

# Curriculum Vitae

## Michelle Chen

Professor, Department of Physics and Engineering  
Point Loma Nazarene University, 3900 Lomaland Drive, San Diego, CA 92106  
Phone: 619-849-2960 Email: MichelleChen@pointloma.edu

### EDUCATION

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#### University of Pennsylvania

- Ph.D. Materials Science and Engineering, 2008
  - Dissertation: Carbon Nanotube Sensors for Chemical and Biomolecular Detection
  - Advisors: Prof. John E. Fischer and Prof. A. T. Charlie Johnson Jr.

#### The University of Chicago

- M.S. Physics, 2002
- B.A. Physics, with Honors, 1999
- B.S. Mathematics, 1999

### EMPLOYMENT

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Professor of Physics, Point Loma Nazarene University, 2017 – present  
Associate Professor of Physics, Point Loma Nazarene University, 2013 – 2017  
Assistant Professor of Physics, Point Loma Nazarene University, 2010 – 2013  
Assistant Professor of Physics, Simmons College, 2008 – 2010  
Graduate Student Researcher, University of Pennsylvania, 2002 – 2008  
Graduate Student Researcher, The University of Chicago, 1999 – 2002  
Undergraduate Student Researcher, The University of Chicago, 1997 – 1999

### TEACHING

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#### Point Loma Nazarene University

- Physical Science Lab (PSC 110L)
- Computational Methods for Engineers and Scientists I (EGR 110)
- Engineering Mechanics (EGR 215)
- Mechanics of Materials (EGR265)
- Analog Electronics Lab (EGR 352L)
- Digital Electronics Lab (EGR 422L)
- General Physics I (PHY141)
- General Physics I Lab (PHY141L)

- General Physics II (PHY142)
- General Physics II Lab (PHY 142L)
- University Physics I (PHY 241)
- University Physics I Lab (PHY 241L)
- University Physics II (PHY 242)
- University Physics II Lab (PHY 242L)
- Analytical Mechanics (PHY 314)
- Solid State Physics (PHY 443)
- Senior Laboratory and Student Project (PHY475)
- Seminar in Physics (PHY 495)

#### Simmons College

- Introductory Physics II (PHYS 111)
- Introductory Physics II Lab (PHYS 111L)
- Properties of Materials (PHYS 120)
- Fundamentals of Physics I (PHYS 112)
- Fundamentals of Physics I Lab (PHYS 112L)
- Materials Research Methods I (PHYS 310)
- Quantum Mechanics and Molecular Structure Lab (CHEM 332L)

#### University of Pennsylvania

- Graduate Student Instructor for Physics of Materials (MSE 570)

#### The University of Chicago

- Graduate Student Instructor for General Physics (PHYS 121-123)

### **STUDENT MENTORING**

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#### *Summer 2017*

##### Graphene Synthesis, Characterization, and Transferring

- Madison Berger (Senior, Engineering Physics)
- Alex Koch (Junior, Engineering Physics)
- Estifanos Mekuria (Senior, Engineering Physics)

#### *Summer 2016*

##### Graphene Synthesis by Chemical Vapor Deposition

- Michael Lambert (Senior, Engineering Physics)
- Kathrine Quiros (Junior, Engineering Physics)
- Daniel Solar (Junior, Engineering Physics)

#### *Summer 2013*

##### Graphene Synthesis and the Design and Construction of Microscope Incubator

- Melanie Broman (Junior, Engineering Physics)
- Claire Mathews (Junior, Engineering Physics)

- Eric McPherson (Senior, Engineering Physics)

*Fall 2012 - Spring 2013*

Honors Thesis Project: Assessing the Reliability of Quantitative Imaging of Samarium-153

- Student: Hannah Ponak (Senior, Engineering Physics)

*Summer 2012*

Graphene Synthesis and the Biocompatibility with 9-L Mouse Brain Tumor Cells

- Andrew Schalin (Senior, Engineering Physics)
- Josh Wathen (Senior, Physics – Biology)
- Ian Chapman (Sophomore, High School)

*Summer 2011*

Graphene Synthesis by Chemical Vapor Deposition & Effect of Thiophene and Pyridine on Partial Oxidation of Ethanol and Methanol Over  $\text{Fe}_2(\text{MoO}_4)_3$  Catalyst

- Bradly Baer (Junior, Chemistry)
- Christopher Evans (Senior, Chemistry – Biology)
- Hannah Ponak (Junior, Physics)

*Spring 2011*

Honors Thesis: Synthesis of Large Area Graphene Films by Chemical Vapor Deposition

- Nicole Kawamoto (Senior, Physics – Chemistry)

*Fall 2010*

Honors Thesis: Synthesis of Large Area Graphene Films by Chemical Vapor Deposition

- Nicole Kawamoto (Senior, Physics)

*Summer 2010*

Synthesis of Large Area Graphene Films by Chemical Vapor Deposition

- Nicole Kawamoto (Senior, Physics – Chemistry)

*Fall 2009 - Spring 2010*

Synthesis of Graphene and Carbon Nanotubes by Chemical Vapor Deposition & Cytotoxicity of Carbon Nanotubes in Chinese Hamster Ovarian Cells

- Asma Ahmed (Junior, Chemistry)
- Melanie Black (Sophomore, Chemistry)
- Nicole Kawamoto (Junior, Physics – Chemistry)
- Melissa Lever (Freshman, Chemistry – Physics)
- Jessica Lucas (Sophomore, Biology)
- Armie Pagala (Junior, Chemistry)
- Tram Pham (Junior, Chemistry)
- Sara Stankiewicz (Sophomore, Chemistry)

*Summer 2009*

Synthesis of Large Area Graphene Films by Chemical Vapor Deposition

- Nicole Kawamoto (Junior, Physics – Chemistry)

### Spring 2009

#### Synthesis of Carbon Nanotubes by Chemical Vapor Deposition

- Nazifa Abdul-Raul (Sophomore, Physics – Chemistry)
- Rachel Brady (Junior, Biology)
- Stephanie Intriago (Sophomore, Chemistry)
- Nicole Kawamoto (Sophomore, Physics – Chemistry)
- Jessica Lucas (Freshman, Chemistry – Biology)
- Tram Pham (Sophomore, Chemistry)
- Bib Yang (Sophomore, Biology)

### PEER-REVIEWED PUBLICATIONS

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(\* indicates undergraduate student co-authors under my mentorship)

1. Y. Liu, **M. Chen**, M.L. Wang, and M.R. Dokmeci, “RNA Functionalized Single-walled Carbon Nanotube Devices for Chemical Sensing,” *Applied Physics Letters* 103, 103103 (2013).
2. Howard. H. Chen, Bradley Baer\*, Christopher S. Evans\*, Hannah M. Ponck\*, and **Michelle Chen**, “Effect of Single-walled Carbon Nanotubes Entry into Mammalian Cells,” *Materials Research Society Symposium Proceeding*, 1273608 (2012).
3. Yu Liu, **Michelle Chen**, Marjory Mohebbi, Ming L. Wang, and Mehmet R. Dokmeci, “The Effect of Sequence Length on Gas Sensing Characteristics of DNA Decorated SWNTs,” *Sensors and Actuators B: Chemical* (2012) Submitted.
4. **Michelle Chen**, Sujit S. Datta, Samuel M. Khamis, John E. Fischer, and Alan T. Johnson, “RNA-functionalized Carbon Nanotubes for Chemical Sensing,” *Journal of Experimental Nanoscience* (2011) Submitted.
5. C.-L. Chen, V. Agarwal, S. Sonkusale, **M. Chen**, and M.R. Dokmeci, “Heterogeneous Integration of Carbon Nanotubes on Complementary Metal Oxide Semiconductor Circuitry and Sensing Applications,” *Invited Book Chapter* in *MEMS and Nanotechnologies: From Science-to-Electronic Systems*, Bentham Science Publishers (2011).
6. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, “DNA-decorated Carbon-nanotube-based Chemical Sensors on Complementary Metal Oxide Semiconductor Circuitry,” *Nanotechnology* 21, 095504 (2010).
7. **M. Chen**, S.M. Khamis, S.S. Datta, Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimuth, D. van der Lelie, A.T. Johnson, J.A. Misewich, and S.S. Wong, “Detection of Viral Proteins using Human Receptor Functionalized Carbon Nanotubes,” *Materials Research Society Symposium Proceeding* 1065-QQ04-05 (2008).
8. P. Uttayarat, **M. Chen**, M. Li, F. Allen, P. I. Lelkes, and R. J. Composto, “The Effect of Mechanical Forces on Endothelial Cell Migration,” *AJP Heart and Circulatory Physiology* 294: H1027-H1035 (2008).
9. S.M. Khamis, **M. Chen**, and A.T. Johnson, “Gas Phase Electronic Sensing using Single-walled Carbon Nanotube Biopolymer Hybrids,” *Materials Research Society Symposium Proceeding* 1057-II-16-04 (2008).

10. **M. Chen**, S. Khamis, R. Johnson, C. Staii, M.L. Klein, J.E. Fischer, and A.T. Johnson, "Investigation of DNA-decorated Carbon Nanotube Chemical Sensors," *Materials Research Society Symposium Proceeding* 963, 0963-Q21-04 (2007).
11. Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimuth, D. van der Lelie, **M. Chen**, S.M. Khamis, S.A. Datta, A.T. Charlie Johnson, J.A. Misewich, and S.S. Wong, "Functionalized Carbon Nanotubes for Detecting Viral Proteins," *Nano Letters* 7, 3086 (2007).
12. A.T. Johnson, C. Staii, **M. Chen**, S. Khamis, R. Johnson, M.L. Klein, and A. Gelperin, "DNA-decorated Carbon Nanotubes for Chemical Sensing," *Semiconductor Science and Technology* 21, S17-S21 (2006).
13. A.T. Johnson, C. Staii, **M. Chen**, S. Khamis, R. Johnson, M.L. Klein, and A. Gelperin, "DNA-decorated Carbon Nanotubes for Chemical Sensing," *Physica Status Solidi (B)* 243, 3252 (2006).
14. C. Staii, **M. Chen**, A. Gelperin, and A. T. Johnson, "DNA-decorated Carbon Nanotubes for Chemical Sensing," *Nano Letters* 5, 1774 (2005).
15. C. Staii, **M. Chen**, A. Gelperin, and A. T. Johnson, "Single Stranded DNA-decorated Carbon Nanotube Transistors for Chemical Sensing," *Materials Research Society Symposium Proceeding* 900E, 0900-O08-08 (2005).
16. **M. Chen**, C. Guthy, J. Vavro, J.E. Fischer, S. Badaire, C. Zakri, P. Poulin, V. Pichot, and P. Launois, "Characterization of Single-walled Carbon Nanotube Fibers and Correlation with Stretch Alignment," *Materials Research Society Symposium Proceeding* 858E, HH4.11 (2004).
17. S. Badaire, C. Zakri, P. Poulin, V. Pichot, P. Launois, J. Vavro, C. Guthy, **M. Chen**, and J.E. Fischer, "Correlation of Properties with Preferred Orientation in Extruded and Stretch-aligned Single Wall Carbon Nanotubes," *Journal of Applied Physics* 96, 7509 (2004).
18. **M. Chen**, W. Kang, and W. Wegscheider, "Metamorphosis of the Quantum Hall Ferromagnet at  $\nu = 2/5$ ," *Physical Review Letters* 91, 116804 (2003).
19. **M. Chen**, B. Zhang, M. Rohde, and W. Kang, "Effect of Large in-plane Magnetic Field on the Negative Hall States of  $(\text{TMTSF})_2\text{ClO}_4$ ," *Synthetic Metals* 120, 981 (2001).

## **NON PEER-REVIEWED PUBLICATIONS**

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(\* indicates undergraduate student co-authors under my mentorship)

1. Howard H. Chen, Jessica A. Lucas\*, and **Michelle Chen**, "Effect of Carbon Nanotubes on Chinese Hamster Ovarian Cells," *Nanotechnology 2011: Bio Sensors, Instruments, Medical, Environment and Energy*, vol. 1, 513-516 (2011).
2. Yu Liu, **Michelle Chen**, Ming L. Wang, and Mehmet R. Dokmeci, "Sensing Characteristics of RNA Oligomer Coated SWNT Gas Sensors," *Solid-State Sensors, Actuators and Microsystems*, 136-139 (2011).
3. Yu Liu, **Michelle Chen**, Ming L. Wang, and Mehmet R. Dokmeci, "The Effect of Sequence Length on DNA Decorated CNT Gas Sensors," *Solid-State Sensors, Actuators and Microsystems*, 2156-2159 (2011).
4. C.-L. Chen, V. Agarwar, S. Sonkusale, **M. Chen**, and M.R. Dokmeci, "Ss-DNA Decorated SWNT Gas Sensors Integrated on CMOS Circuitry," *Solid-State Sensors, Actuators and Microsystems*, 1477-1480 (2010).

5. **Michelle Chen**, Sujit S. Datta, Samuel M. Khamis, John E. Fischer, and Alan T. Johnson, "RNA Functionalized Carbon Nanotube for Chemical Sensing," *Nanotech* 2010 21, 191-194 (2010).
6. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Ss-DNA-decorated Single-walled Carbon Nanotubes Integrated on CMOS Circuitry for High Sensitivity Gas Sensing," *Solid-State Sensors, Actuators and Microsystems* 21, 1477 (2009).

## **PATENTS**

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"SS-DNA-Decorated Single-Walled Carbon Nanotubes Integrated on CMOS Circuitry for High Sensitivity Gas Sensing," C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, M. Chen, and M.R. Dokmeci, filed on August 2009.

"Functionalized Carbon Nanotubes for Detection of Viral Proteins," M. Chen, S.M. Khamis, and A. T. Johnson, Penn CTT Docket No. T4495.

## **GRANTS**

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Principal Investigator, Thermo Fisher Scientific Attune NxT Acoustic Cytometry Grant, "Multiplexed Analysis of Single-walled Carbon Nanotubes in Biological Systems," Michelle Chen. \$199,480 Submitted (2015).

Participant, Vocation Grant, Point Loma Nazarene University. \$2,000 Awarded (2014).

Principal Investigator, Research Corporation for Science Advancement, Single Investigator Cottrell College Science Award, "Electrical Detection of DNA-RNA Hybridization on Graphene", Michelle Chen. \$45,000 Submitted (2010).

Principal Investigator, President Fund for Faculty Excellence, Simmons College, "Effect of Carbon Nanotubes on Mammalian Cells," Michelle Chen. \$8,800 Awarded (2010).

Subcontractor, National Science Foundation #0955024, "Nanoelectrochemical Systems on Silicon," with Sameer Sonkusale, \$400,000 Awarded (2010).

Faculty Investigator / Subcontractor, National Science Foundation Grant, "Graphene Adhesion and Nano-devices," with Kai-Tak Wan and Mehmet Dokmeci, *pending* (2010).

Subcontractor, REU Supplement, National Science Foundation Grant DMR 0805136, "Graphene- and Metal-based Atomically Precise Nanoelectronics," with A.T. Charlie Johnson and Douglas Strachan, \$4,000 Awarded (2009), and \$4,500 Awarded (2010).

Faculty Recipient, Development and Travel Grant, Nanoscale Informal Science Education (NISE Network), \$3,000 Awarded (2009).

Principal Investigator, Faculty Start-up Award, The Camille & Henry Dreyfus Foundation, “Probing DNA-Carbon Nanotube Interactions: Toward Understanding of Functionalized Carbon Nanotube Chemical Sensors,” M. Chen, 30,000 Submitted (2008).

### **INVITED TALKS & WORKSHOP**

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1. **Michelle Chen**, “Carbon Nanotubes: Synthesis and Applications,” Faculty Scholarship Day at Point Loma Nazarene University, San Diego, CA, Aug. 21, 2018.
2. **Michelle Chen**, “Carbon Nanomaterials, Synthesis and Interface with Biology,” Society of Physics Students Seminar at Point Loma Nazarene University, San Diego, CA, Apr. 13, 2018.
3. **Michelle Chen**, “Functionalized Carbon Nanotubes as Chemical and Biological Sensors,” at Materials Science Seminar, University of New Hampshire, Durham, NH, Dec. 1, 2010.
4. **Michelle Chen**, “Carbon Nanotube Chemical and Biological Sensors,” at Point Loma Nazarene University, Mar. 26, 2010.
5. NSF Workshop on Sensing and Prognostics for Scalability of Nanomanufacturing, Northeastern University, Boston, MA, Nov. 2-4, 2009.
6. **Michelle Chen**, “Physics Meets Biology: Carbon Nanotube Chemical and Biological Sensors,” at Interdisciplinary Seminars at Simmons College, Boston, MA, Oct. 18 2008.
7. **Michelle Chen**, “Functionalized Carbon Nanotubes for Chemical and Biological Detection,” at Interdisciplinary Seminar at Simmons College, Boston, MA, Dec. 3, 2007.

### **SELECTED CONFERENCE PRESENTATIONS**

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(\* indicates undergraduate student co-authors under my mentorship)

1. Kathrine Quiros, Madison Berger, Alex Koch, Michael Lambert, Estifanos Mekuria, Daniel Solar, Lan Wei, Howard H. Chen, and **Michelle Chen**, “Graphene Synthesis, Transfer, Characterization, and Application,” Poster Presentation at APS Meeting, Los Angeles, CA, Mar. 5 – 9, 2018.
2. Kathrine Quiros, Michael Lambert, Daniel Solar, and **Michelle Chen**, “Graphene Synthesis Using Chemical Vapor Deposition and Characterization with Scanning Electron Microscopy,” Poster Presentation at Conferences for Undergraduate Women in Physics, Los Angeles, CA, Jan. 13 – 15, 2017.
3. Michael Lambert, Daniel Solar, Kathrine Quiros, and **Michelle Chen**, “Graphene Synthesis Using Chemical Vapor Deposition and Characterization with Scanning Electron Microscopy,” Poster Presentation at Southern California Conferences for Undergraduate Research, Riverside, CA, Nov. 12, 2016.
4. **Michelle Chen**, “Interdisciplinary Nanomaterials Research for Undergraduate Students,” Poster Presentation at American Association of Physics Teachers Winter Meeting, San Diego, CA, Jan. 3 – 6, 2015.
5. **Michelle Chen**, “Imaging of Carbon Nanotubes in Cells,” Poster Presentation at Gordon Research Conference on Physics Research & Education: The Complex Intersection of Biology and Physics, Mount Holyoke College, South Hadley, MA, Jun. 8 – 13, 2014.

6. **Michelle Chen**, Melanie Broman\*, Claire Mathews\*, and Eric McPherson\*, “Real-time Observation of Cell and Carbon Nanotube Interactions,” Poster Presentation at *APS Meeting*, Denver, CO, Mar. 3 – 7, 2014.
7. Hannah M. Ponek\*, **Michelle Chen**, and Eric C. Frey, “Quantify the Uptake of Samarium-153 for Targeting Tumors,” Poster Presentation at *APS Meeting*, Baltimore, MD, Mar. 18 – 22, 2013.
8. Team-Based Learning Collaborative, San Diego, CA, Feb. 28 – Mar. 2, 2013.
9. Y. Liu, **M. Chen**, M.L. Wang, and M.R. Dokmeci, “DNA Decorated SWNT Sensors: The Effect of DNA Sequence Length,” Oral Presentation at MRS Meeting, San Francisco, CA, Apr. 9-13, 2012.
10. H.H. Chen, B. Baer\*, C.S. Evans\*, H.M. Ponek\*, and **M. Chen**, “Effect of Single-walled Carbon Nanotubes Entry into Mammalian Cells,” Poster Presentation at MRS Meeting, San Francisco, CA, Apr. 9-13, 2012.
11. H.H. Chen, J.A. Lucas\*, H.M. Ponek\*, C.S. Evans\*, B. Baer\*, S.Y. Choung, and **M. Chen**, “Biocompatibility of Carbon Nanotubes in Mammalian Cells: An Imaging Based Approach,” Poster Presentation at *APS Meeting*, Boston, MA, Feb. 27 – Mar. 2, 2012.
12. H.H. Chen, J.A. Lucas\*, and **M. Chen**, “Effect of Carbon Nanotubes on Chinese Hamster Ovarian Cells,” Oral Presentation at Nanotech Conference and Expo, Boston, MA, Jun. 13-16, 2011.
13. Y. Liu, **M. Chen**, M. Mohebbi, M.L. Wang, M.R. Dokmeci, “The Effect of Sequence Length on DNA Decorated CNT Gas Sensors,” Oral Presentation at 6<sup>th</sup> International Solid-State Sensors, Actuators and Microsystemss Conference (Transducers), Beijing, China, June 5-9, 2011.
14. Y. Liu, **M. Chen**, M. Mohebbi, M.L. Wang, M.R. Dokmeci, “Sequence Characteristics of RNA Oligomers on SWNT Devices,” Oral Presentation at 6<sup>th</sup> International Solid-State Sensors, Actuators and Microsystemss Conference (Transducers), Beijing, China, June 5-9, 2011.
15. Nicole Kawamoto\*, Matthew Berck, Daniel Singer, **Michelle Chen**, Michael Kaplan, Zhengtang Luo, A.T. Charlie Johnson, and Michael Kaplan, “Synthesis of Large Area Graphene Film by Chemical Vapor Deposition,” Oral Presentation at 7<sup>th</sup> Annual Simmons College Undergraduate Conference, Boston, MA, Apr. 29, 2011.
16. Nicole Kawamoto\*, Matthew Berck, Daniel Singer, **Michelle Chen**, Zhengtang Luo, and A.T. Charlie Johnson, “Synthesis of Large Area Graphene Films by Chemical Vapor Deposition,” Poster Presentation at 241<sup>th</sup> American Chemical Society National Meeting, Anaheim, CA, Mar. 27-31, 2011.
17. NSF Day, University of San Diego, San Diego, CA, Jan. 19, 2011.
18. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, “Ss-DNA Decorated SWNT Sensors Integrated on CMOS Circuitry,” Oral Presentation at MRS Meeting, Boston, MA, Nov. 28 – Dec. 3, 2010.
19. C.-L. Chen, V. Agarwar, S. Sonkusale, **M. Chen**, and M.R. Dokmeci, “Ss-DNA Decorated SWNT Gas Sensors Integrated on CMOS Circuitry,” Oral Presentation at 9<sup>th</sup> IEEE Sensors 2010 Conference, Big Island, HI, Nov. 1-4, 2010.
20. Nicole Kawamoto\*, Matthew Berck, Daniel Singer, **Michelle Chen**, Zhengtang Luo, and A.T. Charlie Johnson, “Synthesis of Large Area Graphene Films by Chemical Vapor Deposition,” Poster Presentation at 240<sup>th</sup> American Chemical Society National Meeting, Boston, MA, Aug. 22-26, 2010.



21. **M. Chen**, S.S. Datta, S.M. Khamis, J.E. Fischer, and A.T. Johnson, "RNA Functionalized Carbon Nanotube for Chemical Sensing," Oral Presentation at Nanotech 2010 Conference and Expo., Anaheim, CA, Jun. 21-24, 2010.
22. C.-L. Chen, Y. Liu, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Single-Walled Carbon Nanotube Gas Sensors Integrated on Complementary Metal Oxide Semiconductor Circuitry," Oral Presentation at Nanotech 2010 Conference and Expo., Anaheim, CA, Jun. 21-24, 2010.
23. Gordon Research Conference: Physics Research & Education, Mount Holyoke College, South Hadley, MA, Jun. 6-11, 2010.
24. N. Kawamoto\*, M. Berck, D. Singer, **M. Chen**, Z. Luo, and A.T. Johnson, "Synthesis of Large Area Graphene Films by Chemical Vapor Deposition," Poster Presentation at 6<sup>th</sup> Annual Simmons College Undergraduate Conference, Boston, MA, Apr. 23, 2010.
25. **M. Chen**, A. Ahmed\*, M. Black\*, N. Kawamoto\*, J.A. Lucas\*, A. Pagala\*, T. Pham\*, S. Stankiewicz\*, and H.H. Chen, "Effect of Carbon Nanotubes on Mammalian Cells," Oral Presentation at APS Meeting, Portland, OR, Mar. 15-19, 2010.
26. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Single-walled Carbon Nanotube Chemical Sensors Integrated onto CMOS Circuitry for Environmental Monitoring," Oral Presentation at MRS Meeting, Boston, MA, Nov. 29 – Dec. 4, 2009.
27. C.-L. Chen, C.-F. Yang, V. Agarwal, S. Sonkusale, A. Busnaina, **M. Chen**, and M.R. Dokmeci, "Ss-DNA-Decorated Single-Walled Carbon Nanotubes Integrated onto CMOS Circuitry for Gas Sensor," Oral Presentation at 5<sup>th</sup> International Conference on Sensors, Actuators and Microsystemss (Transducers), Denver, CO, Jun. 21-25, 2009.
28. **Michelle Chen**, "Functionalized Carbon Nanotube Sensors for Chemical and Biological Detection," Oral Presentation at Nanomanufacturing Summit, Boston, MA, May 27-29, 2009.
29. N. Abdul-Rauf\*, R. Brady\*, S. Intriago\*, N. Kawamoto\*, J.A. Lucas\*, A. Pagala\*, T. Pham\*, B. Yang\*, and **M. Chen**, "Carbon Nanotubes: The Big Picture," Poster Presentation at 5<sup>th</sup> Annual Simmons College Undergraduate Conference, Boston, MA, Apr. 24, 2009.
30. **Michelle Chen**, "Carbon Nanotube Chemical and Biological sensors," Oral Presentation at National Nano Engineering Conference, Boston, MA, Nov. 12-13 2008.
31. College of the Fenway Teaching and Learning Conference, Boston, MA, Oct. 24, 2008.
32. S.M. Khamis, **M. Chen**, and A.T. Johnson, "Probing Vapor Phase Analytes with Single Walled Carbon Nanotube Biopolymer Hybrid Devices," Oral Presentation at APS Meeting, New Orleans, LA, Mar. 10-14, 2008.
33. **M. Chen**, S.M. Khamis, S. Datta, and A.T. Johnson, Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimutha, D. van der Lelie, B. Panessa-Warren, J.A. Misewich, and S.S. Wong, "Detection of Viral Proteins using Human Receptor Functionalized Carbon Nanotubes," Oral Presentation at MRS Meeting, Boston, MA, Nov. 26-30, 2007.
34. **M. Chen**, S.M. Khamis, S. Datta, and A.T. Johnson, Y.-B. Zhang, M. Kanungo, A.J. Ho, P. Freimutha, D. van der Lelie, B. Panessa-Warren, J.A. Misewich, and S.S. Wong, "Electrical Detection of Protein Binding using Carbon Nanotubes," Oral Presentation at APS Meeting, Denver, CO, Mar. 5-9, 2007.
35. **M. Chen**, S.M. Khamis, R. Johnson, C. Staii, M.L. Klein, J.E. Fischer, and A.T. Johnson, "Investigation of DNA-decorated Carbon Nanotube Chemical Sensors," Oral Presentation at MRS Meeting, Boston, MA, Nov. 17 – Dec. 1, 2006.

36. **M. Chen**, C. Staii, S. Khamis, J.E. Fischer, and A.T. Johnson, "DNA Functionalized Carbon Nanotubes for Chemical Sensing," Oral Presentation at APS Meeting, Baltimore, MD, Mar. 17-21, 2006.
37. **M. Chen**, C. Staii, S. Khamis, A.T. Johnson, and A.T. Gelperin, "DNA-decorated Carbon Nanotubes for Chemical Sensing," Poster Presentation at Gordon Research Conference, New London, CT, Jul. 2005.
38. **M. Chen**, C. Staii, A. Gelperin, and A. T. Johnson, "Single Stranded DNA-decorated Carbon Nanotube Transistors for Chemical Sensing," Oral Presentation at MRS Meeting, Boston, MA, Nov. 18 – Dec. 2, 2005.
39. **M. Chen**, C. Guthy, J. Vavro, J.E. Fischer, S. Badaire, C. Zakri, P. Poulin, V. Pichot, and P. Launois, "Characterization of Single-walled Carbon Nanotube Fibers and Correlation with Stretch Alignment," Oral Presentation at MRS Meeting, Boston, MA, Nov. 18 – Dec. 2, 2004.
40. **M. Chen**, B. Zhang, and W. Kang, "Stable and Metastable Quantized Hall Plateaus in (TMTSF)<sub>2</sub>PF<sub>6</sub>," Oral Presentation at APS Meeting, Minneapolis, MN, Mar. 20 – 24, 2000.
41. B. Zhang, **M. Chen**, and W. Kang, "Transport Detection of NMR in the Fractional Quantum Hall Regime under Pressure," Oral Presentation at APS Meeting, Minneapolis, MN, Mar. 20-24, 2000.

## **HONORS & AWARDS**

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- Sabbatical, PLNU, 2017.
- Gordon Research Conference Travel Grant, 2014.
- Faculty Spotlight, PLNU, 2013.
- President Fund for Faculty Excellence, Simmons College, 2010.
- Faculty Development and Travel Grant, NISE Network, 2009.
- 3<sup>rd</sup> Place, Poster Competition, Society of Women Engineers, Univ. of Pennsylvania, 2007.
- Best Presentation Award, Graduate Research Symposium, Univ. of Pennsylvania, 2005.
- Graduate Research Fellowship, Univ. of Pennsylvania, 2002 – 2007.
- Full Tuition Merit Scholarship, Univ. of Chicago, 1999 – 2002.
- NSF CIC-WISE Travel Grant, Univ. of Chicago, 2000.
- Richter Fund for Honors Undergraduate Research, Univ. of Chicago, 1998 – 1999.

## **UNIVERSITY COMMITTEES**

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- Faculty Resources Committee, PLNU, 2016 – 2017.
- Graduate and Extended Studies Committee, PLNU, 2014 – 2015.
- Enrollment Management Committee, PLNU, 2013 – 2014.
- Structural Governance Committee, PLNU, 2012 – 2013.
- Faculty Committee on Diversity, PLNU, 2011 – 2012.
- Honor Board Committee, Simmons College, 2009 – 2010.
- Strategic Planning Team (Science), Simmons College, 2009.
- Strategic Planning Team (Faculty Research), Simmons College, 2009.
- Strategic Planning Team (Great Place to Work), Simmons College, 2009.

## **SERVICETO COMMUNITY**

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- Sunday School Teacher, Taiwanese Lutheran Church of San Diego, (2017 – present)
- Moderator, Southern California Conferences for Undergraduate Research, (2016)
- Referee, Microelectronic Engineering, (2015)
- Proposal Reviewer, Center for Functional Nanomaterials, Brookhaven National Laboratories, (2013 – present)
- Referee, Proceedings of Materials Research Society, (2005 – present)
- Volunteer, Girls Day Out, SPAWAR – PLNU, (03/11 & 03/12)
- Director and Organizer, NanoDay, Simmons College, (04/09 & 04/10)
- Volunteer, Science Engineering Technology (S.E.T.) in the City, Boston, (06/09 & 06/10)
- Student Organizer, NanoDay, Univ. of Pennsylvania, (10/05 & 10/06)
- Counselor, Young Scholars Program, Univ. of Chicago, (10/97 - 6/98)

## **PROFESSIONAL MEMBERSHIP**

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- American Physical Society, 2000 – present.
- Materials Research Society, 2004 – present.
- Nanoscale Informal Science Education (NISE Network), 2008 – present.
- American Association of Physics Teachers, 2009 – present.
- Text and Academic Authors Association, 2012 – present.
- American Chemical Society, 2008 – 2009.