

**JAMES J. MOON, PH.D.**  
John Gideon Searle Assistant Professor  
moonjj@umich.edu  
[www.umich.edu/~moonlab](http://www.umich.edu/~moonlab)  
(734) 936-2570

Department of Pharmaceutical Sciences  
Department of Biomedical Engineering  
BioInterfaces Institute  
University of Michigan  
2800 Plymouth Road, NCRC B10-A190  
Ann Arbor, MI 48109

### **RESEARCH INTERESTS**

My research group aims to develop novel therapeutics and diagnostics at the interface of immunology and pharmaceuticals. Specifically, we are developing drug delivery systems designed to enhance delivery of antigen and adjuvant to lymphoid organs and manipulate immune functions in the context of cancer immunotherapy and infectious diseases. Our focus is on translational research using nanotechnology, biomaterials, drug delivery, cell and tissue engineering to detect and improve immune responses.

### **EDUCATION & TRAINING**

1998- 2002 **B.S.**, Bioengineering, Univ. of California at Berkeley, CA  
2003- 2008 **Ph.D.**, Bioengineering, Rice University, Houston, TX. Advisor: Dr. Jennifer West  
Dissertation: Synthesis of Biomimetic Hydrogels for Neovascularization in vivo.  
2008- 2012 **Postdoctoral Associate.** Advisor: Dr. Darrell Irvine  
Materials Science & Engineering and Biological Engineering, MIT/HHMI, Cambridge, MA

### **POSITIONS & HONORS**

#### **POSITIONS**

2013- present John Gideon Searle Assistant Professor, Department of Pharmaceutical Sciences, College of Pharmacy, University of Michigan, Ann Arbor, MI  
2012- present Assistant Professor, Department of Pharmaceutical Sciences, College of Pharmacy, University of Michigan, Ann Arbor, MI  
2012- present Assistant Professor, Department of Biomedical Engineering, College of Engineering, University of Michigan, Ann Arbor, MI  
2012- present Core member, BioInterfaces Institute, University of Michigan  
2012- present Core member, Comprehensive Cancer Center, University of Michigan  
2012- present Member, Michigan Nanotechnology Institute for Medicine and Biological Sciences  
2008- 2012 Postdoctoral Fellow, Professor Darrell Irvine, MIT, Cambridge, MA  
2006 Summer research intern, Boston Scientific, Boston, MA

#### **HONORS AND DISTINCTIONS**

2016-2021 National Science Foundation CAREER Award  
2016-2019 Department of Defense Career Development Award – Peer Reviewed Cancer Research  
2015-2108 Melanoma Research Alliance Young Investigator Award  
2014 Associate Editor of Annals of Biomedical Engineering  
2014 American Society of Nanomedicine Poster Award  
2014 AAPS New Investigator Award in Pharmaceuticals and Pharmaceutical Technologies  
2013 Recipient of John Gideon Searle Assistant Professorship  
2012-2014 NIH/NIAID K22 Research Scholar Development and Faculty Transition Award  
2012 American Association of Immunologist Trainee Award  
2011 IEEE-EMBS Harvard Wyss Institute Award for Translational Research  
2011 Biomaterials Gordon Research Conference Poster Award  
2010 TERMIS Young Investigator Award (Tissue Engineering and Regenerative Medicine International Society)  
2008 Mary F.D. Morse Graduate Fellowship Award (for outstanding graduate student research)  
2007 American Society for Investigative Pathology Trainee Award  
2007 American Anatomy Association Trainee Award  
2007 First Place Graduate Student Research Award, North American Vascular Biology Organization  
2006 Sigma Xi Graduate Student Research Award (for outstanding graduate research)

#### **OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIP**

2016-present EVOQ Therapeutics, LLC. Co-Founder and Chief Scientific Officer.  
2012-2014 Vedantra Pharmaceuticals, Scientific Advisory Board Member and consultant.  
2012-present Member, American Association of Pharmaceutical Scientists

2011-present Member, American Association of Immunologists  
2009-present Member, American Chemical Society  
2009-present Member, Controlled Release Society  
2004-present Member, Society for Biomaterials  
2004-present Member, Biomedical Engineering Society

### PANELS AND SERVICES

2016 NIH, NIAID, "Innovation for HIV Vaccine Discovery (R01)", Special Emphasis Panel.  
2016 NIH, NIAID, "HIV Vaccine Research and Design (HIVRAD) Program (P01)", Special Emphasis Panel.  
2016 National Science Foundation, Biomedical Engineering Program, ad hoc proposal reviewer.  
2016 NIH, NIAID, "Small Business: Non HIV Microbial Vaccine Research", Special Emphasis Panel.  
2016 FWO Research Foundation, Brussel, Belgium, ad hoc reviewer  
2016 Partnership KWF–STW, Utrecht, Netherlands, ad hoc reviewer  
2016 University of College London Hospitals, UCLH Charities and SLMS, ad hoc reviewer  
2015 US Department of Defense, CDMRP, ad hoc reviewer  
2015 University of Michigan, MICHR PTSP, ad hoc reviewer.  
2014 NIH, NIAID, "Beyond HAART: Innovative Approaches to Cure HIV-1 (U19)", Special Emphasis Panel.  
2014 University of Michigan, BioInterfaces Institute Grand Challenge, ad hoc reviewer.  
2013 NIH, NIAID, "Center of Excellence for Translational Research", Special Emphasis Panel.  
2013 Technology Foundation STW, ad hoc reviewer.  
2013 University of Michigan, MICHR Translational Research, ad hoc reviewer.  
2012 Human Frontier Science Program, ad hoc reviewer.

### PEER-REVIEWED PUBLICATIONS (> 3200 citations, h-index = 25)

[https://scholar.google.com/citations?hl=en&user=A\\_sDT6oAAAAJ](https://scholar.google.com/citations?hl=en&user=A_sDT6oAAAAJ)

<http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/44092834/?sort=date&direction=descending>

(\*Authors contributed equally; <sup>§</sup>Co-corresponding authors; Trainees are underlined)

1. Kuai R, Ochyl LJ, Bahjat KS, Schwendeman A<sup>§</sup> and **Moon JJ**<sup>§</sup>. Designer vaccine nanodiscs for personalized cancer immunotherapy. **Nature Materials**. *In Press*. <sup>§</sup>Co-corresponding authors.
2. Fan Y and **Moon JJ**. Particulate delivery systems for vaccination against bioterrorism agents and emerging infectious pathogens, doi:10.1002/wnan.1403, 2016, **WIREs Nanomedicine & Nanobiotechnology**.
3. Kuai R, Li D, Chen YE, **Moon JJ**<sup>§</sup>, and Schwendeman A<sup>§</sup>. High density lipoproteins: nature's multifunctional nanoparticles, 10, 3, 3015-41, 2016, **ACS Nano**. <sup>§</sup>Co-corresponding authors.
4. Fan Y and **Moon JJ**. Nanoparticle vaccine delivery systems designed to improve cancer vaccines and immunotherapy, 3, 662-685, 2015, **Vaccines**.
5. Fan Y<sup>\*</sup>, Sahdev P<sup>\*</sup>, Ochyl LJ, Akerberg J, and **Moon JJ**. Cationic liposome-hyaluronic acid hybrid nanoparticles for intranasal vaccination with subunit antigens. 208, 121-9, 2015, **Journal of Controlled Release**. <sup>\*</sup>Authors contributed equally.
6. Subramanian C, Kuai R, Zhu Q, White P, **Moon JJ**, Schwendeman A, and Cohen MS. Synthetic high-density lipoprotein nanoparticles: a novel therapeutic strategy for adrenocortical carcinomas, 159, 1, 284-95, 2016, **Journal of Surgery**.
7. Ochyl JL and **Moon JJ**. Whole-animal imaging and flow cytometric techniques for analysis of antigen-specific CD8+ T cell responses after nanoparticle vaccination, e52771, doi:10.3791/52771, 2015, **JoVE**.
8. Sahdev P, Ochyl JL, and **Moon JJ**. Biomaterials for nanoparticle vaccine delivery systems, 31, 2563-2582, 2014, **Pharmaceutical Research**.
9. Li AV<sup>\*</sup>, **Moon JJ**<sup>\*</sup>, Abraham W, Elkhader J, Suh K, Yen M, Im EJ, Barouch DH, and Irvine DJ. Generation of robust effector memory T-cell-based mucosal and systemic immunity with pulmonary nanoparticle vaccination. 5, 204, 204ra130, 2013, **Science Translational Medicine**. <sup>\*</sup>Authors contributed equally. (**selected as the cover**)
10. Kim M, Song L, **Moon J**, Sun ZY, Bershteyn A, Hanson M, Cain D, Goka S, Kelsoe G, Wagner G, Irvine D, Reinherz EL. Immunogenicity of membrane-bound HIV-1 gp41 MPER segments is dominated by residue accessibility and modulated by stereochemistry. 288, 44, 31888-901, 2013, **J. Biol. Chem.**
11. Demuth PC<sup>\*</sup>, **Moon JJ**<sup>\*</sup>, Suh H, Hammond PT, and Irvine DJ, and Huang B. Releasable layer-by-layer assembly of stabilized lipid nanocapsules on microneedles for enhanced transcutaneous vaccine delivery, 6, 8041-51, 2012, **ACS Nano**. <sup>\*</sup>Authors contributed equally.
12. **Moon JJ**, Huang B, and Irvine DJ. Engineering nano- and micro-particles to tune immunity, 24, 3724-46, 2012, **Advanced Materials**.
13. **Moon JJ**, Suh H, Li AV, Ockenhouse CF, Yadava A, and Irvine DJ. Enhancing humoral responses to a malaria antigen with nanoparticle vaccines that expand Tfh cells and promote germinal center induction, 109, 1080-5, 2012,

## **PNAS.**

**\*\* Featured by PNAS: Commentary, 109, 999-1000, 2012.**

14. **Moon JJ**, Suh H, Polhemus ME, Ockenhouse CF, Yadava A, and Irvine DJ. Antigen-displaying lipid-enveloped PLGA nanoparticles as delivery agent for Plasmodium vivax malaria vaccine, 7, e31472, 2012, **PLoS One**.
15. **Moon JJ**, Suh H, Bershteyn A, Stephan MT, Liu H, Huang B, Sohail M, Luo S, Um SH, Chiu W, and Irvine DJ. Interbilayer-crosslinked multilamellar vesicles for potent humoral and cellular immune responses, 10, 243-251, 2011, **Nature Materials**.  
**\*\* Featured by Nature Materials: News and Views, 10, 166-68, 2011, and Nature Biotech: Research Highlights, 29, 330, 2011.**
16. Bershteyn A, Hanson MC, Crespo MP, **Moon JJ**, Li AV, Suh H, and Irvine DJ. Robust IgG responses to nanograms of antigen using a biomimetic lipid-coated particle vaccine, 157, 354-65, 2011, **Journal of Controlled Release**.
17. Stephan MT, **Moon JJ**, Um SH, Bershteyn A, and Irvine DJ. Therapeutic cell engineering with surface-conjugated synthetic nanoparticles, 16, 1035-41, 2010, **Nature Medicine**.
18. **Moon JJ**, Saik JE, Poche RA, Leslie-Barbick JE, Lee SH, Smith AA, Dickinson ME, and West JL. Biomimetic hydrogels with pro-angiogenic properties, 31, 3840-3847, 2010, **Biomaterials**.
19. Hu Y, Atukorale PU, Lu JJ, **Moon JJ**, Um SH, Cho EC, Wang Y, Chen J, and Irvine DJ. Cytosolic delivery mediated via electrostatic surface binding of protein, virus, or siRNA cargos to pH-responsive core-shell gel particles, 10, 756-765, 2009, **Biomacromolecules**.
20. **Moon JJ**, Hahn MS, Kim I, Nsiah BA, and West JL. Micropatterning of poly(ethylene glycol) diacrylate hydrogels with biomolecules to regulate and guide endothelial morphogenesis, 15, 579-585, 2009, **Tissue engineering**.
21. Leslie-Barbick JE, **Moon JJ**, and West JL. Covalently-Immobilized Vascular Endothelial Growth Factor Promotes Endothelial Cell Tubulogenesis in Poly(ethylene glycol) Diacrylate Hydrogels, 20, 1763-1779, 2009, **Journal of biomaterials science**.
22. **Moon JJ**, and West JL. Vascularization of engineered tissues: approaches to promote angiogenesis in biomaterials, 8, 300-310, 2008, **Current topics in medicinal chemistry**.
23. Lee SH\*, **Moon JJ\***, and West JL. Three-dimensional micropatterning of bioactive hydrogels via two-photon laser scanning photolithography for guided 3D cell migration, 29, 2962-2968, 2008, **Biomaterials**. \* Authors contributed equally.
24. Gobin AM\*, **Moon JJ\***, and West JL. EphrinA I-targeted nanoshells for photothermal ablation of prostate cancer cells, 3, 351-358, 2008, **International journal of nanomedicine**. \* Authors contributed equally.
25. **Moon JJ**, Lee SH, and West JL. Synthetic biomimetic hydrogels incorporated with ephrin-A1 for therapeutic angiogenesis, 8, 42-49, 2007, **Biomacromolecules**.
26. Lee SH, **Moon JJ**, Miller JS, and West JL. Poly(ethylene glycol) hydrogels conjugated with a collagenase-sensitive fluorogenic substrate to visualize collagenase activity during three-dimensional cell migration, 28, 3163-3170, 2007, **Biomaterials**.
27. Hahn MS, Taite LJ, **Moon JJ**, Rowland MC, Ruffino KA, and West JL. Photolithographic patterning of polyethylene glycol hydrogels, 27, 2519-2524, 2006, **Biomaterials**.
28. Lee P, Lin R, **Moon J**, and Lee LP. Microfluidic alignment of collagen fibers for in vitro cell culture, 8, 35-41, 2006, **Biomedical microdevices. (Undergraduate publication)**
29. DeLong SA, **Moon JJ**, and West JL. Covalently immobilized gradients of bFGF on hydrogel scaffolds for directed cell migration, 26, 3227-3234, 2005, **Biomaterials**.
30. Lee SH, Miller JS, **Moon JJ**, and West JL. Proteolytically degradable hydrogels with a fluorogenic substrate for studies of cellular proteolytic activity and migration, 21, 1736-1741, 2005, **Biotechnology Progress**
31. **Moon JJ**, Matsumoto M, Patel S, Lee L, Guan JL, and Li S. Role of cell surface heparan sulfate proteoglycans in endothelial cell migration and mechanotransduction, 203, 166-176, 2005, **J Cell Physiol. (selected as a cover, Undergraduate publication)**
32. Li S, **Moon JJ**, Miao H, Jin G, Chen BP, Yuan S, Hu Y, Usami S, and Chien S. Signal transduction in matrix contraction and the migration of vascular smooth muscle cells in three-dimensional matrix, 40, 378-388, 2003, **J Vasc Res. (Undergraduate publication)**

## **BOOK CHAPTERS**

1. **Kuai R\***, **Ochyl LJ\***, Schwendeman A<sup>§</sup>, and **Moon JJ<sup>§</sup>**. Lipid-based nanoparticles for vaccine applications. Book chapter in Biomedical Engineering: Frontier Research and Converging Technologies. Edited by Drs. Jo, Jun, Shin, and Lee, Springer, 9, 177-197, 2016. \*Authors contributed equally. <sup>§</sup>Co-corresponding authors. **(Peer-reviewed book chapter)**
2. **Moon JJ**, Hahn MS, Nsiah BA, and West JL. Micropatterning of poly(ethylene glycol) hydrogels with biomolecules to regulate and guide endothelial tubulogenesis. A chapter in Advanced in Tissue Engineering, Vol 1: Angiogenesis, edited by Johnson PC, and Mikos AT, Mary Ann Liebert, 2010. **(Peer-reviewed book chapter)**

## **PATENTS AND INTELLECTUAL PROPERTY FILINGS**

1. **Moon JJ**, Schwendeman A, Kuai R, and Nam J. Composition and methods for delivery of biomacromolecules agents. U.S. Patent Application. #62/248,908, 3/25/2016.
2. Peters-Golden M, **Moon JJ**. Vesicle-encapsulated signaling (SOCS) molecules. U.S. Patent Application. #62/280,418 #62/286,135, 2/29/2016.
3. Takayama S, Louttit C, **Moon JJ**, Kojima T, Weerappuli P. Macromolecular structures and uses their of. U.S. Provisional Patent Application. #62/256,321, 11/17/2015.
4. **Moon JJ**, Sahdev P, Fan Y, and Bazzill J. Composition and methods for intranasal vaccination. U.S. Patent Application. #62/109,855, 1/30/2016.
5. Schwendeman AS, Cohen MS, **Moon JJ**, Kuai R, Subramanian C. Compositions and methods for disease treatment using nanoparticle delivered compounds. U.S. Patent Application. PCT/US2015/040404. 7/14/2015.
6. Irvine DJ and **Moon JJ**. Lipid compositions and method of use, US Patent 8747869 B2, granted on June 10, 2014.
7. Irvine, DJ, Bershteyn A, and **Moon JJ**. Lipid-coated polymer particles for immune stimulation. U.S. Patent Application. US13053101, 2010.
8. Irvine DJ, Stephan MT, **Moon JJ**, and Bershteyn A. Methods and compositions for localized agent delivery. U.S. Patent US9283184B2, granted on March 13, 2016.

#### **INVITED PRESENTATIONS**

1. Engineered nano-vaccines for personalized cancer immunotherapy. Medical College of Wisconsin Cancer Center, Milwaukee, WI, 2016.
2. Personalized nanomedicine for cancer vaccination. Vaccine Antigen Delivery: New Approaches to Vaccine Development. EuroSciCon, 2016.
3. Lipid-based nanoparticles for vaccine delivery. Nanotechnology for HIV, RNA and Vaccine Delivery Workshop. NIH NIAID, Rockville, MD, 2016.
4. Nanomedicine for personalized cancer immunotherapy. Department of Pharmaceutics and Pharmaceutical Chemistry, The University of Utah, Salt Lake, Utah, 2016.
5. Engineered nanoparticles for personalized cancer immunotherapy. Henry Ford Cancer Institute, Detroit, MI, 2016.
6. Engineered nanoparticles for cancer immunotherapy. The Korean Biochip Society Annual Conference, Korea, 2016.
7. Nanodisc-based peptide vaccines for personalized cancer immunotherapy. Keystone Symposium on Cancer Vaccines, Whistler, Canada, 2016.
8. Engineered nanoparticles for personalized cancer vaccines. Translational Research Cancer Centers Consortium, Seven Springs, PA, 2016.
9. Elicitation of robust adaptive immune responses with lipid-based nanoparticles. US-Korea Conference on Science, Technology, and Entrepreneurship, Atlanta, GA, 2015.
10. Modulation of immunity with designer nanomaterials. Department of Integrative Biosciences & Biotechnology, POSTECH, Korea, 2015.
11. Engineering immunity with nanomaterials. Department of Biotechnology, Yonsei University, Korea, 2015.
12. Designer nanomaterials for modulating immunity. Department of Materials Science & Engineering, KAIST, Korea, 2015.
13. Improving cancer immunotherapy with nanomaterials. Department of Hematology & Oncology, Samsung Medical Center, SungKyunKwan University, Korea, 2015.
14. Engineering immunity with nanomaterials. Department of Integrative Engineering, Chung-Ang University, Korea, 2015.
15. Development of lipid-based vaccine nanoparticles for cancer immunotherapy. Department of Biomedical Science, CHA University, Korea, 2015.
16. Designing vaccine nanoparticles for cancer immunotherapy. Department of Chemical Engineering, SungKyunKwan University, Korea, 2015.
17. Engineering immunity with nanomaterials. Department of Chemical and Biological Engineering, Korea University, Korea, 2015.
18. Designing vaccine nanoparticles for cancer immunotherapy. University of Michigan Cancer Center, Ann Arbor, MI, 2015.
19. Engineering lipid-based nanoparticles for elicitation of cytotoxic CD8+ T cell responses. American Chemical Society National Meeting, Denver, CO, 2015.
20. Elicitation of robust cellular and humoral immunity with vaccine nanoparticles. Nanomedicine and Drug Delivery Symposium (NanoDDS'14), Chapel Hill, NC, 2014.
21. Nanotechnology for modulation of immune responses. IEEE-EMBS Annual Conference Pre-workshop on the topic of "Regenerative Nanomedicine", Chicago, IL, 2014.
22. Navigating Faculty Job Search. American Association of Pharmaceutical Sciences Student Chapter, Ann Arbor, MI, 2014.
23. Engineering approaches to regulate immune responses. Korean-American Scientists and Engineers Association, Ann Arbor, MI, 2014.

24. Nanoparticles for induction of immune responses. Biointerfaces Institute Nanomedicine Grand Challenge, University of Michigan, Ann Arbor, MI, 2014.
25. Regulation of immune responses with nanoparticle drug delivery platforms. Division of Thoracic Surgery, University of Michigan, Ann Arbor, MI, 2014.
26. Lipid-based vaccine nanoparticles for elicitation of potent cellular and humoral immune responses. Department of Pharmacology and Toxicology, University of Texas Medical Branch, TX, 2013.
27. Regulation of immune responses with nanoparticle drug delivery platforms. Biointerfaces Institute Nanomedicine Challenge, University of Michigan, Ann Arbor, MI, 2013.
28. Vaccine nanoparticles for elicitation of potent cellular and humoral immune responses. Tumor Immunology and Host Response Program, University of Michigan, Ann Arbor, MI, 2013.
29. Vaccine nanoparticles for elicitation of potent cellular and humoral immune responses. Division of Hematology and Oncology, University of Michigan, Ann Arbor, MI, 2013.
30. Drug delivery platforms to modulate immunity. Department of Pharmacology, College of Pharmacy, University of Toledo, Toledo, OH, 2013.
31. Elicitation of cellular and humoral immunity with vaccine nanoparticles. Michigan Nanotechnology Institute of Medicine and Biological Sciences, University of Michigan, Ann Arbor, MI, 2013.
32. Drug delivery platforms to modulate immunity. Department of Biomedical Science, CHA University, Republic of Korea, 2013.
33. Engineering approaches to regulate immunity. Department of Biomedical Engineering, University of Michigan, 2012.
34. Engineering approaches to regulate immunity. Microfluidics Biomedical Sciences Training Program, University of Michigan, Ann Arbor, MI, 2012.
35. Vascularization of synthetic, biomimetic hydrogels. IEEE-Engineering in Medicine & Biology Society, Boston, MA, 2011.
36. Novel lipid-based nanoparticles for antigen delivery and vaccine applications. Department of Biomedical Engineering, Ohio State University, Columbus, OH, 2011.
37. Novel lipid-based nanoparticles for antigen delivery and vaccine applications. Department of Bioengineering, University of Pennsylvania, Philadelphia, PA, 2010.

#### **CONFERENCE PROCEEDINGS AND PRESENTATIONS IN SCIENTIFIC MEETINGS**

1. Kuai R, Ochyl LJ, Schwendeman A, and **Moon JJ**. "Nanodisc neo-antigen vaccination combined with immune checkpoint blockade efficiently eliminates established tumors." Society for Immunotherapy of Cancer, Washington, D.C., 2016 (poster)
2. Nam J, and **Moon JJ**. "Combinational Chemo-Immuno-Photothermal Cancer Therapeutics Based on Polydopamine-coated Spiky Gold Nanoparticles." Materials Research Society, Boston, MA, 2016 (oral)
3. Ochyl LJ, and **Moon JJ**. "PEGylated lysate membrane vesicles for elicitation of adaptive immune responses against melanoma." American Association of Pharmaceutical Scientists, Denver, CO, 2016 (poster)
4. Balwani I, Kuai R, Schwendeman A, and **Moon JJ**. "Stimulation of NKT cells with a novel nano-delivery system loaded with alpha-galactosylceramide." American Association of Pharmaceutical Scientists, Denver, CO, 2016 (poster)
5. Louttit C, Weerappuli P, Kojima K, Maeda M, Yamanishi C, Takayama S, and **Moon JJ**. "Probing the Roles of Neutrophil Extracellular Trap Components with Synthetic DNA-Histone Structures." Biomedical Engineering Society Annual Meeting, Minneapolis, MN, 2016 (oral)
6. Weerappuli P, Louttit C, Kojima K, Maeda M, Yamanishi C, Oliver CR, **Moon JJ**, and Takayama S. "Bioinspired DNA-Histone Complex to Study Metastasis-Promoting Activity of Neutrophil Extracellular Traps." Biomedical Engineering Society Annual Meeting, Minneapolis, MN, 2016 (poster)
7. Louttit C, Weerappuli P, Kojima K, Maeda M, Takayama S, and **Moon JJ**. "Novel nanofibrous DNA-histone structures mediate reproducible, high-throughput analyses of neutrophil extracellular traps and their effects in vitro." American Association of Immunologists Annual Meeting, Seattle, WA, 2016 (**AAI Trainee Travel Award**, podium and poster)
8. Bazzill JD, Cooper CL, Fan Y, Bavari S, Stronsky SM, and **Moon JJ**. "Lipid nanoparticles incorporated with Ebola Glycoprotein for induction of humoral immunity against Ebola infection." American Association of Immunologists Annual Meeting, Seattle, WA, 2016 (poster)
9. Kuai R, Ochyl LJ, Schwendeman A, and **Moon JJ**. "Nanodisc-based peptide vaccines for personalized cancer immunotherapy." Keystone Symposium on Cancer Vaccines, Whistler, Canada, 2016 (podium and poster)
10. Ochyl LJ, and **Moon JJ**. "Tumor membrane vesicles for elicitation of cellular and humoral immune responses." Keystone Symposium on Cancer Vaccines, Whistler, Canada, 2016 (poster)
11. Fan Y, Sahdev P, Ochyl LJ, Akerberg J, and **Moon JJ**. "Lipid-Biopolymer Hybrid Nanoparticles for Intranasal Vaccination against Infectious Pathogens." Biomedical Engineering Society Annual Meeting, Tampa, FL, 2015. (oral)
12. Kuai R, Schwendeman A, and **Moon JJ**. "Nanodisc vaccine platform for elicitation of anti-tumor cytotoxic CD8+ T lymphocytes." Biomedical Engineering Society Annual Meeting, Tampa, FL, 2015. (poster)

13. Nam J and **Moon JJ**. "Tuning Immune Activation with Adjuvant-Loaded Spiky Gold Nanoparticles." Biomedical Engineering Society Annual Meeting, Tampa, FL, 2015. (poster)
14. Nam J and **Moon JJ**. "Mussel-Inspired Coating of Spiky Gold Nanoparticles for Enhanced Stability and Therapeutic Efficacy." Elicitation of robust adaptive immune responses with lipid-based nanoparticles." Biomedical Engineering Society Annual Meeting, Tampa, FL, 2015. (poster)
15. **Moon JJ**. "Elicitation of robust adaptive immune responses with lipid-based nanoparticles." US-Korea Conference on Science, Technology, and Entrepreneurship, Atlanta, GA, 2015. (**Invited talk**)
16. **Moon JJ**. "Engineering lipid-based nanoparticles for elicitation of cytotoxic CD8+ T cell responses." American Chemical Society National Meeting, Denver, CO, 2015. (**Invited talk**)
17. Ochyl LJ, Bazzill J, and **Moon JJ**. "Engineered vaccine nanoparticles for induction of potent immune responses." Keystone Symposium, Tumor Immunology, Banff, Canada, 2015. (poster)
18. **Moon JJ**, Ochyl LJ, and Bazzill J. "Engineering lipid-based vaccine nanoparticles for modulation of cellular and humoral immune responses." American Association of Pharmaceutical Sciences National Meeting, San Diego, CA, 2014. (poster)
19. **Moon JJ**. "Elicitation of robust cellular and humoral immunity with vaccine nanoparticles." Nanomedicine and Drug Delivery Symposium (NanoDDS'14), Chapel Hill, NC, 2014. (**Invited talk**)
20. **Moon JJ**. "Nanotechnology for modulation of immune responses." IEEE-EMBS Annual Conference Pre-workshop on the topic of "Regenerative Nanomedicine", Chicago, IL, 2014. (**Invited talk**)
21. Nam J, Monroe CJ, **Moon JJ**. "Development of photothermally-active gold shell-coated lipid nanoparticles." Controlled Release Society Annual Meeting, Chicago, IL, 2014. (poster)
22. Kuai R, Subramaniam C, Timmermann BN, **Moon JJ**, Cohen MS, Schwendeman A. "Synthetic high density lipoproteins for targeted delivery of withalongolides to adrenocortical carcinomas." Controlled Release Society Annual Meeting, Chicago, IL, 2014. (poster)
23. Ochyl LJ, **Moon JJ**. "Lipid-based nanoparticles co-loaded with tumor cell lysate and immunostimulatory agents for cancer immunotherapy." Controlled Release Society Annual Meeting, Chicago, IL, 2014. (poster)
24. **Moon JJ**. "Lipid-based vaccine nanoparticles for induction of robust cellular and humoral immune responses against malaria and HIV antigens." American Society for Nanomedicine, Rockville, MD, 2014. (**Best Poster Award**)
25. **Moon JJ**. "Lipid-based vaccine nanoparticles for elicitation of robust cellular and humoral immune responses in mucosal surfaces." Keystone Symposium, HIV Vaccines: Adaptive immunity and beyond, Banff, Canada, 2014. (poster)
26. Ochyl LJ, **Moon JJ**. "Co-encapsulation of adjuvant and antigen into lipid-based nanoparticles for cancer immunotherapy." Annual Symposium in the Pharmacological Sciences and Bio-related Chemistry, U. of Michigan, MI, 2014. (poster)
27. Nam J, Monroe CJ, **Moon JJ**. "Gold shell-coated lipid nanoparticles for stable cargo delivery and photothermal release." Science Day, College of Pharmacy, U. of Michigan, MI, 2014. (poster)
28. Kuai R, Subramaniam C, Timmermann BN, **Moon JJ**, Cohen MS, Schwendeman A. "Synthetic high density lipoproteins for targeted delivery of withalongolides to adrenocortical carcinomas." Science Day, College of Pharmacy, U. of Michigan, MI, 2014. (oral and poster presentation)
29. Ochyl LJ, **Moon JJ**. "Co-encapsulation of adjuvant and antigen into lipid-based nanoparticles for cancer immunotherapy." Science Day, College of Pharmacy, U. of Michigan, MI, 2014. (poster)
30. **Moon JJ**. "Elicitation of robust cellular and humoral immune responses against malaria and HIV antigens with lipid nanocapsules." World Congress on Biomimetics, Artificial Muscles, and Nano-Bio, Korea, 2013. (**Invited talk**)
31. **Moon JJ**. "Nanoparticles for modulation of immune responses." Gordon Conference, Environmental Nanotechnology, Stowe, VT, 2013. (**Invited talk**)
32. **Moon JJ**. "Nanoparticle Vaccines for induction of cellular and humoral immune responses." Autumn Immunology Conference, Chicago, IL, 2012. (oral)
33. **Moon JJ**, Li A, Suh H, Yadava A, and Irvine DJ. "Antigen delivery via nanocapsules elicits robust cellular and humoral responses against malaria and HIV antigens." Biomedical Engineering Society Annual Meeting, Atlanta, 2012. (oral)
34. Li A, **Moon JJ**, Elkhader J, Abraham W, Suh H, and Irvine DJ. "Generating long lasting mucosal and systemic CD8 T-cell responses via pulmonary vaccination with synthetic lipid nanoparticles." Biomedical Engineering Society Annual Meeting, Atlanta, 2012. (oral)
35. **Moon JJ**, Suh S, Li A, Yadava A, and Irvine DJ. "Nanoparticle vaccines enhance humoral responses to a malaria antigen with nanoparticle vaccines by expanding Tfh cells and inducing germinal center formation." American Association of Immunologists, Boston, MA, 2012. (**AAI Trainee Travel Award**)
36. **Moon JJ**, Suh S, Yadava A, and Irvine DJ. "Enhancing humoral responses to a malaria antigen with nanoparticle vaccines that expand Tfh cells and promote germinal center induction." New England Immunology Conference, Woods Hole, MA, 2012. (poster)

37. **Moon JJ**, Suh S, Yadava A, and Irvine DJ. "Interbilayer-crosslinked multilamellar vesicles as synthetic vaccines for potent humoral and cellular immune responses." American Institute of Chemical Engineers Annual Meeting, Minneapolis, MN, 2011. (oral)
38. **Moon JJ**, Suh S, Yadava A, and Irvine DJ. "Novel nanoparticle vaccines elicit robust humoral responses mediated by CD4 helper T cells." Biomedical Engineering Society Annual Meeting, Hartford, CT, 2011. (oral)
39. **Moon JJ**, Suh S, Yadava A, and Irvine DJ. "Interbilayer-crosslinked multilamellar vesicles as a potent vaccine platform." Biomaterials, Gordon Research Conference, Holderness, NH, 2011. **(Best Poster Award)**
40. **Moon JJ**, Suh S, Bershteyn A, Stephan M, Luo S, and Irvine DJ. "Development of interbilayer-crosslinked multilamellar vesicles as a potent vaccine platform." Society for Biomaterials Annual Meeting, Orlando, FL 2011. (poster)
41. **Moon JJ**, Suh S, Sohail M, Bershteyn A, Yadava A, and Irvine DJ. "Interbilayer-crosslinked multilamellar vesicles for vaccine delivery." Keystone Symposia, Dendritic Cells and the Initiation of Adaptive Immunity, Santa Fe, NM 2011. (poster)
42. **Moon JJ**, Suh S, and Irvine DJ. "Interbilayer-crosslinked multilamellar vesicles for drug delivery applications." Tissue Engineering and Regenerative Medicine International Society Annual Meeting, Orlando, FL, 2010. (oral)
43. **Moon JJ**, Suh S, Sohail M, Bershteyn A, Yadava A, and Irvine DJ. "Interbilayer-crosslinked multilamellar vesicles for antigen delivery and vaccine applications." Biomedical Engineering Society Annual Meeting, Austin, TX 2010. (oral)
44. **Moon JJ**, Suh S, Sohail M, Bershteyn A, Um SH, Stephan M, Huang B, and Irvine DJ. "Synthesis and characterization of interbilayer-crosslinked multilamellar vesicles for vaccine delivery." American Chemical Society, Boston, MA 2010. (oral)
45. **Moon JJ**, Um SH, Bershteyn A, Suh H, Sohail M, Stephan MT, Huang B, and Irvine DJ. "Interbilayer-crosslinked multilamellar vesicles for vaccine applications." Controlled Release Society Research Conference, Portland, OR, 2010. (oral)
46. **Moon JJ**, Um SH, Stephan M, and Irvine DJ. "Novel DNA-gel particles as a platform for drug delivery and vaccine development." Biomaterials, Gordon Research Conference, Holderness, NH, 2009. (poster)
47. **Moon JJ**, Um SH, Stephan M, Huang B, Bershteyn A, and Irvine DJ. "DNA-gel particles as a novel platform for cancer vaccines and immunotherapy." MIT Koch Cancer Institute Annual Research Forum, Waterville, NH, 2009. (oral)
48. **Moon JJ**, Lee SH, Kim I, Hahn MS, Nsiah BA, and West JL. "Synthetic biomimetic hydrogels incorporated with angiogenic factors for regulated endothelial vessel formation" Biomaterials, Gordon Research Conference, Holderness, NH, 2007. (poster)
49. **Moon JJ**, Lee SH, Hahn MS, Nsiah BA, and West JL. "Regulation of endothelial angiogenesis and vasculogenesis in synthetic poly(ethylene glycol) hydrogels modified with biomolecules." Society for Biomaterials Annual Meeting, Chicago, IL, 2007. (oral)
50. **Moon JJ**, Lee SH, Kim I, Hahn MS, Nsiah BA, and West JL. "Synthetic biomimetic hydrogels incorporated with angiogenic factors for regulated endothelial vessel formation" Institute of Biosciences and Bioengineering Symposium, Houston, TX, 2007. **(Best Poster Award)**
51. **Moon JJ**, Lee SH, Hahn MS, Nsiah BA, and West JL. "Regulation of endothelial angiogenesis and vasculogenesis in synthetic poly(ethylene glycol) hydrogels modified with biomolecules." Experimental Biology, Washington, DC, 2007. (poster)
52. **Moon JJ**, Lee SH, Hahn MS, Nsiah BA, and West JL. "Modifications of PEG hydrogels to regulate endothelial vessel formation" Biomedical Engineering Society Annual Meeting, Hollywood, CA, 2007. (oral)
53. **Moon JJ**, Lee SH, Hahn MS, Nsiah BA, and West JL. "Regulation of endothelial angiogenesis and vasculogenesis in synthetic poly(ethylene glycol) hydrogels modified with biomolecules." Hilton Head Tissue Engineering Workshop, Hilton Head, GA, 2007. (poster)
54. **Moon JJ**, and West JL. "Immobilized ephrin-A1 and EphB4 on PEG hydrogel for angiogenic applications." Experimental Biology, San Francisco, CA, 2006. (oral)
55. **Moon JJ**, Nsiah BA, Hahn MS, and West JL. "Endothelial tubulogenesis on surface patterned poly(ethylene glycol) hydrogels." Society for Biomaterials Annual Meeting, Memphis, TN, 2006. (oral)
56. **Moon JJ**, and West JL. "Immobilized ephrin-A1 and EphB4 on PEG hydrogel for angiogenic applications." Society for Biomaterials Annual Meeting, Memphis, TN, 2006. (poster)
57. **Moon JJ**, and West JL. "Surface patterning of polyethylene glycol hydrogels for directed tubulogenesis." Houston Conference on Biomedical Engineering Research Annual Meeting, Houston, TX, 2006. (poster)
58. **Moon JJ**, and West JL. "Immobilization of ephrin-A1 and EphB4 on PEG hydrogels for angiogenic applications." Biomedical Engineering Society Annual Meeting, Baltimore, MD, 2005. (oral)
59. **Moon JJ**, Lee SH, and West JL. "Biomimetic hydrogels incorporated with ephrin-A1 and EphB4 for therapeutic angiogenesis." Institute of Biosciences and Bioengineering Symposium, Houston, TX, 2005. **(Best Poster Award)**
60. **Moon JJ**, and West JL. "Immobilized ephrin-A1 and EphB4 on PEG hydrogel for angiogenic applications." Society for Biomaterials Annual Meeting, Memphis, TN, 2005. (oral)

61. **Moon JJ**, Matsumoto M, and Li S. "Heparan sulfate proteoglycan mediates cellular adhesion and migration during wound healing process via regulation of focal adhesions." American Heart Association Scientific Sessions, Orlando, FL, 2003. (oral)

## **TEACHING**

### **University of Michigan, Ann Arbor**

2016 Fall PharmSci 508, Introduction to Drug Delivery and Drugs in Solution (24 course hours)  
2016 Winter Anatomy 504, Cellular Biotechnology (3 course hours, guest lecturer)  
2015 Fall PharmSci 702, Pharmaceutical Design, Delivery, and Targeting (15 course hours)  
2015 Fall PharmSci 508, Introduction to Drug Delivery and Drugs in Solution (24 course hours)  
2015 Winter PharmSci 705, Nanotechnology for Drug Delivery (18 course hours)  
2015 Winter Anatomy 504, Cellular Biotechnology (3 course hours, guest lecturer)  
2015 Winter ChemEng 519, Pharmaceutical Engineering (2 course hours, guest lecturer)  
2015 Winter BME 500, Biomedical Engineering Departmental Seminar (1 course hour, guest lecturer)  
2014 Fall MedChem 660, Responsible Conduct of Research and Scholarship (8 course hours)  
2014 Fall PharmSci 508, Introduction to Drug Delivery and Drugs in Solution (13 course hours)  
2014 Fall ChemEng 696, BioMEMS and Nanotechnology for Life Sciences (2 course hours, guest lecturer)  
2013 Fall PharmSci 702, Pharmaceutical Design, Delivery, and Targeting (1.5 course hours, guest lecturer)  
2013 Fall PharmSci 508, Introduction to Drug Delivery and Drugs in Solution (13 course hours)  
2012 Fall ChemEng 690, BioMEMS and Nanotechnology for Life Sciences (1.5 course hours, guest lecturer)  
2012 Fall BME 500, Biomedical Engineering Departmental Seminar (1 course hour, guest lecturer)  
2012 Fall PharmSci 462, Introduction to Drug Delivery and Drugs in Solution (5 course hours)

### **MIT**

2010 Spring #3.014: Materials Laboratory (guest instructor)

### **Rice University**

2009 Fall BIOE 322, Fundamentals of Systems Physiology (Graduate student instructor)  
2009 Spring BIOE 420, Biosystems Transport and Reaction Processes (Graduate student instructor)  
2008 Fall BIOE 451, Bioengineering Design (Graduate student instructor)

## **MENTORING**

### **Awards granted to trainees while actively under mentorship**

Lukasz Ochyl American Foundation for Pharmaceutical Education Pre-doctoral Fellowship, 2016.  
Cameron Louttit American Association of Immunologist Trainee Travel Award 2016  
Rui Kuai 2nd Place Poster Award in the 2016 PSTP Annual Symposium  
Lukasz Ochyl UM Rackahm Pre-doctoral Fellowship, 2016.  
Charles Park NIH T32 Tissue Engineering and Tissue Regeneration Program, 2016-2018.  
Yuchen Fan Broomfield International Student Fellowship, 2015.  
Cameron Louttit NIH T32 Cellular Biotechnology Training Program, 2015-2017.  
Rui Kuai American Heart Association Pre-doctoral Fellowship (Percentile rank: 1.06%), 2015-2017.  
Cameron Monroe The Congress-Bundestag Youth Exchange for Young Professionals, 2014.  
Rui Kuai Broomfield International Student Fellowship, 2013.

### **University of Michigan, Ann Arbor**

#### Postdoctoral Associates:

2013-present Jutaek Nam, PhD, Chemistry, POSTECH, Korea  
2012-2013 Preeti Sahdev, PhD, Pharmaceutical Sciences, South Dakota State University  
(Current: research scientist in Allergan, Irvine, CA)

#### Graduate Students (PhD):

2016-present Alireza Hassani, Department of Pharmaceutical Sciences, University of Michigan, Ann Arbor.  
Topic: Immune modulation with engineering nanomaterials.  
2015-present Charles Park, Department of Biomedical Engineering, University of Michigan, Ann Arbor.  
Topic: 3D DNA hydrogels for modulation of immune responses.  
2014-present Joseph Bazzill, Department of Pharmaceutical Sciences, University of Michigan, Ann Arbor.  
Topic: Synthetic pathogen-mimicking nanoparticles displaying Env trimer for vaccination against HIV.  
2014-present Yuchen Fan, Department of Pharmaceutical Sciences, University of Michigan, Ann Arbor.



- 2014-present      Topic: Lipid-biopolymer hybrid nanoparticles for whole tumor cell vaccination.  
Cameron Louttit, Department of Biomedical Engineering, University of Michigan, Ann Arbor.
- 2013-present      Topic: Reprogramming neutrophils for targeted drug delivery.  
Lukasz Ochyl, Department of Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013-present      Topic: Nanoparticles designed for elicitation of cytotoxic T lymphocyte responses against tumor cells.  
Rui Kuai, co-advised with Prof. Anna Schwendeman, Department of Pharmaceutical Sciences,  
University of Michigan, Ann Arbor.  
Topic: Synthetic high density lipoproteins for cancer immunotherapy.

Visiting Scholar:

- 2016-present      Jie Gao, Ph.D., Associate Professor, Shanghai Second Military Medical University, China.
- 2016-present      Clemence Tarirai, Ph.D., Senior Lecturer, Tshwane University of Technology, South Africa.
- 2015-present      Yanhong Shen, Ph.D., Chief Pharmacist, Hebei Chest Hospital, China.

Graduate Students (Masters, PharmD, visiting and rotation students):

- 2016-present      Ishina Balwani, MS Candidate, Medical Biotechnology, University of Illinois at Chicago.
- 2015-present      Marisa Aikins, MS Candidate, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2015                  Humaira Nawar, PharmD Candidate, University of Michigan, Ann Arbor.
- 2014                  Zhilin Chen, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2014                  Patrick Sinko, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2014                  Ila Myers, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2014                  Ryan Clauson, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013                  Jonathan Akerberg, Exchange student, PharmD Candidate, University of Gothenburg, Sweden.
- 2013                  Chang-ching Lin, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013                  Nicholas Waltz, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013                  Morgan Giles, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013                  Mari Gasparyan, Rotation student, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013                  Isaac Dripps, Rotation student, Pharmacology PIBS, University of Michigan, Ann Arbor.
- 2013                  Divya Sanghvi, MS Candidate, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2013                  Tony Koehn, PharmD Candidate, University of Michigan, Ann Arbor.

Undergraduate Students:

- 2016-present      Luke Brennan, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2015-present      Ashley Stephenson, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2015                  Lauren D'Cruz, Chemical Engineering, University of Michigan, Ann Arbor.
- 2015                  Mananga Mutombo, SROP student, Biomedical Engineering, University of Illinois, Chicago.
- 2015                  Hannah Pfershy, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2015                  Amanda Fodera, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2013-present      Rohan Addala, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2013-present      Cameron Monroe, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2013-2014        Ramakrishnan Jayaraman, UROP student, Neuroscience, University of Michigan, Ann Arbor.
- 2013-2014        Xerxes Sanii, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2013-2014        Scott Mansfield, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2013                  Alice Baek, Biochemistry, University of Michigan, Ann Arbor.

Others:

- 2016-present      Yao Xu, Laboratory manager, University of Michigan, Ann Arbor.

Dissertation committee member for:

- 2016-present      Emine Sumeyra Turali-Emre, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2016-present      Mikhail Murashov, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2016-present      Ahmet Emrehan Emre, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2016-present      Nathan Truchan, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2016-present      Sang Kim, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2015-present      Phillip Rzeczycki, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2015-present      Emily Morin, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2015-present      Ila Myers, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2015-present      Zhilin Chen, Pharmaceutical Sciences, University of Michigan, Ann Arbor.
- 2015-present      Robert Kuo, Biomedical Engineering, University of Michigan, Ann Arbor.
- 2014-present      Chang-ching "Albert" Lin, Pharmaceutical Sciences, University of Michigan, Ann Arbor.

2016 Seung Won Shin, Chemical Engineering, Sungkyunkwan University, Republic of Korea.  
 2014-2016 Allison Matyas, Pharmaceutical Sciences, University of Michigan, Ann Arbor.  
 2013-2016 Kellisa Hansen, Pharmaceutical Sciences, University of Michigan, Ann Arbor.  
 2013-2016 J. Max Mazzara, Pharmaceutical Sciences, University of Michigan, Ann Arbor.  
 2013-2016 Rhonda Jack, Chemical Engineering, University of Michigan, Ann Arbor.  
 2013-2015 Oluseyi Adeniyi, Pharmaceutical Sciences, University of Michigan, Ann Arbor.  
 2012-2016 Brittany Agius Bailey, Pharmaceutical Sciences, University of Michigan, Ann Arbor.

#### MIT

2011-2012 Wuhbet Abraham, Research technician, Koch Institute, MIT  
 2010-2011 Samantha Luo, Undergraduate student, Materials Science & Engineering, MIT  
 2010-2011 Sandra Bustamente, Research technician, Koch Institute, MIT  
 2009-2012 Heikyung Suh, Research technician, Koch Institute, MIT  
 2009-2010 Mashaal Sohail, Undergraduate student, Biological Engineering, MIT  
 2008-2009 Jose Chaparro, Undergraduate student, Biological Engineering, MIT  
 2008-2009 Richard Yau, Undergraduate student, Biological Engineering, MIT

#### Rice University

2007 Iris Kim, REU Program, Biomedical Engineering, University of Texas – Austin.  
 2006 Barbara Nsiah, REU Program, Biomedical Engineering, Georgia Institute of Technology.

### PROFESSIONAL SOCIETIES AND SERVICES

#### Session/Meeting Organization/Chairing

2013-present Board Member, Korean-American Biomedical Engineering Society.  
 2017 Conference Co-Chair and Organizer, NanoDDS, 15<sup>th</sup> International Nanomedicine & Drug Delivery Symposium, Ann Arbor, MI. September 22-24, 2017.  
 2016 Symposium Organizer and Session Chair, 4<sup>th</sup> Korea-US Joint Workshop in Biomedical Engineering Society Annual Meeting, Minneapolis, MN.  
 2016 Session Chair, Nano Drug Delivery Systems Annual Conference, Baltimore, MD.  
 2015 Session Chair in multiple tracks in Drug delivery, Biomedical Engineering Society Annual Meeting.  
 2015 Symposium Organizer, 3<sup>rd</sup> Korea-US Joint Workshop in Biomedical Engineering Society Annual Meeting, Tampa, FL.  
 2015 Session Chair, Interacting with the Immune System using Polymeric Systems, American Chemical Society Meeting.  
 2015 Abstract Reviewer, Biomedical Engineering Society Annual Meeting.  
 2014 Session Chair, Innovations in Micro- and Nano-based Delivery, Controlled Release Society Annual Meeting.  
 2014 Abstract Reviewer, Controlled Release Society Annual Meeting.  
 2014 Abstract Reviewer, Society for Biomaterials Annual Meeting.  
 2014 Symposium Organizer, 2<sup>nd</sup> Korea-US Joint Workshop in Biomedical Engineering Society Annual Meeting, San Antonio, TX.  
 2012 Session Chair, Biomaterials for delivery of siRNA, Biomedical Engineering Society Annual Meeting.

#### Reviewer for Scientific Journals (reviewed > 100 manuscripts)

*AAPS Journal*  
*ACS Applied Mat & Interfaces*  
*ACS Biomaterials Science & Engineering*  
*ACS Nano*  
*Acta Biomaterialia*  
*Annals of Biomedical Engineering*  
*Bioconjugate Chemistry*  
*Bioengineering & Translational Medicine*  
*Biomaterials*  
*Biomaterials Research*  
*BioMed Res International*  
*Cancer Immunology, Immunotherapy*  
*ChemMedChem*  
*Current Drug Therapy*  
*Integrative Biology*  
*Journal of Controlled Release*

*Journal of Materials Chemistry B*  
*Journal of NanoSci & Nanotech*  
*Molecular Biotechnology*  
*Molecular Pharmaceutics*  
*Nanomedicine*  
*Nanomedicine and Nanotechnology*  
*Nature Biomedical Engineering*  
*Octotarget*  
*PLoS ONE*  
*Regenerative Medicine*  
*Science Advances*  
*Scientific Reports*  
*Therapeutic Delivery*  
*Tissue Engineering*  
*Vaccine*

Services for College of Pharmacy, University of Michigan, Ann Arbor

2014-present Faculty mentor for College of Pharmacy Graduate Student Organization

2013-present Faculty Development Committee

2013-present Pharm.D. Investigations Committee

Services for Departmental Committees, University of Michigan, Ann Arbor

2014 Fall Faculty Search Committee, Biomedical Engineering

2014-present Bachelor of Sciences in Pharmaceutical Sciences Advisory Committee, Pharmaceutical Sciences

2012-present Chair, Graduate Admissions and Recruitment Committee, Pharmaceutical Sciences

**RESEARCH SUPPORT**

**ACTIVE**

PI: Wei Cheng, co-PI: James Moon and Irina Grigorova

4/29/2015-4/29/2017

**MCubed program - University of Michigan**

*Impact of Envelope Glycoprotein Density on B Cell Activation*

Role: co-Principal Investigator

PI: Moon

5/01/2015-4/30/2018

**Melanoma Research Alliance Young Investigator Award (348774)**

*Novel approaches for immunotherapy against melanoma*

Role: Principal Investigator

PI: Peters-Golden

07/01/2015 – 06/30/2020

**NIH R01HL125555**

*Secreted SOCS Proteins as Vectors of Lung Macrophage to Epithelial Cell Crosstalk*

Role: co-Investigator

PI: Lundy

07/01/2015 – 06/30/2017

**NIH R21 AI115117**

*B Cell Exosome and Nanoparticle Treatment of Allergic Asthma*

Role: co-Investigator

PI: Moon

6/20/2016-8/31/2021

**NIH R01 AI127070**

*Elicitation of mucosal immune responses against HIV*

Role: Principal Investigator

PI: Moon

7/1/2016 – 6/30/2021

**NIH R01 EB022563**

*Tuning biomaterials-immune cell interactions for treatment of glioblastoma multiforme*

Role: Principal Investigator

PI: Moon

7/1/2016-6/30/2021

**NSF 1553831**

*CAREER: Engineering multilamellar vaccine platforms for vaccination against HIV*

Role: Principal Investigator

PI: Moon

7/15/2016 – 7/14/2019

**DoD CDMRP CA150068: Career Development Award**

*A New Vaccination Strategy for Treatment of Melanoma*

Role: Principal Investigator

PI: Moon

9/16/2016 – 12/15/2016

**HHSN261201100046C**

*NCI Fee-for-service: proprietary lung cancer vaccine nanodiscs*

Role: Principal Investigator

PI: Moon

1/5/2017 – 1/4/2022

**NIH NCI R01**

*Engineering Nanomaterials to Prime Immunity*

Role: Principal Investigator

**COMPLETED**

PI: James J. Moon 1/1/2013-12/31/2014  
**NIAID Research Scholar Development K22 Award AI097291**  
*Delivery of Particle Vaccines to Control Trafficking Patterns of T Cells*  
Role: Principal Investigator

PI: James J. Moon, co-PI: Anna Schwendeman and Mariana Kaplan 2/1/2013-1/31/2014  
**MCubed program - University of Michigan**  
*Therapeutic application of synthetic HDL for treatment of autoimmune diseases*  
Role: Principal Investigator

PI: James J. Moon 6/01/2013 – 11/30/2014  
**MICHR/CTSA Pilot Grant Programs - University of Michigan**  
*Elicitation of cancer stem cell-specific CD8<sup>+</sup> T cell responses with nanoparticle-DC vaccination*  
Role: Principal Investigator

PI: Qiao Li, Co-I: James J. Moon 7/01/2013 - 6/30/2014  
**Cancer Center Innovation Grant - University of Michigan**  
*Therapeutic efficacy of a novel cancer stem cell antigen-loaded dendritic cell vaccine using a new adjuvant nanoparticle system*  
Role: Co-Investigator

PI: Maria Castro, co-PI: James J. Moon 02/01/2014 – 01/31/2015  
**Biointerfaces Institute: Grand Challenge in Nanomedicine - University of Michigan**  
*Novel drug delivery platforms for glioma therapeutics*  
Role: co-Principal Investigator

PI: Jean Nemzek, co-PI: James J. Moon and Jianping Fu 09/01/2014 – 07/28/2015  
**Michigan Center for integrative Research in Critical Care: Grand Challenge in Sepsis - University of Michigan**  
*Immunotherapy and immunophenotyping for treatment of sepsis*  
Role: co-Principal Investigator

PI: Dr. James J. Moon 1/01/2015 – 12/31/2015  
**MICHR/CTSA Pilot Grant Programs - University of Michigan**  
*Targeted delivery of anti-retroviral drugs for prevention of HIV spread*  
Role: Principal Investigator

PI: Dr. James J. Moon, co-PI: Maria Castro and Pedro Lowenstein 12/01/2014 – 11/30/2015  
**John S. and Suzanne C. Munn Cancer Fund - University of Michigan**  
*Novel therapeutic vaccination strategy for treatment of glioblastoma multiforme*  
Role: Principal Investigator