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An-Najah National University, Faculty of Medicine and Health Sciences  
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## Education

- 2013 – 2014 *Yale University, School of Medicine*, New Haven, CT, USA  
Postdoctoral Training in the Department of Cellular and Molecular Physiology
- 2009 – 2013 Ph.D. *University at Albany, State University of New York*, Albany, NY, USA  
Doctoral Program in Chemistry, *Advisor*: Professor Li Niu  
*Thesis Title*: Structure-Activity Relationship of 2,3-Benzodiazepin-4-ones as Noncompetitive AMPA Receptor Antagonists
- 2002 – 2006 B.S. *Bar Ilan University*, Ramat Gan  
Chemical Engineering & Biotechnology

## Research/Work Experience

- 2021 – present **An-Najah National University, School of Medicine, Department of Biochemistry & Anatomy**, Nablus  
*Associate Professor*
- Investigating the inhibitory effect of chemical compounds (i.e., 2,3-benzodiazepine & Curcumin derivatives) in vitro and in vivo on the heteromeric AMPA-type glutamate receptors
  - Understanding how these membrane proteins mediate signal transmission and transduction
  - Investigating how AMPA receptor number and function are regulated at the synapse and, most importantly, defining the molecular mechanism of AMPAR regulation by its accessory subunits
- 2022 – present **An-Najah National University**
- *Associate Editor* (i.e., *Palestinian Medical and Pharmaceutical Journal*)
- 2016 – 2021 **An-Najah National University, School of Medicine, Department of Biochemistry & Anatomy**, Nablus  
*Assistant Professor*
- 2014 – 2018 **The Hebrew University-Hadassah, School of Medicine, Department of Biochemistry & Molecular Biology**, Jerusalem  
*Postdoctoral Research Fellow*
- Studying the structure of AMPA receptors requirements for functional interaction with single interactors or combinations thereof
  - Investigating the molecular and cellular mechanisms of AMPA receptor synaptic underlying synapse development and function
  - Characterizing dynamic interactions and defining the sequence of AMPA receptors associated with the interactors during the biosynthetic pathway.
- 2013 – 2014 **Yale University, School of Medicine, Department of Cellular and Molecular Physiology**, New Haven, CT, USA  
*Postdoctoral Associate*
- Studying the molecular basis of mechanosensitivity in ion channels, using the mechano-gates  $K_{2P}$  channels as a model
  - Using two state-of-the-art approaches to study mechanical responses: high-speed pressure clamp and piezo-driven actuator
  - Characterizing novel membrane receptors that perceive environmental inputs and

- convert them into electrical signals in the somatosensory neurons
- Electrical stimulation of primary mice neuronal cultures

2009 – 2013

**University at Albany, Chemistry Department, Albany, NY**  
**Research Assistant**

- Working on glutamate ion channel receptors
- Rapid kinetic investigation of the mechanism of inhibition for a group of 2,3-benzodiazepine compounds, also known as GYKI compounds
- Investigating the mechanism of channel action, inhibition, and regulation within the  $\mu$ s-to-ms time domain
- Using a patch-clamp, coupled with a laser-pulse photolysis technique as my primary technical expertise in electrophysiology

2008 – 2009

**Western Kentucky University, Department of Chemistry, Bowling Green, KY**  
**Research Assistant**

- Preparation of multi-substituted derivations of aromatic compounds, including synthesis and characterization
- Metalation of aryl substrates using a strong base (n-BuLi)
- The reaction of organolithium compounds, including Metallation, ortho-metallation, Nucleophilic addition and substitution, halogen-metal exchange, and transmetallation
- Using analytical techniques including gas chromatography (GC), mass spectrometry (MS)

2005 – 2006

**Bar Ilan University, Ramat Gan, Israel**  
**Department of Chemical Engineering & Biotechnology**

- Design a soft drink production plant
- Covering every aspect of design, namely the literature search, engineering design, and the presentation of the result

2005 – 2006

**Department of Biological Chemistry**

- Research project of novel materials for photodynamic cancer therapy and their organic synthesis, including fully equipped organic chemistry laboratory electronic, analytical, and glassware.

### Teaching Experience & Courses

2016 –Present

Tenure Associate Professor, School of Medicine & Health Sciences, An-Najah National University (ANNU)

- General Chemistry I & II
- Organic Chemistry I & II
- Organic Chemistry I & II Lab
- Biochemistry
- General Biology
- Research tools and skills in biomedical sciences
- Cell Biology

2015 – 2016

Visiting Assistant Professor, Chemistry Head Department, Al-Quds Bard College

- Organic Chemistry I & II
- General Chemistry I & II
- Biochemistry

2014 – 2015

Visiting Assistant Professor, Chemistry Department, Birzeit University

- Medicinal Chemistry- Drug Design *\_Graduate Course*
- General Chemistry I
- Fundamental Organic Chemistry

2009 – 2013

Teaching Assistant, *Organic Chemistry*, Chemistry Department, University at Albany (SUNY)

2011 – 2012	Teaching Assistant, <i>Biophysical Chemistry</i> , Chemistry Department University at Albany (SUNY)
2009 – 2012	Tutor, <i>Organic Chemistry &amp; General Chemistry</i> , Center for Achievement, Retention and Student Success, University at Albany (SUNY)

### **Awards & Honors**

2022	Won the Arab American University Award for Excellence in Scientific Research
2019	Excellence in E-Learning in General Biology Course for Health Sciences, ANNU
2013	Excellence in Teaching, President's Excellence Award, University at Albany
2012	Graduate Travel Award, Department of Chemistry, University at Albany
2011	Author O. Lang Teaching Award, Department of Chemistry, University at Albany

### **Memberships in Professional Societies**

2012 – present	SIGMA XI-The Scientific Research Society
2012 – present	The Biophysical Society

### **Articles Published (\*corresponding author)**

1. **Qneibi, M.\***; Jumaa, H.; Bdir, S.; Al-Maharik, N. Electrophysiological Assessment of Newly Synthesized 2,3-Benzodiazepine Derivatives for Inhibiting the AMPA Receptor Channel. *Molecules* 2023, 28, 6067. <https://doi.org/10.3390/molecules28166067>. . **Impact factor 4.6**
2. **Qneibi, M.\***, Jaradat, N., Al-Maharik, N. et al. The effect of Lavandula Coronopifolia essential oil on the biophysical properties of desensitization and deactivation gating currents in ionotropic receptors. *Sci Rep* 13, 8417 (2023). <https://doi.org/10.1038/s41598-023-35698-0>. **Impact factor 4.9**
3. **Mohammad Qneibi\***, Safa' Nassar, Sosana Bdir, and Adel Hidmi. 2022. "α-Lipoic Acid Derivatives as Allosteric Modulators for Targeting AMPA-Type Glutamate Receptors' Gating Modules." *Cells* 11, no. 22: 3608. <https://doi.org/10.3390/cells11223608>. **Impact factor 7.666**
4. Mohammad Qneibi, Mohammad Hawash, Sosana Bdir, Sultan Nacak Baytas. Targeting the kinetics mechanism of AMPA receptor inhibition by 2-oxo-3H-benzoxazole derivatives, *Bioorganic Chemistry*, 129, 106163 (2022). <https://doi.org/10.1016/j.bioorg.2022.106163>. **Impact factor 5.307**
5. **Qneibi, M.\***, Hawash, M., Jaradat, N., Bdir, S. Affecting AMPA Receptor Biophysical Gating Properties with Negative Allosteric Modulators. *Mol Neurobiol* 59, 5264–5275 (2022). <https://doi.org/10.1007/s12035-022-02913-4>. **Impact factor 5.682**
6. Nidal Jaradat, Mohammed Hawash, **Mohammad Qneibi\*** et al. The Effect of Novel Negative Allosteric 2,3-Benzodiazepine on Glutamate AMPA Receptor and their cytotoxicity, *Journal of Molecular Structure*, 28 March 2022, 132936. <https://doi.org/10.1016/j.molstruc.2022.132936>. **Impact factor 3.841**
7. Jaradat, N., Khasati, A., Hawi, M., Mohammed Hawash, Suhaib Shekfeh, **Mohammad Qneibi**, et al. Antidiabetic, antioxidant, and anti-obesity effects of phenylthio-ethyl benzoate derivatives, and molecular docking study regarding α-amylase enzyme. *Scientific Reports* 12, 3108 (2022). <https://doi.org/10.1038/s41598-022-07188-2>. **Impact factor 4.99**
8. Nidal Jaradat, Samer Abdallah, Nawaf Al-Maharik, Mohammad Altamimi, Mohammed Hawash, **Mohammad Qneibi**, Abeer Abu Khair et al. Constituents, Antibacterial Adhesion, Cytotoxic and in Vitro Metastasis Blocking Properties of Salvia fruticosa Essential Oils from Three Palestinian Localities. *Chem.Biodiversity*, (2022),19, e202100872. **Impact factor 2.745**
9. Nidal Jaradat, **Mohammad Qneibi**, Mohammed Hawash, et al. (2022). Assessing Artemisia arborescens essential oil compositions, antimicrobial, cytotoxic, anti-inflammatory, and neuroprotective effects gathered from two geographic locations in Palestine. *Industrial Crops and Products*, vol 176, 114360, <https://doi.org/10.1016/j.indcrop.2021.114360>. **Impact factor 6.449**
10. **Mohammad Qneibi\***, Othman Hamed, Nidal Jaradat, Mohammed Hawash, Rana Al-Kerm, Rola Al-Kerm, Shorooq Sobuh, Sama Tarazi, (2021). The AMPA receptor biophysical gating properties and binding site: Focus on novel curcumin-based diazepines as non-competitive antagonists. *Bioorganic Chemistry*, vol. 116, 2021, p. 105406, <https://doi.org/10.1016/j.bioorg.2021.105406>. **Impact factor 5.307**
11. Mohammed Hawash, **Mohammad Qneibi**, Nidal Jaradat, Murad Abualhasan, Johnny Amer, EL-Hamouz Amer, Tasneem Ibraheem, Siham Hindieh, Sama Tarazi & Shorooq Sobuh (2021). The impact of filtered water-pipe smoke on healthy versus cancer cells and their neurodegenerative role

- on AMPA receptor, *Drugs, and Chemical. Toxicology*, DOI: 10.1080/01480545.2021.1935397. **Impact factor 2.597**
12. Nidal Jaradat, Majdi Dwikat, Johnny Amer, Mohammed Hawash, Fatima Hussein, **Mohammad Qneibi**, Linda Issa, Jalal Abu Asab, Haya Hallak, Diana Nael Arar, Hala Zidan Masri, Khalil Obeid, Mohammad Sharabati, Rawan Kittaneh, "Anticancer, Free Radicals, and Digestive Enzyme Inhibitory Activities of Rubus Sanctus Schreb Root Four Solvent Fractions," *Evidence-Based Complementary and Alternative Medicine*, vol. (2021), Article ID 6690646, 10 pages, 2021. <https://doi.org/10.1155/2021/6690646>. **Impact factor 2.650**
  13. **Mohammad Qneibi\***, Michel Hanania, Nidal Jaradat, Nour Emwas, Sireen Radwan, Inula viscosa (L.) Greuter, phytochemical composition, antioxidant, total phenolic content, total flavonoids content, and neuroprotective effects, *European Journal of Integrative Medicine*, Volume 42, (2021). <https://doi.org/10.1016/j.eujim.2021.101291>. **Impact factor 1.813**
  14. Nawaf Al-Maharik, Nidal Jaradat, **Mohammad Qneibi**, Murad N. Abualhasan, Nour Emwas, "Glechoma curviflora Volatile Oil from Palestine: Chemical Composition and Neuroprotective, Antimicrobial, and Cyclooxygenase Inhibitory Activities," *Evidence-Based Complementary and Alternative Medicine*, vol. 2020, Article ID 4195272, 10 pages, 2020. <https://doi.org/10.1155/2020/4195272>. **Impact factor 2.650**
  15. Fuad Al-Rimawi, Nidal Jaradat, **Mohammad Qneibi**, Mohammed Hawash, Nour Emwas. Free radicals and enzymes inhibitory potentials of the traditional medicinal plant *Echium angustifolium*, *European Journal of Integrative Medicine*, Volume 38, 2020, 101196. <https://doi.org/10.1016/j.eujim.2020.101196>. **Impact factor 1.813**
  16. Jaradat, N., **Qneibi, M.**, Hawash, M. et al. Chemical Composition, Antioxidant, Antiobesity, and Antidiabetic Effects of Helichrysum sanguineum (L.) Kostel. from Palestine. *Arab J Sci Eng* (2020). <https://doi.org/10.1007/s13369-020-04707-z>. **Impact factor 2.807**
  17. **Mohammad Qneibi\***, Nidal Jaradat, Mohammed Hawash, Abdurrahman Olgac, Nour Emwas. (2020) Ortho versus Meta Chlorophenyl-2,3-Benzodiazepine Analogues; Synthesis, Molecular Modeling, and Biological Activity as AMPAR Antagonists. *ACS Omega* 5 (7), 3588–3595. doi.org/10.1021/acsomega.9b04000. **Impact factor 4.132**
  18. **Qneibi, M.\***; Jaradat, N.; Emwas, N. Effect of Geraniol and Citronellol Essential Oils on the Biophysical Gating Properties of AMPA Receptors. *Appl. Sci.* 2019, 9, 4693. **Impact factor 2.838**
  19. **Qneibi M\***, Hamed O, Natsheh A-R, Fares O, Jaradat N, Emwas N, et al. (2019) Inhibition and assessment of the biophysical gating properties of GluA2 and GluA2/A3 AMPA receptors using curcumin derivatives. *PLoS ONE* 14(8): e0221132. <https://doi.org/10.1371/journal.pone.0221132>. **Impact factor 3.752**
  20. **Mohammad Qneibi\***, Othman Hamed, Oswa Fares, Nidal Jaradat, Abdel-Razzak Natsheh, Qais AbuHasan, Nour Emwas, Rana Al-Kerm, Rola Al-Kerm. (2019) The Inhibitory Role of Curcumin Derivatives on AMPA Receptor Subunits and Their Effect on the Gating Biophysical Properties. *European Journal of Pharmaceutical Sciences*, vol. 136, 2019, p. 104951, <http://doi:10.1016/j.ejps.2019.06.005>. **Impact factor 5.112**
  21. **Mohammad Qneibi\***, Nidal Jaradat, Mohammed Hawash, et al., "The Neuroprotective Role of *Origanum syriacum* L. and *Lavandula dentata* L. Essential Oils through Their Effects on AMPA Receptors," *BioMed Research International*, vol. 2019, Article ID 5640173, 11 pages, 2019. <https://doi.org/10.1155/2019/5640173>. **Impact factor 3.246**
  22. N Jaradat, A Khasati, BA Abu-Shanab, S Al-lahham, A Naser Zaid, MN Abualhasan, **M Qneibi**, M Hawash. (2019) Bactericidal, Fungicidal, Helminthicidal, Antioxidant, and Chemical Properties of Chrozophora obliqua Extract. *Phytothérapie*, <https://doi.org/10.3166/phyto-2019-0134>
  23. Nidal Jaradat, Nuha Shawarb, Fatima Hussein, Motasem Al-Masri, Ismail Warad, Ahmad Khasati, Mayadah Shehadeh, **Mohammad Qneibi**, Azmi Mahmoud, Ali Hussein, Sabha Makhhamre. (2018) Antibacterial and Antioxidant Screening of Semi-Synthetic Naringin Based Hydrazone and Oxime Derivatives. *Jundishapur Journal of Microbiology*, 11 (6); e65496. **Impact factor 0.820**
  24. **Qneibi M\***, Jaradat N, Zaid AN, Abu-Khalaf N, Natsheh A, Hussein F. (2018) Evaluation of taste, total phenols and antioxidant for fresh, roasted, shade dried and boiled leaves of edible Arum palaestinum Bioss. *Journal of Research in Pharmacy.*; 22 (1): 52-58. **Impact factor 0.23**
  25. Matt L., Kirk L.M., Chenaux G., Speca D.J., Puhger K.R., Pride M.C., **Qneibi M.**, Haham T., Bach Y.S., Silverman J.L., Crawley J.N., Hell J.W., Díaz E. (2018) SynDIG4/Prtr1 is required for excitatory

synapse development and plasticity underlying cognitive function. **Cell Reports**, 22 (9), 2246–2253. **Impact factor 9.995**

26. Jaradat N.A., Zaid A.N., Al-Ramahil R., Alqub M.A., Hussein F., Hamdan Z., Mustafa M., **Qneibi M.**, Ali I., (2017) Ethnopharmacological Survey of Medicinal Plants Practiced by Traditional Healers and Herbalists for Treatment of Some Urological Diseases in the West Bank/Palestine, **BMC Complementary and Alternative Medicine**, 17 (1), 255. **Impact factor 2.838**
27. Jaradat N.A., Hussein F., Eldin A.N., Yassin T., Khawaja M., **Qneibi M.**, (2017) Phytochemical and Antibacterial Assessment of Rhagadiolus Stellatus Plant in Jerusalem Area - Palestine. **Pal. Med. Pharm. J.**, 2, 35-44.
28. Yaacov A.B, Gillor M., Haham T., Parsai A., **Qneibi M.** and Bach.Y.S. (2017) Molecular Mechanism of AMPA receptor modulation by TARP/Stargazin. **Neuron**, 51 1126–1137. **Impact factor 18.688**
29. **Qneibi M.S.** (2013) Structure-Activity Relationships of 2,3-Benzodiazepin-4-ones as Noncompetitive AMPA Receptor Antagonists, State University of New York At Albany, Ph.D., **Dissertation**, 180 pages; *Publication Number 3561135*.
30. **Qneibi, M. S.**, Micale, N., Grasso, S., and Niu, L. (2012) Mechanism of Inhibition of GluA2 AMPA Receptor Channel Opening by 2,3-Benzodiazepine Derivatives: Functional Consequences of Replacing a 7,8-Methylenedioxy with a 7,8-Ethylenedioxy Moiety, **Biochemistry**, 51, 1787-1795. **Impact factor: 3.321**

### **Published Abstracts**

- |      |   |
|------|---|
| 2023 | Deciphering the biophysical gating properties of AMPA receptors by 2,3-benzodiazepine derivatives, 122, 3, SUPPLEMENT 1, 418A, 2023. <i>Biophysical Journal</i> <b>Impact factor: 3.699</b> |
| 2014 | The Molecular Mechanism of Mechanosensitivity in $K_{2P}$ Channels, <i>Biophysical Journal</i> . <i>In press</i> .  |
| 2013 | Mechanism of Inhibition of the GluA2 AMPA Receptor Channel Opening by 2,3-Benzodiazepine Derivatives, <i>Biophysical Journal</i> , vol. 104, issue 2, p. 273a. <b>Impact factor: 3.699</b>  |

### **Conferences & Presentations**

- |      |   |
|------|---|
| 2022 | An-Najah University, Nablus, West Bank. <i>The oral workshop is titled “The competency-based education (CBE) approach.”</i>   |
| 2021 | An-Najah University, Nablus, West Bank. <i>The oral workshop titled “Using Socratic online assessment tool.”</i>  |
| 2019 | An-Najah University, Nablus, West Bank. <i>The oral workshop is titled “Using Technology in Education.”</i>   |
| 2018 | An-Najah University, Nablus, West Bank. <i>The oral workshop titled “Transforming Assessment Practices in Large Enrollment First-Year Education.”</i>   |
| 2016 | An-Najah University, Nablus, West Bank. <i>The oral workshop is titled “Scientific Research Paper Writing for early researchers.”</i>   |
| 2016 | King's Academy, Amman, Jordan. <i>The oral workshop is titled “A training workshop on Scientific Research Paper Writing and Presentation Skills.”</i>   |
| 2014 | The 58th annual meeting of Biophysical Society, San Francisco, CA. Poster presentation titled “ <i>The Molecular Mechanism of Mechanosensitivity in <math>K_{2P}</math> Channels.</i> ”   |
| 2013 | Yale University, School of Medicine, Cellular & Molecular Physiology Annual retreat, West Haven, CT. Oral presentation titled “ <i>Deciphering the Molecular Mechanism of Mechanosensitivity in <math>K_{2P}</math> Channels.</i> ”         |
| 2013 | Yale University, School of Medicine, Cellular & Molecular Physiology Annual retreat, West Haven, CT. Poster presentation titled “ <i>Is the Mechanosensitivity of <math>K_{2P}</math> Channels Controlled by their C-Terminal Domain?</i> ” |

- 2013            *The 57th annual meeting of Biophysical Society, Philadelphia, PA. Poster presentation titled “Mechanism of Inhibition of GluA2 AMPA Receptor Channel Opening by 2,3-Benzodiazepine Derivatives.”*
- 2011            University at Albany, Life Science Research Symposium, Albany, NY. The oral presentation titled “*Mechanism of Inhibition of GluA2 AMPA Receptor Channel Opening by 2,3-Benzodiazepine Derivatives.*”

### **Journal Reviewer**

- General Physiology and Biophysics Journal
- Journal of Research and Reports in Biochemistry
- Neurology Journal
- MDPI Biomolecules
- MDPI Molecules
- MDPI Applied Sciences
- MDPI Cells
- MDPI Metabolites
- MDPI Nutrients
- Molecular Neurobiology

### **Research support**

#### ***Ongoing research support***

- Research cooperation and staff exchange, Joint Research and Education Programme “Palestinian-German Science Bridge PGSB. *Regulation of AMPA-type glutamate receptors by new synthesized chemical compounds*  
Role: Principal Investigator.  
Dates: 08/2022-08/2023

#### ***Ongoing research support***

- Scientist Development Grant, The German Federal Ministry of Education and Research (Grant number: PALGER2017-009). Novel approaches to adjust glutamatergic synaptic transmission in the central nervous system  
Role: Principal Investigator.  
Funding amount: **€40,000**  
Dates: 11/2019-11/2020

#### ***Completed research support***

- Science Development Grant, The Palestinian Ministry of Education and Higher Education (Grant number: ANNU-MoHE-1819-Sc009). Inhibition and assessment of the biophysical gating properties of Curcumin-Based Diazepines on AMPA receptors.  
Role: Principal Investigator  
Funding amount: **\$14,700**  
Dates: 04/2018-08/2019  
Published Article: <https://doi.org/10.1371/journal.pone.0221132>
- Science Development Grant, The Palestinian Ministry of Education and Higher Education (Grant number: ANNU-MoHE-1819-SC011). Biological Evaluation of Natural oil on AMPA Receptor.  
Role: Principal Investigator.  
Funding amount: **\$15,000**  
Dates: 05/2018-04/2019  
Published Article: <https://doi.org/10.1155/2019/5640173>

- Science Development Grant, The Palestinian Ministry of Education and Higher Education (Grant number: ANNU-MoHE-1819-Sc017). Approaches Toward Design and Synthesis of Curcumin-Based Diazepines Inhibitors for AMPA Receptors  
Role: Principal Investigator.  
Funding amount: **\$15,000**  
Dates: 05/2018-06/2019  
Published Article: <https://doi.org/10.1016/j.ejps.2019.06.005>

### **Supervision**

*Medical Students 3<sup>rd</sup> year*

**Ongoing Thesis-** *Approaches Toward Design and Synthesis of Chemical compounds Inhibitors for AMPA Receptors*

- Sosana Bdir
- Mohammad Bdir
- Dana Sanduka

### **Alumni**

*Ph.D. graduates in chemistry department\_ co-adviser*

**Thesis-** *Design, Synthesis, Antimicrobial and Cytotoxicity of Curcumin Based Benzodiazepines, Diazepines, Diazoles, and Amines*

- Rola Alqerem

**Thesis-** *Structure-activity relationship of Curcumin-Based Diazepines and their effect on AMPA receptors.*

- Rana Alqerem

*M.A. graduates in chemistry department\_ co-adviser*

- Safa' Nassar

**Thesis-** *Evaluation and synthesis of  $\alpha$ -Lipoic Acid Derivatives as Allosteric Modulators for AMPA-Type Glutamate Receptor Gating Module Targeting*

- Hanan Jumaa

**Thesis-** *NOVEL-1-ARYL-7,8-METHYLENEDIOXY-2,3-BENZODIAZEPINES AS NON-COMPETITIVE AMPA RECEPTOR ANTAGONISTS*

*Medical Students*

**Thesis-** *Effect of Raw Curcumin on AMPA Receptor Kinetics*

- Remah Abdelfatah Yousef
- Yasmeen Mohammad Abu Naba
- Hasan Rashed Arafat

### **Special Courses**

2018	Building Program on New Approaches to Assessment and Self-Learning online practices and Work Collaboratively on Elements Related to Project Activities, University of Cork, Ireland
2013	Regulatory Training for Animal Care & Use, Yale School of Medicine, New Haven, CT
2013	Medical Surveillance Program for Animal Handlers, Yale School of Medicine, New Haven, CT
2013	Biosafety - Part 1 & 2, Yale School of Medicine, New Haven, CT
2013	Fundamental of Teaching in Science, Yale University, New Haven, CT

### **Laboratory Skills**

<b>Surgery</b>	Dissection of trigeminal and dorsal root ganglia from mouse
<b>Electrophysiology</b>	Patch-clamp recording in Human embryonic kidney (HEK) 293T cells and Xenopus Oocytes: Whole-cell, inside-out, outside-out, dual patch (multiple cells), and electrical stimulation of primary neuronal cultures
<b>Cell culture</b>	HEK293T cells, Primary culture of trigeminal ganglion neurons, Xenopus Oocytes
<b>Biochemistry</b>	SDS-PAGE electrophoresis, PCR of genomic DNA, western blotting

**Chemistry**  
**Software**

Organic synthesis, gas chromatography (GC), mass spectrometry (MS)  
P-clamp, Origin, Prism, Adobe Illustrator, MATLAB, Microsoft Office