew. Chemie Int. Ed.*, **2015**, *54*, 14819-14823.

4. Basak, A.; **Abouelhassan, Y.**; Huigens III, R. W. "Halogenated Quinolines Discovered Through Reductive Amination with Potent Eradication Activities against MRSA, MRSE and VRE Biofilms." *Org. Biomol. Chem.*, **2015**, *13*, 10290-10294.

   -Hot Article & Cover Art: http://onlinelibrary.wiley.com/doi/10.1002/chem.v22.27/issuetoc
   -Highlight: *Angew. Chemie Int. Ed*.: http://onlinelibrary.wiley.com/doi/10.1002/anie.201682713/full3

3. **Abouelhassan, Y.**; Garrison, A. T.; Bai, F.; Norwood IV, V. M.; Nguyen, M.; Jin, S.; Huigens III, R. W. "A Phytochemical-Halogenated Quinoline Combination Therapy Strategy for the Treatment of Pathogenic Bacteria" *ChemMedChem*, **2015**, *10*, 1157-1162.

2. Garrison, A. T.; Bai, F.; **Abouelhassan, Y.**; Paciaroni, N. G.; Jin, S.; Huigens III, R.W. "Bromophenazine Derivatives with Potent Inhibition, Dispersion and Eradication Activities against *Staphylococcus aureus* Biofilms." *RSC Adv.* **2015**, *5*, 1120-1124.

1. **Abouelhassan, Y.**; Garrison, A. T.; Burch, G. M.; Wong, W.; Norwood IV, V. M.; Huigens III, R. W. "Discovery of quinoline small molecules with potent dispersal activities against methicillin-resistant *Staphylococcus aureus* and *Staphylococcus epidermidis* biofilms using a scaffold hopping strategy." *Bioorg. Med. Chem. Lett.*, **2014**, *24*, 5076-5080.

Patents:

3. Huigens III, R. W.; Basak, A.; **Abouelhassan, Y.** "Halogenated Quinoline Derivatives at the 2-Position with Potent Antibacterial and Biofilm Eradication Activities." Filed with UF: 9/18/2015.

2. Huigens III, R. W.; Garrison, A.; **Abouelhassan, Y.** "Halogenated Phenazine Small Molecules as Bacterial Biofilm Eradicating Agents." Filed with UF: 7/15/2015.

1. Huigens III, R.W.; **Abouelhassan, Y.**; Garrison, A. "Combination Therapy for Treating Infectious Diseases." Filed with UF: 4/1/2015.

Academic Honors and Awards:

1. Winner of a poster presentation (1st place) at the UF Drug Discovery Symposium, September, 2017.
2. Marylin Little Scholarship award at the University of Florida in Spring 2017.
3. Winner of a poster presentation (1st place) at the UF Drug Discovery Symposium, April 2016.
4. Nominated by the College of Pharmacy at the University of Florida for the Howard Hughes Medical Institute Fellowship in the Fall of 2015.
5. 2015 top international student award in the Medicinal Chemistry Department, College of Pharmacy at the University of Florida in Fall of 2015.
6. Certificate of outstanding academic achievement, 2014, International Center, University of Florida.
7. Certificate of outstanding academic achievement, 2010-2013, College of Pharmacy, Cairo University.

Skills:

- RNA-seq data analysis
- Basic microbiology skills/experiments
- Evaluation of small molecules against bacterial biofilms
- Organic synthesis
- NMR spectroscopy
- Microarray data analysis
- LC-MS
- Quantitative Polymerase Chain Reaction (qPCR)
- Enzyme-Linked Immunosorbent Assay (ELISA)

Professional Presentations:

- **Abouelhassan, Y.**; Garrison, A. T.; Basak, A.; Yang, H.; Huigens III, R. W. "Discovery of Halogenated Phenazines, Hydroxyquinolines and NH125 Small Molecules as Potent Biofilm-Eradicating Agents of Gram-Positive Pathogens and MRSA Persister Cell Killers." Poster presented at the UF Drug Discovery symposium, Gainesville, FL, September 2017.
    - Award for 1st place poster presentation
- **Abouelhassan, Y.**; Garrison, A. T.; Basak, A.; Yang, H.; Huigens III, R. W. "Discovery of Halogenated Phenazines, Hydroxyquinolines and NH125 Small Molecules as Potent Biofilm-Eradicating Agents of Gram-Positive Pathogens and MRSA Persister Cell Killers." Poster presented at ACS Florida Chapter's 93rd Florida Annual Meeting and Exposition (FAME), Palm Harbor, FL, May 2017.
- Garrison, A. T.; **Abouelhassan, Y.**; Kallifidas, D.; Luesch, H.; Huigens III, R. W. "Discovery and Development of Halogenated Phenazines as Biofilm-Eradicating and Anti-Tuberculosis Agents." Poster presented at ACS Florida Chapter's 93rd Florida Annual Meeting and Exposition (FAME), Palm Harbor, FL, May 2017.
- Huigens III, R. W.; Garrison, A. T.; **Abouelhassan, Y.**; Basak, A.; Yang, H.; Norwood IV, V. M.; Burch, G. M.; Paciaroni, N. G. "Efforts to Expand Our Antibiotic Arsenal to Eradicate Persistent Bacterial Biofilms." Poster presented at 253rd American Chemical Society National Meeting and Exposition, San Francisco, CA, April 2017.
- Garrison, A. T.; **Abouelhassan, Y.**; Kallifidas, D.; Luesch, H.; Huigens III, R. W. "Discovery and Development of Halogenated Phenazines as Biofilm-Eradicating and Anti-Tuberculosis Agents." Poster presented at the UF College of Pharmacy Research Showcase, Gainesville, FL, February 2017.
- **Abouelhassan, Y.**; Garrison, A. T.; Basak, A.; Huigens III, R. W. "Discovery of Potent Halogenated Phenazine and Quinoline Small Molecule Biofilm-Eradicating Agents" Poster presented at the UF Drug Discovery symposium, Gainesville, FL, May 2016.
    - Award for 1st place poster presentation
- **Abouelhassan, Y.**; Garrison, A. T.; Basak, A.; Huigens III, R. W. "Discovery of Potent Halogenated Phenazine and Quinoline Small Molecule Biofilm-Eradicating Agents" Poster presented at the UF UF College of Pharmacy Research Showcase, Gainesville, FL, February 2016.
- Burch, G. M.; Garrison, A. T.; **Abouelhassan, Y.**; Huigens III, R. W. "Discovery of Halogenated Quinoline Small Molecules as Potent Biofilm Dispersal and Antibacterial Agents against Staphylococcus epidermidis." Poster presented at the UF College of Pharmacy Research Showcase, Gainesville, FL, February 2016.
    - Award for 1st place poster presentation

- **Abouelhassan, Y.**; Garrison, A. T.; Burch, G. M.; Basak, A.; Huigens III, R. W. "Discovery of Halogenated Quinoline Small Molecules as Potent Antibiofilm and Antibacterial Agents Against Pathogenic Bacteria" Poster presented at the University of Florida Graduate student research day, Gainesville, FL, October 2014.

Career-Related Internships

2011 - 2012	Community pharmacist in **El Fetouh Pharmacy** in Maadi, Cairo, Egypt.
2007 - 2011	Community pharmacist in **Adel Nasr Pharmacy** in Nasr city, Cairo, Egypt.
Aug - Sep 2010	Community pharmacist in **Al Reda Pharmacy** in Farwaniya, Kuwait.
July - Aug 2010	**Glaxo Smith Kline (GSK)** internship in Cairo, Egypt.
Mar - April 2010	**Children`s Cancer Hospital 57357** in Cairo, Egypt.
July - Sep 2009	**Clinical Trials and Military Studies Lab (CTMS) in US Naval Medical Research Unit No.3 (NAMRU-3)** in Cairo, Egypt.

Mentorship:

Summer 2015	Melanie Rolfe, Pharm. D. student.
Fall 2014- spring 2016	Minh Nguyen, Biochemistry undergraduate and UF scholar.
Spring 2015- present	Hussain Youssaf, Biochemistry undergraduate.
Spring- Summer 2015	Charles Mock, a high school student.
Fall 2014	Sahar Al-Ghamdi, a graduate student in the Medicinal Chemistry, UF.
Summer 2014	Gena Burch, Pharm. D./ Ph.D. in the Medicinal Chemistry, UF.
Summer 2014	Chip Norwood, Graduate student in the Medicinal Chemistry, UF.

Professional Memberships:

- Member of the **American Chemical Society** (2017-present)
- Member of the **American Heart Association** (2013-2014)
- Member of **Pharmaceutical Association for Investment (PHAI)** at Cairo University, Egypt. (2010-2011)