

JULIANE NGUYEN, PHD

Division of Pharmacoengineering and Molecular Pharmaceutics
Eshelman School of Pharmacy
University of North Carolina at Chapel Hill
julianen@email.unc.edu
<https://nguyenlab.web.unc.edu/>
<https://twitter.com/JulieNguyenLab>

EDUCATION

1999 – 2005	Philipps-University Marburg (Germany)	BS/Pharmacy - Board Certified Pharmacist Certified in Germany
2005 – 2009	Philipps-University Marburg (Germany) PhD	Pharmaceutical Sciences Advisor: Dr. Thomas Kissel
2009 – 2013	University of California San Francisco Post-doc	Bioengineering Advisor: Dr. Francis Szoka

PROFESSIONAL EXPERIENCE

May 2019 – Present	Associate Professor with Tenure, University of North Carolina at Chapel Hill School of Pharmacy, Division of Pharmacoengineering and Molecular Pharmaceutics Sept 2022 – Present, Director of DPMP Graduate Admissions Aug 2021 – Present, Vice Chair in DPMP Oct 2019 – Adjunct Associate Professor - NCSU/UNC Biomedical Engineering Oct 2019 – Member of Lineberger Cancer Center, Member of McAllister Heart Institute	
Jan. 2019 – May 2019	Associate Professor with Tenure, University at Buffalo Pharmaceutical Sciences	
July 2013 – Dec. 2018	Assistant Professor, University at Buffalo Pharmaceutical Sciences	
Apr. 2013 – Jun 2013	Visiting Scientist Department of Biological Sciences, University of Illinois at Chicago	Laboratory of Dr. Brian Kay
	<ul style="list-style-type: none">Antibody engineering & phage display	
2009 – 2013	Post-doctoral Fellow Dept. of Bioengineering & Therapeutic Sciences - University of California, San Francisco	Advisor: Dr. Francis Szoka
	<ul style="list-style-type: none">Designed targeted, pH-sensitive, ionizable lipid nanoparticles for siRNA deliveryInterfaced with, collaborated with, and managed research projects with Pfizer (Boston)	
2005 – 2009	Graduate Assistant, PhD studies Philipps-University Marburg (Germany)	Advisor: Dr. Thomas Kissel
	<ul style="list-style-type: none">Developed and synthesized rapidly degradable polymeric nanoparticles (DEAPA-PVA-PLGA) for pulmonary delivery of siRNA and DNADevised pulmonary air-interface cultures for testing the transfection efficacy of aerosolized polymeric nanoparticlesWorked on an integrated research project that was part of a multidisciplinary consortium consisting of 7 universities in the field of nanomedicine (chemistry, materials science, biology, clinicians)	
2003 – 2004	Internship	Dr. John Hempenstall

GlaxoSmithKline, Harlow, United Kingdom Internship - Department Product Line Extensions

- Conducted stability studies of pharmaceutical drug compounds
- Conducted drug controlled-release studies of solid oral dosage forms by dissolution tests and HPLC

HONORS & AWARDS

2023	Galenus Guest Professorship at ETH Zuerich, Switzerland (June, 2024)
2022-2025	Standing Member – NIH Drug and Biologic Therapeutic Delivery Study Section
2021-2022	Standing Member - NIH Gene and Drug Delivery Study Section
2022	Keynote Address – EV Therapeutics and Biotechnology Symposium, Vanderbilt University
2021	Keynote Address – Biobarriers Symposium, Germany
2020	Luminary – selected by the Young Scientist Committee of the Controlled Release Society
2019	AAPS Emerging Leader Award – American Association of Pharmaceutical Scientists
2019	CMBE Young Innovator Award - Biomedical Engineering Society (BMES)
2019	NY-STAR Faculty Award
2018	NSF CAREER Award
2018	Pioneering Pharmaceutical Science by Emerging Investigators Award
2018	Award for late-breaking talk at the Gordon Research Conference on Drug Carriers in Biology and Medicine
2017	University at Buffalo Exceptional Scholar - Young Investigator Award
2011	Biomedical Breakthrough Award at UCSF
2011 – 2013	German Research Foundation Fellowship (DFG) Award
2007	Controlled Release Society Travel Award
2005	German PharmD Fellowship Award

EDITORIAL SERVICE

- **2021 – present: Executive Editor at Advanced Drug Delivery Reviews**
- **2021 – present: International Advisory Board for ChemMedChem** to strengthen and expand their areas of biomaterials and nanomedicine
- **2020-2022: Theme Editor – Advanced Healthcare Materials**
 - Extracellular vesicles as engineered drug carriers
- **2020-2022: Theme Editor – Advanced Drug Delivery Review**
 - Translational Drug Delivery – Let's be Frank for Future Success
- **2020 – present: Editorial board of Acta Pharmaceutica Sinica B**
- **2019 – present: Early-career member of the AAPS Journal's Editorial Advisory Board (EAB)**
 - Instrumental in establishing the AAPS Journal Early-CAREER Investigators Theme Issue to feature outstanding, young pharmaceutical scientists.
 - Guest editor and reviewer for the AAPS Journal
 - 2018 Top 10 reviewer for the AAPS Journal
- **2017 – 2018: Guest Editor for Special Issue in the AAPS Journal**
 - Therapeutic and diagnostic applications of exosomes and other extracellular vesicles. Co-editor: Steven Jay, PhD

BIBLIOGRAPHY AND PRODUCTS OF SCHOLARSHIP

BOOK CHAPTER

1. S Ferguson, J Megna, **J Nguyen***. Composition, physicochemical and biological properties of exosome secreted from cancer cells. Diagnostic and Therapeutic Applications of Exosomes in Cancer (ISBN: 9780128127742), invited book chapter, May 2018

REFEREED ARTICLES

(H-index: 25, i10-index: 33, total citations: 2575) * indicates corresponding author

For a complete publication list and citation indices please visit this site: <https://scholar.google.com/citations?user=NnXLzh8AAAAJ>

Submitted/In Revision

1. M Wang, A Vargason, J Arthur, **J Nguyen**, J Ting, A Anselmo, L Huang*. Liposomes encapsulating Ag-Tinidazole Chelate Complex Elicit T Cell Response in *Fusobacterium nucleatum* Infected Colorectal Cancer to Inhibit Tumor Growth. Resubmitted, Under review, January 2023, *Nature Biotechnology*
2. N Jasiewicz, KC Mei, HM Oh, E Bonacquisti, B Jensen, **J Nguyen***. Optimized leucine zipper decorated extracellular vesicles for enhanced cardiac repair. Submitted, Feb. 2023
3. A Roth, A Krishnakumar, R McCain, M. Maruthamuthu, M McIntosh, Y Chen, A Cox, **J Nguyen**, R Rahimi. Biocompatibility and Safety Assessment of Combined Topical Ozone and Antibiotics for Treatment of Infected Wounds. *ACS Biomaterials Science & Engineering*, Dec. 2022
4. KC Mei, R Stiepel, E Bonacquisti, N Jasiewicz, P Tiwade, E Bachelder, K Ainslie, O Fenton, and **J Nguyen***. Preferential Immune-Modulation of Macrophages over Dendritic Cells by Single-Tailed Heterocyclic Carboxamide Lipids. Minor revisions, *Biomaterials Science*, Dec. 2022
5. P Chansoria, E Bonacquisti, M Heavey, L Le, M Maruthamuthu, J Blackwell, N Jasiewicz, R Sellers, R Maile, S Wallet, T Egan, **J Nguyen***. Instantly adhesive and ultra-elastic patches for dynamic organ and wound repair. available as preprint: doi: <https://doi.org/10.1101/2022.11.25.517820>. Nov. 2022, under review in *Nature Communications*

Published Articles

6. N Jasiewicz, KC Mei, HM Oh, P Chansoria, D Hendy, E Bonacquisti, E Bachelder, K Ainslie, H Yin, L Qian, B.Jensen, **J Nguyen***. ZipperCells Exhibit Enhanced Accumulation and Retention at the Site of Myocardial Infarction. *Advanced Healthcare Materials*, November 2022, e2201094. doi: 10.1002/adhm.202201094. Impact Factor: **11.09**
- **Featured on the Cover**
7. N Jasiewicz, A Brown, M Deci, S Matysiak, S Earp, **J Nguyen*** Discovery and Characterization of a Functional scFv for CCR2 Inhibition via an Extracellular Loop. *International Journal of Pharmaceutics*, 2022 Dec 23;122547. doi: 10.1016/j.ijpharm.2022.122547. Impact Factor: **6.51**
8. E Bonacquisti, S Ferguson, N Jasiewicz, J Wang, A Brown, D Keeley, M Itano, **J Nguyen***. Fluorogenic EXO-Probe Aptamers for Imaging and Tracking Exosomal RNAs. <https://www.biorxiv.org/>, doi: <https://doi.org/10.1101/2021.08.18.456703>
9. V Venditto, J Sockolosky, **J Nguyen***. Translational Drug Delivery: it's time to be frank for future success. *Advanced Drug Delivery Reviews*, 2022 Oct;189:114521. doi: 10.1016/j.addr.2022.114521
Impact Factor: **17.87**
10. P Chansoria, J Blackwell, E Etter, E Bonacquisti, N Jasiewicz, T Egan, **J Nguyen.*** Rationally Designed Anisotropic and Auxetic Hydrogel Patches for Adaptation to Dynamic Organs, *Advanced Functional Materials*, 2022, <https://doi.org/10.1002/adfm.202207590>
Impact Factor: **19.92**
11. A Roth, M Maruthamuthu, S Nejati, A Krishnakumar, V Selvamani, S Sedaghat, **J Nguyen**, M Seleem, R Rahimi. Wearable adjunct ozone and antibiotic therapy system for treatment of Gram-negative dermal bacterial infection. *Scientific Reports*, 12, Article number: 13927 (2022)
Impact Factor: **4.9**

12. A Zareei, V Selvamani, S Gopalakrishnan, S Kadian, M. Maruthamuthu, Z He, **J Nguyen**, H Wang, R Rahimi. A Biodegradable Hybrid Micro/Nano Conductive Zinc Paste for Paper-Based Flexible Bioelectronics. *Advanced Materials Technologies*, May 2022, <https://doi.org/10.1002/admt.202101722>.
Impact Factor: **7.8**
13. AK Salem, **J Nguyen**, KM Ainslie. The AAPS Journal Theme Issue: Rising Stars in Drug Delivery and Novel Carriers. *AAPS J.* 2022 Apr 5;24(3):51. doi: 10.1208/s12248-022-00700-6.
Impact Factor: **3.6**
14. **J Nguyen***, G Fuhrmann*. Extracellular Vesicles – A Versatile Biomaterial. *Advanced Healthcare Materials*. 2022 Mar;11(5):e2200192. doi: 10.1002/adhm.202200192.
Impact factor: **11.09**
15. V Kasi, S Sedaghat, AM Alcaraz, MK Maruthamuthu, U Heredia-Rivera, S Nejati, **J Nguyen**, R Rahimi. Low-Cost Flexible Glass-Based pH Sensor via Cold Atmospheric Plasma Deposition. *ACS Appl Mater Interfaces*. 2022 Feb 23;14(7):9697-9710. doi: 10.1021/acsami.1c19805.
Impact Factor: **9.44**
16. E Etter, KC Mei, **J Nguyen***. Delivering more for less: nanosized, minimal-carrier and pharmacoactive drug delivery systems, *Adv Drug Deliv Rev.* 2021 Dec;179:113994. doi: 10.1016/j.addr.2021.113994.
Impact Factor: **17.87**
17. L Kass and **J Nguyen***. Nanocarrier-Hydrogel Composite Delivery Systems for Precision Drug Release. *WIREs Nanomedicine & Nanobiotechnology*, 2021, <https://doi.org/10.1002/wnan.1756>
Impact Factor: **9.42**
18. P Chansoria, E Etter, **J Nguyen.*** Regenerating dynamic organs using biomimetic patches, *Trends in Biotechnology*, May 2021, 2021 Aug 16:S0167-7799(21)00155-4. doi: 10.1016/j.tibtech.2021.07.001
Impact Factor: **21.94**
19. N Jasiewicz, C Drabenstott, **J Nguyen.*** Harnessing the full potential of extracellular vesicles as drug carriers, Invited review, *Current Opinion in Colloid & Interface Science*, December 2020
Impact Factor: 6.44
20. SA Harfoush, M Hannig, DD Le, S. Heck, M Leitner, AJ Omlor, I Tavernaro, A Kraegeloh, R Kautenburger, G Kickelbick, A Beilhack, M Bischoff, **J Nguyen**, M Sester, R Bals, QT Dinh. High-dose intranasal application of titanium dioxide nanoparticles induces the systemic uptakes and allergic airway inflammation in asthmatic mice. *Respir Res.* 2020 Jul 2;21(1):168. doi: 10.1186/s12931-020-01386-0.
Impact Factor: **7.16**
21. J Wang, CJ Lee, N Smith, A. Verma, JMC Canty, **J Nguyen.*** MiR-101a loaded Extracellular Nanovesicles as Bioactive Carriers for Cardiac Repair, *Nanomedicine: Nanotechnology, Biology and Medicine*, April 2020, <https://doi.org/10.1016/j.nano.2020.102201>
Impact Factor: **6.45**
22. J Wang, E Bonacquisti, A Brown, and **J Nguyen.*** Boosting the biogenesis and secretion of mesenchymal stem cell-derived exosomes. Invited paper, *Cells* **2020**, 9(3), 660; <https://doi.org/10.3390/cells9030660>
Impact Factor: **7.66**
23. M Deci, M Liu, J Gonya, **J Nguyen.*** Carrier-Free, CXCR4-Targeting RNA-Protein Nanoplexes for Polarizing Macrophages to Tumor Suppressors. *Cell Mol Bioeng.* 2019 Aug 27;12(5):375-388.
- **CMBE Young Innovator Special Issue**
Impact Factor: **3.68**
24. T Zhao, Y Liu, Z Wang, R He, J Zhang, F Xu, M Lei, M Deci, **J Nguyen**, PR Bianco. Super-resolution imaging reveals changes in *Escherichia coli* SSB localization in response to DNA damage, *Genes to Cells*, 2019 Dec;24(12):814-826
Impact Factor: **2.3**
25. SA Harfoush, **J Nguyen**, S Heck, A Mahdy, R Bals, QT Dinh. Nanoparticles and air pollutants as potential stimulators of asthmatic reaction, *Frontiers in Nanoscience and Nanotechnology*, ISSN: 2397-6527, Oct. 2019
26. E Bonacquisti, **J Nguyen.*** Connexin 43 (Cx43) in Cancer: Implications for Therapeutic Approaches via Gap Junctions, *Cancer Letters*, Jan 2019, Vol. 442, 2018, Pages 439-444
Impact Factor: **8.67**

27. J Wang, M Jeong Seo, M Deci, J Canty, **J Nguyen**.* Differential impact of CCR2 inhibitor-loaded lipid micelles on inflammatory cell migration and cardiac function after myocardial infarction. *International Journal of Nanomedicine*, October 2018, 6441 – 6451
Impact Factor: **6.86**
28. M Deci, S Ferguson, S Scatigno, **J Nguyen**.* Modulating macrophage polarization through CCR2 inhibition and multivalent engagement. *Molecular Pharmaceutics*, 2018 Jul 2;15(7):2721-2731
Impact Factor: **4.93**
29. U Sharma, SD Sonkawade, J Spornyak, S Sexton, **J Nguyen**, H van Berlo, S Pokharel. A Small Peptide Ac-SDKP Inhibits Radiation-Induced Cardiomyopathy. *Circulation Research: Heart Failure*, 2018;11:e004867, August 2018.
Impact Factor: **17.36**
30. S Ferguson, S Kim, CJ Lee, M. Deci, **J Nguyen**.* The phenotypic effects of exosomes derived from distinct cellular sources: a comparative study based on miRNA composition, *AAPSJ*, 2018 Apr 30; 20 (4):67.
 - *Selected by the editorial board for the special issue of “Pioneering Pharmaceutical Science by Emerging Investigators (2018)” in AAPSJ*
 Impact Factor: **3.6**
31. M Deci, M Liu, QT Dinh, **J Nguyen***. Precision engineering of targeted nanocarriers, *WIREs Nanomedicine and Nanobiotechnology*, Wiley Interdiscip Rev Nanomed Nanobiotechnol. 2018 Feb 13. doi: 10.1002/wnan.1511
 - *Invited review. Review featured in: <https://www.advancedsciencenews.com/precision-engineering-targeted-nanocarriers/>*
 Impact Factor: **9.42**
32. SW Ferguson, J Wang, CJ Lee, M Liu, S Neelamegham, JM Canty, **J Nguyen***. The microRNA regulatory landscape of MSC-derived exosomes: a systems view. *Sci Rep*. 2018 Jan 23;8(1):1419.
 - *Article is in the Top 5 of all articles published in Scientific Reports in 2018, <https://www.nature.com/collections/hdgffbgbjj>*
 - *Article featured in Exosome RNA: <http://www.exosome-rna.com/the-microrna-regulatory-landscape-of-msc-derived-exosomes/>*
 - *Article featured in IOP: <http://medicalphysicsweb.org/cws/article/research/71149>*
 Impact Factor: **4.9**
33. **J Nguyen**, SS Hossain, JRN Cooke, JA Ellis, MB Deci, CW Emala, JN Bruce, IJ Bigio, RM Straubinger, S. Joshi. Flow arrest intra-arterial delivery of small TAT-decorated and neutral micelles to gliomas. *J Neurooncol*. 2017 May;133(1):77-85.
Impact Factor: **4.50**
34. A Omlor, R Bals, **J Nguyen**, QT Dinh. Local Effects on Airway Inflammation and Systemic Uptake of 5 nm PEGylated and Citrated Gold Nanoparticles in Asthmatic Mice. *Small*. 2017 Mar;13(10).
Impact Factor: **15.15**
35. M Deci, S Ferguson, M Liu, D Peterson, S Koduvayur, **J Nguyen**.* Utilizing clathrin triskelions as carriers for spatially controlled multi-protein display. *Biomaterials*, 2016 Nov;108:120-8.
Impact Factor: **15.3**
36. S Ferguson and **J Nguyen**.* Exosomes as therapeutics: the implications of molecular composition and exosomal heterogeneity. *J Control Release*. 2016 Apr, 28;228:179-90.
Impact Factor: **11.47**
37. **J Nguyen**, JR Cooke, J Ellis, M Deci, C Emala, J Bruce, IJ Bigio, R Straubinger, S Joshi. Cationizable lipid micelles as vehicles for intraarterial glioma. *J Neurooncol*. 2016 May;128(1):21-28. Featured on the cover of the May issue.
Impact Factor: **4.50**
38. JR Cooke, J Ellis, S Hossain, **J Nguyen**, JN Bruce, S Joshi. Computational pharmacokinetic rationale for intra-arterial delivery to the brain. *Drug Deliv Transl Res*. 2016 Oct;6(5):622-9.
Impact Factor: **5.8**
39. M Beck-Broichsitter, O Samsonova, **J Nguyen**, T Schmehl, W Seeger. Influence of amine-modified poly (vinyl alcohol) s on vibrating-membrane nebulizer performance and lung toxicity. *Eur J Pharm Sci*. 2016 Apr 30;86:34-40.
Impact Factor: **4.38**
40. S Heck, **J Nguyen**, DD Le, R Bals, QT Dinh. Pharmacological Therapy of Bronchial Asthma: The Role of

Biologicals. *Int Arch Allergy Immunol*. 2015;168(4):241-52.

Impact Factor: **3.44**

41. AJ Omlor, **J Nguyen**, R Bals, QT Dinh. Nanotechnology in respiratory medicine. *Respir Res*. 2015 May 29;16:64.
Impact Factor: **7.16**
42. **J Nguyen***, R Sievers, JP Motion, S Kivimae, Q Fang, RJ Lee*. Delivery of lipid micelles into infarcted myocardium using a lipid-linked matrix-metalloproteinase targeting peptide. *Mol Pharm*. 2015 Apr 6;12(4):1150-7.
Impact factor: **4.93**
43. CD Valentine, H Zhang, PW Phuan, **J Nguyen**, AS Verkman, PM Haggie. Small molecule screen yields inhibitors of *Pseudomonas* homoserine lactone-induced host responses. *Cell Microbiol*. 2014 Jan;16(1):1-14.
Impact factor: **3.7**
44. C Walsh, **J Nguyen**, M Tiffany, F Szoka. Synthesis, characterization and evaluation of ionizable lysine-based lipids for siRNA delivery. *Bioconj Chem*. 2013 Jan 16;24(1):36-43.
45. **J Nguyen**, F Szoka. Nucleic acid delivery: the missing pieces of the puzzle. *Acc Chem Res*. 2012 Jul 17;45(7):1153-62.
Impact Factor: **22.38**
46. **J Nguyen**, C Walsh, JP Motion, E Perttu, F Szoka. Controlled nucleation of lipid nanoparticles. *Pharm Res*. 2012 Aug;29(8):2236-48.
Impact Factor: **4.58**
47. M Motion, **J Nguyen**, F Szoka. Phosphatase-triggered fusogenic liposomes for cytoplasmic delivery of cell-impermeable compounds. *Angew Chem Int Ed Engl*. 2012 Sep 3;51(36):9047-51. Selected as a "Hot Paper" by the Editors for its importance in a rapidly evolving field of interest.
Impact Factor: **15.33**
48. C Walsh, **J Nguyen**, F Szoka. Synthesis and characterization of novel zwitterionic lipids with pH-responsive biophysical properties. *Chem Commun*. 2012 Jun 7;48(45):5575-7.
Impact Factor: **6.22**
49. R Reul, **J Nguyen**, A Biela, E. Marxer, U. Bakowsky, G. Klebe, T. Kissel. Biophysical and biological investigation of DNA nano-complexes with a non-toxic, biodegradable amine-modified hyperbranched polyester. *Int J Pharm*. 2012 Oct 15;436(1-2):97-105.
Impact Factor: **5.87**
50. M Beck-Broichsitter, M Thieme, **J Nguyen**, T Schmehl, T Gessler, T Kissel. Novel 'Nano in Nano' Composites for Sustained Drug Delivery: Biodegradable Nanoparticles Encapsulated into Nanofiber Non-Wovens. *Macromol Biosci*. 2010 Dec 8;10(12):1527-35.
Impact Factor: **4.97**
51. **J Nguyen**, R Reul, S Roesler, E Dayyoub, T Schmehl, T Gessler, T Kissel. Amine-modified poly (vinyl alcohol) s as non-viral vectors for siRNA delivery: effects of the degree of amine substitution on physicochemical properties and knockdown efficiency. *Pharm Res*. 2010 Dec;27(12):2670-82.
Impact Factor: **4.58**
52. **J Nguyen**, R. Reul, T. Betz, E. Dayyoub, T. Schmehl, T. Gessler, U. Bakowsky, W. Seeger, and T. Kissel. Nanocomposites of lung surfactant and biodegradable cationic nanoparticles improve transfection efficiency to lung cells. *J Control Release* 2009 Nov 16;140(1): 47-54.
Impact Factor: **11.47**
53. R. Reul, **J Nguyen**, and T. Kissel. Amine-modified hyperbranched polyesters as non-toxic, biodegradable gene delivery systems. *Biomaterials*. 2009 Oct;30(29): 5815-24.
Impact Factor: **15.3**
54. Y Liu, **J Nguyen**, T Steele, O Merkel, T Kissel. A new synthesis method and degradation of hyper-branched polyethylenimine grafted polycaprolactone block mono-methoxyl poly (ethylene glycol) copolymers (hy-PEI-g-PCL-b-mPEG) as potential DNA delivery vectors. *Polymer*, 2009 Jun, 50 (16), 3895-3904
Impact Factor: **4.3**
55. **J Nguyen**, T Steele, O Merkel, R Reul, and T Kissel. Fast degrading polyesters as siRNA nano-carriers for pulmonary gene therapy. *J Control Release*. 2008 Dec 18;132(3):243-51.
Impact Factor: **11.47**

56. **J Nguyen**, X. Xie, M Neu, R Dumitrascu, R Reul, R Schermuly, L Fink, T Schmehl, T Gessler, W Seeger, T Kissel. Effects of cell-penetrating peptides and pegylation on transfection efficiency of polyethylenimine in mouse lungs. *J Gene Med.* 2008 Nov;10(11):1236-46.
Impact Factor: **4.15**
57. E Rytting, **J Nguyen**, X Wang, T Kissel. Biodegradable polymeric nanocarriers for pulmonary drug delivery. *Expert Opin Drug Deliv.* 2008 Jun;5(6):629-39.
Impact Factor: **8.12**

INVITED TALKS

(58 Invited Talks, 2 Keynote Addresses)

1. **J Nguyen**. Engineering a non-invasive, crosslinked drug depot for cardiac repair, March 2023, University of British Columbia, Canada (**International**)
2. **J Nguyen**. Engineering a non-invasive, crosslinked drug depot for cardiac repair, Feb. 2023, CNNTP, UNC (**Local**)
3. **J Nguyen**. Engineering a non-invasive, crosslinked drug depot for dynamic organ repair, Feb. 2023, Rice University (**National**)
4. **J Nguyen**. Engineering a non-invasive, crosslinked drug depot for cardiac repair, Feb. 2023, McAllister Heart Institute, UNC (**Local**)
5. **J Nguyen**. Engineering a non-invasive, crosslinked drug depot for cardiac repair, November 2022, Polymers in Medicine and Biology, Napa, CA (**International**)
6. **J Nguyen**. Amplifying targetable surface areas through new delivery approaches, The Quest for Innovative Molecular Treatment Modalities for Intractable Disease Targets Workshop, NCATS – National Center for Advancing Translational Sciences, November 2022 (**International**)
7. **KEYNOTE ADDRESS**
J Nguyen. Developing Materials to Track and Redirect Cellular Chatter, October 2022, Vanderbilt University
8. **J Nguyen**. Developing Materials to Track and Redirect Cellular Chatter, UIC, Chicago, September 2022, (**National**)
9. **J Nguyen**. Developing Materials to Redirect Cellular Chatter, Ohio University, February 2022, (**National**)
10. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, University of Utah, Nov. 2021 (**National**)
11. **J Nguyen**. Nucleic Acids Going POSTAL, 6th Bioengineering & Translational Medicine Conference, Oct. 2021 (**International**)
12. **KEYNOTE ADDRESS - International**
J Nguyen. PAXS patches: adaptive patches for transdermal applications and other dynamic organs, Biobarriers, Germany, September 2021
13. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, King's College London, June 2021 (**International**)
14. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, Virtual MRS Spring Meeting, April 2021 (**International**)
15. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, UT Austin, April 2021 (**National**)
16. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, University of Wisconsin Madison, March 2021 (**National**)
17. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, AAPS, March 2021 (**International**)
18. **J Nguyen**. The miRNA composition of sEVs, Virtual Workshop "Small Extracellular Vesicles in Biomedicine" – Chile, January 2021 (**International**)
19. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, University of New Haven, December 2020 (**National**)
20. **J Nguyen**. Developing Therapeutic Materials to Redirect Cellular Chatter, Rising Stars webinar series, August 2020 (**International**)
21. **J Nguyen**. Exosomes as therapeutics, UNC International Pharmaceuticals Lecture Series, August 2020 (**International**)

22. **J Nguyen.** Developing Therapeutic Materials to Redirect Cellular Chatter, DVDMDG "Biomarker and Cancer Research" Symposium, September 2020 (**International**)
23. **J Nguyen.** Developing Therapeutic Materials to Redirect Cellular Chatter, University at Michigan, February 2020
24. **J Nguyen.** Pharmacoengineered Extracellular Vesicles for Therapeutic Applications, Selectbio – EV-Based Diagnostics, Delivery, and Therapeutics, San Diego, February 2020 (**International**)
25. **J Nguyen.** Developing Biotherapeutics to Modulate the Function of Inflammatory Cells, University of Texas at Dallas, October 2019 (**National**)
26. **J Nguyen.** Carrier-Free, CXCR4-Targeting RNA-Protein Nanoplexes for Polarizing Macrophages to Tumor Suppressors, Biomedical Engineering Society Annual Meeting, Philadelphia, October 2019 (**International**)
27. **J Nguyen.** Developing Biologics For Targeting Inflammatory Cells to Treat Myocardial Infarction and Cancer, University of Connecticut, September 2019 (**National**)
28. **J Nguyen.** Developing Biologics For Targeting Inflammatory Cells to Treat Myocardial Infarction and Cancer, Roswell Park Cancer Comprehensive Center, June 2019 (**National**)
29. **J Nguyen.** Developing Biologics For Targeting Inflammatory Cells to Treat Myocardial Infarction and Cancer, University of Florida (Biomedical Engineering), December 2018 (**National**)
30. **J Nguyen.** Developing Biologics For Targeting Inflammatory Cells to Treat Myocardial Infarction and Cancer, University of Kentucky, December 2018, Lexington (**National**)
31. **J Nguyen.** Utilizing miRNA-enriched MSC Exosomes for Cardiac Regeneration: An Activity-Composition Analysis. CT3N Symposium, University of Pennsylvania, December 2018, Philadelphia (**National**)
32. **J Nguyen.** Modulating the Function of Cancer-derived Exosomes through Repackaging, AAPS Pharm Sci 360 Annual Meeting, Session: Recent Advances in the Use of Nanoparticles for Cancer Therapy, Washington DC, November 2018 (**International**)
33. **J Nguyen.** Developing Biologics For Targeting Inflammatory Cells to Treat Myocardial Infarction and Cancer, University of Florida, October 2018 (**National**)
34. **J Nguyen.** Utilizing exosomes as natural carriers for nucleic acid delivery, GPEN Singapore, September 2018 (**International**)
35. **J Nguyen.** Developing biologics for targeting inflammatory cells to treat various diseases, Canisius College, Buffalo, September 2018 (**National**)
36. **J Nguyen.** Activity-composition analysis of miRNA-enriched exosomes, Gordon Research Conference on Extracellular Vesicles, Newry, Maine, August 2018 (**International**)
37. **J Nguyen.** Utilizing miRNA-Enriched MSC Exosomes for Cardiac Regeneration: An Activity-Composition Analysis, 2nd Annual Stem Cells in Regenerative Medicine Symposium, Buffalo, June 2018 (**National**)
38. **J Nguyen.** Repackaging exosomes with molecular zip codes: An Activity-Composition Analysis, University of North Carolina at Chapel Hill, May 2018 (**National**)
39. **J Nguyen.** EXO-Codes: A platform for actively-loading exosomes with therapeutic cargo, Codiak Biosciences (Boston), May 2018 (**National**)
40. **J Nguyen.** The miRNA landscape of MSC exosomes: a systems view, Genetics & Genomics Conference, May 2018, Webinar, https://www.labroots.com/virtual-event/genetics-genomics-2018/speakers#juliane_nguyen (**International**)
41. **J Nguyen.** Modulating the Function of Cancer-derived Exosomes through Repackaging, END2Cancer Conference, Oklahoma, December 2017 (**National**)
42. **J Nguyen.** Nucleic Acids Going POSTAL – Therapeutic Applications of Actively-loaded Exosomes, University of Toronto, December 2017 (**International**)
43. **J Nguyen.** Activity-composition analysis of miRNA-enriched exosomes, University of Maryland, November 2017 (**National**)
44. **J Nguyen.** Reprogramming pathological exosomes using RNA-EXO-Codes, University of Sao Paolo, September 2016 (**International**)
45. **J Nguyen.** How to build a successful career in science? University of Sao Paolo, September 2016 (**International**)
46. **J Nguyen.** Nucleic acids go POSTAL, Department of Oral Biology, University at Buffalo, May 2016 (**Local**)

47. **J Nguyen.** Targeting inflammatory cells to deliver therapeutics to the infarcted myocardium, at the Cardiovascular Research Conference, CTRC, June 18, 2015 (**National**)
48. **J Nguyen.** Targeting the infarcted myocardium: A drug delivery approach at the Thirteenth Buffalo Pharmaceutics Symposium, Buffalo, July 31-Aug 2, 2014. (**National**)
49. **J Nguyen.** Nanoengineering of nucleic acid and drug delivery vehicles. Department of Biological Sciences, University of Illinois at Chicago, May 2013. (**National**)
50. **J Nguyen.** Nanoengineering of nucleic acid and drug delivery vehicles. Department of Bioengineering, University of Illinois at Chicago, January 2013. (**National**)
51. **J Nguyen.** The Silent Treatment of Genes: Degradable Polymers and Bioresponsive Lipids for siRNA Delivery. University of Groningen, Zernike Institute for Advanced Materials, Sept. 2012 (**International**)
52. **J Nguyen.** From fast degrading polymers to ionizable lipids: The role of carrier architectures in nucleic acid transfer, Department of Pharmaceutical Sciences, University of Illinois at Chicago, September 2012. (**National**)
53. **J Nguyen** and F. Szoka, Novel zwitterionic liposome approaches to lipid based nucleic acid delivery Nanotech Conference & Expo 2012, Santa Clara (USA), June 2012 (**International**)
54. **J Nguyen.** From fast degrading polymers to ionizable lipids: The role of carrier architectures in nucleic acid transfer, Division of Pharmaceutics & Translational Therapeutics, The University of Iowa (USA), May 2012 (**National**)
55. **J Nguyen.** Bioresponsive lipid nanoparticles as carriers for drug and gene delivery University of Saarland, Department of Pharmaceutical Sciences, Germany, January 2012, (**International**)
56. **J Nguyen.** C. Walsh, E. Perttu, and F. Szoka, RNAi nanocarrier-forming lipids, processes and use for in vivo protein knockdown, Pfizer Inc., Boston, USA, May 2010 (**National**)
57. **J Nguyen** and T. Kissel, Nanoparticulate carriers for pulmonary gene and siRNA delivery based on amine modified polyvinyl alcohols, Pfizer Inc., Boston, USA, February 2009 (**National**)
58. **J Nguyen.** T. Steele, O. Merkel, R. Reul, and T. Kissel, Biodegradable polymeric nanocarriers for pulmonary drug and gene delivery, EUFEPS Conference, Uppsala, Sweden, October 2008 (**International**)

CONFERENCE ABSTRACTS

ORAL PRESENTATIONS

1. **J Nguyen.** Modulating macrophage polarization through inhibition and multivalent engagement. BMES Annual Meeting, Atlanta, October (2018) (**International**)
2. **J Nguyen.** Utilizing miRNA-enriched MSC Exosomes for Cardiac Regeneration: An Activity-Composition Analysis. Gordon Research Conference Drug Carriers, Vermont (US), 2018 (**International**)
Selected for late-breaking talk at the GRC, received late-breaking talk award
3. **J Nguyen,** X Xie, M Neu, R Dumitrascu, T Schmehl, T Gessler, W Seeger, T Kissel. Effects of cell penetrating peptides and pegylation on polyplex size and transfection efficiency in mouse lungs. 34th Annual Meeting and Exposition of the Controlled Release Society, Long Beach, CA, USA, July 2007 (**International**)
4. **J Nguyen,** M Neu, O Germershaus, T Schmehl, T Gessler, W Seeger, T Kissel. Mechanistic uptake studies of TAT-PEG-PEI polyplexes into lung epithelial cells A549 using confocal microscopy and FACS. Socrates Intensive Programme: Innovative Therapeutics from molecules to drugs, Athens, Greece, July 2006 (**International**)
5. **J Nguyen,** M Neu, O Germershaus, T Schmehl, T Gessler, W Seeger, T Kissel. Cytotoxicity and uptake mechanism of bioconjugates based on TAT-derived peptides covalently coupled to PEG-PEI. 33rd Annual Meeting and Exposition of the Controlled Release Society, Vienna, Austria, July 2006 (**International**)

POSTER PRESENTATIONS

1. N Jasiewicz, L. Qian, B Jensen, **J Nguyen.** Utilizing Leucine Zippers to Mediate Improved Carrier Accumulation and Retention at the Site of Myocardial Infarction. GPEN, Minnesota (US), 2022
2. N Jasiewicz, L. Qian, B Jensen, **J Nguyen.** Utilizing Leucine Zippers to Mediate Improved Carrier Accumulation and Retention at the Site of Myocardial Infarction. 20th NanoDDS, Chapel Hill (US), 2022
3. E Bonacquisti, N Jasiewicz, A. Chaudhari, **J Nguyen.** Developing EXO-Probes to track and image exosomal RNA. 20th NanoDDS, Chapel Hill, 2022
4. A. Chaudhari, E Bonacquisti, N Jasiewicz, **J Nguyen.** Developing genetically encodable probes to track and image

- exosomal RNA. Gordon Research Conference Drug Carriers, Vermont (US), 2022
5. E Bonacquisti, N Jasiewicz, A Chaudhari, **J Nguyen**. Developing EXO-Probes to track and image exosomal RNA. Gordon Research Conference Drug Carriers, Vermont (US), 2022
 6. E. Etter, M Heavey, E Bonacquisti, **J Nguyen**. Developing auxetic patches for dynamic organ repair. Gordon Research Conference Drug Carriers, Vermont (US), 2022
 7. M Heavey, A Anselmo, J Arthur, **J Nguyen**. Engineered yeast to treat ulcerative colitis. Gordon Research Conference Drug Carriers, Vermont (US), 2022
 8. N Jasiewicz, L Qian, B Jensen, **J Nguyen**. Utilizing Leucine Zippers to Mediate Improved Carrier Accumulation and Retention at the Site of Myocardial Infarction. Gordon Research Conference Drug Carriers, Vermont (US), 2022
 9. T. Li, **J Nguyen**. Carrier-Free, CXCR4-Targeting RNA-Protein Nanoplexes for Polarizing Macrophages to Tumor Suppressors, Gordon Research Conference in Cancer Nanotechnology, Vermont (US), 2019
 10. M. Deci, **J Nguyen**. Dual-epitope CCR2-targeting to polarize macrophages to tumor suppressors. Gordon Research Conference in Cancer Nanotechnology, Vermont (US), 2019
 11. S Ferguson, **J Nguyen**. Using EXO-Codes to repackage exosomes. Gordon Research Conference Drug Carriers, Vermont (US), 2018
 12. J Wang, **J Nguyen**. Utilizing miRNA-enriched MSC Exosomes for Cardiac Regeneration: An Activity-Composition Analysis. Gordon Research Conference Drug Carriers, Vermont (US), 2018
 13. S Ferguson, **J Nguyen**. Reprogramming pathological exosomes using biomimetic RNA EXO-Codes, at the ERCC9, Washington DC, November 2017.
 14. S Ferguson, **J Nguyen**. The microRNA landscape of MSC-derived exosomes – a network analysis, at the ERCC9, Washington DC, November 2017.
 15. S Ferguson, **J Nguyen**. Reprogramming pathological exosomes using biomimetic RNA EXO-Codes, at the NanoDDS, Michigan, September 2017.
 16. S Ferguson, **J Nguyen**. The microRNA landscape of MSC-derived exosomes – a network analysis, at the NanoDDS, Michigan, September 2017.
 17. M Deci, **J Nguyen**. The effects of CCR2-targeted scFv on macrophage migration and polarization, at the NanoDDS, Michigan, September 2017. *Student was awarded poster prize*
 18. S Ferguson, **J Nguyen**. Reprogramming pathological exosomes using biomimetic RNA EXO-Codes, at the GRC Drug Carriers in Biology and Medicine, New Hampshire, August 2016.
 19. M Deci, **J Nguyen**. Utilizing clathrin triskelions for spatially controlled multi-protein display, at the GRC Drug Carriers in Biology and Medicine, New Hampshire, August 2016.
 20. S Ferguson, **J Nguyen**. Reprogramming pathological exosomes using RNA EXO-Codes, at the GRC Bioinspired Materials, Switzerland, June 05 2016.
 21. S Ferguson, D. Mager, **J Nguyen**. Kinetics of Self-Replicating mRNA: Impact of Dose Selection and Cellular Defense Mechanisms, at the Sigma Xi graduate poster competition, Buffalo, April 16. 2015.
 22. **J Nguyen**, R. Lee. Targeting lipid nanoparticles to area of myocardial infarction using cyclic MMP-inhibiting peptide. Gordon Research Conference, 2013, Davidson, USA
 23. C Walsh, **J Nguyen**, F Szoka. Betaine-like lipids as carriers for siRNA delivery. Keystone Symposium, Nucleic Acid Therapeutics: From Base Pairs to Bedsides, 2012, Santa Fe, USA
 24. **J Nguyen**, C Walsh, F Szoka. Assessment of zwitterionic lipids as nucleic acid delivery vectors. Gordon Research Conference, 2010, Waterville, USA
 25. M Benfer, **J Nguyen**, T Kissel. Stabilization of siRNA-loaded DEAPA-PVA-g-PLGA-nanoparticles by freeze-drying, 8th International Conference and Workshop on Biological Barriers- in vitro Tools, Nanotoxicology, and Nanomedicine, 2010, Saarbrücken, Germany
 26. **J Nguyen**, R Reul, T Schmehl, T Gessler, W Seeger, T Kissel. Biodegradable Nano-particles for Aerosol Gene Therapy. 6th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 2008, Barcelona, Spain
 27. T. Steele, **J Nguyen**, T Kissel. DEAPA-PVA-PLGA nanoparticles as fast degrading carriers for pulmonary siRNA therapy, 6th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 2008, Barcelona,

Spain

28. R. Reul, **J Nguyen**, T Kissel. Amine-modified polyesters as biodegradable gene delivery systems, 6th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 2008, Barcelona, Spain
29. **J Nguyen**, M Neu, O Germershaus, T Schmehl, T Gessler, W Seeger, T Kissel. Cytotoxicity and uptake mechanism of bioconjugates based on TAT-derived peptides covalently coupled to PEG-PEI. Controlled Release Society, German Chapter Annual meeting 2006, Jena, Germany

PATENTS

2 patents currently licensed to a biotech company

1. **J Nguyen**, M Heavey, A. Hazelton, E. Etter, Developing methods to prolong gut retention of engineered yeast, Dec. 2022, filed provisional patent application
2. **J Nguyen**, P Chansoria, T Egan. Adaptive patches for Dynamic organs, U.S. Provisional Application No. 63/326,982, 2022., filed April 2022
3. **J Nguyen**, N Jasiewicz. Methods and compositions for using leucine zippers for crosslinking of cells and carriers, U.S. Provisional Patent Application Serial No. 63/393,417, filed July 2022
4. **J Nguyen**, E Bonacquisti, S Ferguson, Compositions and methods for programming extracellular vesicles of T cells. Patent filed October 2020.
5. **J Nguyen**, M Deci. U.S. patent, titled “Compositions and methods to block and bind CXCR4 to modulate cellular function”, filed 12 July 2020.
6. **J Nguyen**, M Deci. Compositions and methods to block and bind CCR2 to modulate cellular function, Patent filed, May 2020
7. **J Nguyen**, S Ferguson. Compositions and methods for programming extracellular vesicles. Patent filed May 2018, WO/2018/209182
8. F Szoka, C Walsh, V Venditto, **J Nguyen**, E Perttu. Zwitterionic lipids. The Regents of the University of California, Feb. 23 2012: WO 2012/024233

MEDIA FEATURES

- Dec. 2022 Our work on “Instantly adhesive and ultra-elastic patches for dynamic organ and wound repair” is featured in the [NewScientist magazine](#)
- Jan. 2021 Juliane Nguyen is featured in AAPS Magazine: <https://www.aapsnewsmagazine.org/aapsnewsmagazine/articles/2021/jan21/member-spotlight-jan21>
- June 2020 Research featured in Nature Outlook: <https://www.nature.com/articles/d41586-020-01769-9>
- Jan. 2020 Q&A with Dr. Juliane Nguyen about exosomes is among the Top 5 most read blogs on the Nanostring homepage: <http://blog.nanostring.com/top-5-blog-posts-of-2019/>
- Feb. 2019 Research is featured by AAPS NEWSMAGAZINE, <https://www.aapsnewsmagazine.org/articles/2019/feb19/publications-feb19>
- Jan. 2019 Paper published in Scientific Reports “The microRNA regulatory landscape of MSC-derived exosomes: a systems view” is highlighted in a white paper by Nanostring. https://www.nanostring.com/download_file/view/1957/8217
- Nov. 2018 Q&A with Dr. Juliane Nguyen: Exosome Profiling with miRNA and Biotech’s Next Breakthrough, <http://blog.nanostring.com/qa-with-dr-juliane-nguyen-exosome-profiling-with-mirna-and-biotechs-next-breakthrough/>
- May 2018 Research selected for presentation at the virtual “Genetics & Genomics” conference, May 2018 https://www.labroots.com/virtual-event/genetics-genomics-2018/speakers#juliane_nguyen
- April 2018 Lab’s research profiled in Exosome RNA: <https://www.exosome-rna.com/university-at-buffalo-researcher-wins-grant-to-advance-a-novel-approach-for-loading-useful-molecules-into-exosomes/>
- March 2018 Research featured in Exosome RNA: <http://www.exosome-rna.com/the-microrna-regulatory-landscape-of-msc-derived-exosomes/>

March 2018 Research featured in IOP: <https://physicsworld.com/a/the-secret-content-of-extracellular-vesicles-revealed/>
May 2018 Review featured in: <https://www.advancedsciencenews.com/precision-engineering-targeted-nanocarriers/>
May 2018 Featured in UBNOW: <http://www.buffalo.edu/ubnow/stories/2018/05/nguyen-career-award.html>
2017 Silencing chatter among cancer cells: <http://www.buffalo.edu/ubnow/stories/2017/08/nguyen-cancer-character.html>

GRANTS

Summary (2013 – 2022): **Number of Grants/Awards Received: 19**
Total amount as PI and Co-I: ~ \$ 13,426,261
Total amount as PI: ~ \$ 8,050,853

ACTIVE FUNDING

Project Number: **R01HL161456**
Sponsor: National Institutes of Health - NHLBI
Principal Investigator: Juliane Nguyen
Percent Effort: 25% effort
Total Funding: \$1,900,597
Period of Funding: 09/01/2022 – 06/30/2026
Project Title: Engineering a cross-linked cellular network for cardiac repair
The goal is to enhanced retention of cells at the site of myocardial infarction for enhanced cardiac repair

Project Number: **CBIGD SEED Grant**
Sponsor: Center for Gastrointestinal Biology and Disease
Principal Investigator: Juliane Nguyen (contact PI), Janelle Arthur
Percent Effort: 0 effort
Total Funding: \$30,000
Period of Funding: 07/01/2022 – 06/30/2023
Project Title: Engineered yeast to treat colitis
The goal of the proposal is to develop targeted yeast to treat colitis via oral administration

Project Number: **R01CA241679-01A1**
Sponsor: National Institutes of Health - NCI
Principal Investigator: Juliane Nguyen
Percent Effort: 20% effort
Total Funding: \$1,858,187
Period of Funding: 02/01/2020 – 01/31/2025
Project Title: Polarizing Macrophages to Tumor Suppressors by Blocking Multiple CCR2 Chemokine Receptor Epitopes
The goal is to develop a multi-epitope CCR2-blocking antibody to inhibit tumor growth and metastasis.

Project Number: **NSF CAREER - DMR1751611**
Sponsor: National Science Foundation (NSF)
Principal Investigator: Juliane Nguyen
Percent Effort: 5% effort
Total Funding: \$504,014
Period of Funding: 05/01/2018 – 04/30/2023
Project Title: CAREER: Active-Loadable Poresomes for the Cytoplasmic Delivery of Membrane-Im

permeable Compounds

The goal of the proposal is to engineer cell-mimicking lipid vesicles equipped with membrane pores for direct cytoplasmic delivery of macromolecules.

Project Number: R01CA241679-01A1 - Supplement
Sponsor: National Institutes of Health – NCI
Principal Investigator: Juliane Nguyen
Percent Effort: 0
Total Funding: \$212,305
Period of Funding: 02/01/2020 – 01/31/2025
Project Title: Polarizing Macrophages to Tumor Suppressors by Blocking Multiple CCR2 Chemokine Receptor Epitopes

The supplement supports the stipend and research of Timothy Little, a PhD student in my lab

Project Number: R21 GM135853-01
Sponsor: National Institutes of Health - NIGMS
Principal Investigator: Juliane Nguyen (contact PI), Elizabeth Wohlfert
Percent Effort: 5.6% effort
Total Funding: \$433,355
Period of Funding: 05/01/2020 – 04/30/2023
Project Title: Antibody Fragments as Biochemical Tools to Interrogate CD9 Function in Inflammatory Diseases

The goal of the proposal is to develop a biochemical tool set to modulate CD9 function in macrophages.

Project Number: Start-up
Sponsor: UNC
Principal Investigator: Juliane Nguyen
Percent Effort: 0 effort
Total Funding: ~\$200,000 remaining
Period of Funding: 05/01/2019 – present

GRANTS PENDING

Project Number: R01DK134137
Sponsor: National Institutes of Health - NIDDK
Principal Investigator: Juliane Nguyen (contact PI), Janelle Arthur (MPI)
Percent Effort: 16% effort
Total Funding: \$3.8 Mio
Period of Funding: 04/01/2023 – 04/30/2027
Project Title: Engineering Probiotic Yeast for Targeted Treatment of Ulcerative Colitis

The goal of the proposal is to develop engineered probiotic yeast for targeted treatment of ulcerative colitis
Received 17 percentile score, payline of NIDDK is 16 percentile with select funding for proposals close to the payline.

Project Number: 1 R01 GM150252-01
Sponsor: National Institutes of Health - NIGMS
Principal Investigator: Juliane Nguyen (contact PI)
Percent Effort: 25% effort
Total Funding: \$1,809,790
Period of Funding: 04/01/2023 – 04/30/2027
Project Title: Developing genetically encodable probes for multimodal tracking of exosomal RNA cargo

The overall goal of this proposal is to develop probes, which will allow non-destructive tracking and imaging of exosomal

RNAs.

Received 20 percentile score, according to program director score is within funding payline of NIGMS

GRANTS COMPLETED

Project Number: NA
Sponsor: Eshelman Institute for Innovation
Principal Investigator: Juliane Nguyen
Percent Effort: 0%
Total Funding: \$200,000
Period of Funding: 06/15/2020 – 06/14/2022
Project Title: Highly Loaded Exosomes for Cardiac Regeneration

Project Number: R01 EB023262
Sponsor: NIH/NIBIB
Principal Investigator: Juliane Nguyen
Percent Effort: 20%
Total Funding: \$1,559,523
Period of Funding: 08/01/2017 – 05/30/2021
Project Title: RNA EXO-Codes: a novel way to reprogram pathological exosomes

Project Number: NA
Sponsor: Buffalo Innovation Accelerator Award
Principal Investigator: Juliane Nguyen
Percent Effort: 0%
Total Funding: \$100,000
Period of Funding: 06/15/2020 – 06/14/2021
Project Title: A Targeted Nanodelivery System for Nucleic Acid Therapeutics

Project Number: R01 EB023262 – Diversity Supplement to support Natalie Jasiewicz
Sponsor: NIH/NIBIB
Principal Investigator: Juliane Nguyen
Percent Effort: 0
Total Funding: \$136,622
Period of Funding: 08/01/2018 – 05/30/2021
Project Title: RNA EXO-Codes: a novel way to reprogram pathological exosomes
Research Supplements to Promote Diversity in Health-Related Research

Project Number: R01CA204192
Sponsor: NIH/NCI
Principal Investigator: PI: Joseph Balthasar, Co-I Juliane Nguyen
Percent Effort: 5% effort
Total Funding: \$1,800,000
Period of Funding: 08/01/2018 – 05/30/2021
Project Title: Catch and Release Immunotoxins: CAR-Bombs for Cancer

Project Number: K08HL131987
Sponsor: NIH/NHLBI
Principal Investigator: PI: Umesh Sharma, Co-Sponsor Juliane Nguyen
Percent Effort: 0
Total Funding: \$986,850
Juliane Nguyen

Period of Funding 06/01/2017 – 05/31/2021
Project Title: Galectin-3-Mediated Post-Ischemic Myocardial Dysfunction and its Inhibition by a Novel Peptide N-Acetyl-Seryl-Aspartyl-Lysyl-Proline

Project Number: NA
Sponsor: Bright Focus Foundation
Principal Investigator: PI: Zhang Xin, Co-I Juliane Nguyen
Percent Effort: 5% effort
Total Funding: \$200,000
Period of Funding: 05/01/2019 – 04/30/2021
Project Title: Targeting Neuroinflammation for RGC Protection in Glaucoma

Project Number: NYSTAR Technology development grant
Sponsor: New York State – Empire State Development
Principal Investigator: Juliane Nguyen
Percent Effort: 5% effort
Total Funding: \$223,250
Period of Funding: 01/01/2019 – 12/31/2021
Project Title: This grant supports the development of biological drug compounds.

Project Number: Bruce Holm Catalyst Fund
Sponsor: UB Research Foundation
Principal Investigator: Juliane Nguyen
Percent Effort: 5% effort
Total Funding: \$33,000
Period of Funding: 01/02/2018 – 01/31/2019
Project Title: EXO-Codes: A highly efficient platform for loading exosomes with chemical and biological agents

Project Number: 1R21RHL126082
Sponsor: NIH/NHLBI
Principal Investigator: Juliane Nguyen
Percent Effort: 12.5% effort
Total Funding: \$425,000
Period of Funding: 07/01/2015 – 06/30/2018
Project Title: Self-replicating RNA-nanoplexes for programming monocytes to regenerate the heart

Project Number: 1R21EB021454-01
Sponsor: NIH/NIBIB
Principal Investigator: Juliane Nguyen
Percent Effort: 16% effort
Total Funding: \$425,000
Period of Funding: 09/01/2015 – 06/30/2018
Project Title: Maximizing small RNA delivery with signaling peptides

Project Number: SPPS Seed grant
Sponsor: SPPS
Principal Investigator: Juliane Nguyen
Percent Effort: 0% effort
Total Funding: \$10,000
Period of Funding: 04/01/2015 – 09/30/2018

Juliane Nguyen

Project Title: Therapeutic targeting of CTCs with self-replicating RNA nanoparticles (NPs)

Project Number: 1R01CA138643-01A1

Sponsor: NIH/NCI

Principal Investigator: PI: S. Joshi, Co-I: Juliane Nguyen

Percent Effort: 3% effort

Total Funding: \$2,388,558

Period of Funding: 04/01/2012 – 06/30/2017

Project Title: Optical Imaging of Chemotherapy for Brain Tumors

TEACHING

Year	Course name	Course Number	Lectures Taught	Enrollment	Course type	Overall Evaluation
2022 SP	Advanced Pharmaceutics	DPMP 863	2	4	Graduate	5/5
2022 SP	Nanomedicine	DPMP 738	2	12	Graduate	4.5/5
2021 AU	Pharmaceutics and Drug Delivery Systems I	PHCY 512	12	147	Professional	5/5
2021 SP	Nanomedicine	DPMP 738	4	12	Graduate	5/5
2021 SP	Pharmaceutics and Drug Delivery Systems II	PHCY 514	3	133	Professional	4/5
2020 AU	Pharmaceutics and Drug Delivery Systems I	PHCY 512	8	123	Professional	4/5
2020 AU	Advances in Drug Delivery	DPMP 864	2	8	Graduate	NA
2020 SP	Nanomedicine	DPMP 873	3	14	Graduate	4.5/5
2020 SP	Pharmaceutics and Drug Delivery Systems II	PHCY 514	2	156	Professional	4/5
2019 AU	Advances in Drug Delivery	DPMP 864	2	10	Graduate	4.1/5
2019 SP	Physical Pharmacy	PHC 530	4	~150	Professional	4.6/6
2019 SP	Rational Drug Design	NA	1	9	Graduate	NA
2018 AU	Principles of Drug Development	PHC 500	14	30 to 40	Graduate	4.2/5
2018 AU	Pharmaceutical Chemistry	PHC 501	3	~150	Professional	4.4/5 4.8/5
2018 SP	Rational Drug Design	NA	1	9	Graduate	NA
2018 SP	Physical Pharmacy	PHC 530	9	~150	Professional	4.7/5
2017 AU	Advanced Drug Delivery	PHC 508	8	30 to 40	Graduate	4.6/5
2017 AU	Pharmaceutical Chemistry	PHC 501	3	~150	Professional	4.4/5
2017 SP	Physical Pharmacy	PHC 530	9	~150	Professional	NA
2016 AU	Principles of Drug Development	PHC 500	14	30 to 40	Graduate	4.3/5

Year	Course name	Course Number	Lectures Taught	Enrollment	Course type	Overall Evaluation
2016 AU	Pharmaceutical Chemistry	PHC 501	3	~150	Professional	3.9/5
2016 SP	Physical Pharmacy	PHC 530	4	~150	Professional	4.0/5
2016 AU/SP	Pharmaceutics Seminar	PHC Sem	NA	30 to 40	Graduate	5/5
2015 SP	Physical Pharmacy	PHC 530	4	~150	Professional	3.8/5
2015 AU	Advanced Drug Delivery	PHC 508	8	30 to 40	Graduate	4.5/5
2014 SP	Physical Pharmacy	PHC 530	4	~150	Professional	3.8/5
2014 AU	Principles of Drug Development	PHC 500	14	30 to 40	Graduate	4.3/5
2013 AU	Advanced Drug Delivery	PHC 508	3	30 to 40	Graduate	NA

ADVISING

Current Lab Members

Name	Previous Degree	Position	Year Started	Topic	Awards
Postdoc					
Tyler Culpepper	MD/PhD University of Florida at Gainesville	Postdoc (co-advised with Dr. Janelle Arthur)	2022	Engineered yeast to treat colon cancer	UNC Gastroenterology Research Training Fellowship (T32 DK007737)
Natalie Jasiewicz	PhD in Pharmaceutical Sciences	Postdoc	2022	Zippersomes/Zippercells for cardiac repair	PhRMA Foundation predoctoral fellowship GRC Late-Breaking Talk 2022, NanoDDS Poster Award
Graduate					
Mairead Heavey	BS Pharmaceutical Sciences, University at Buffalo	Graduate Student, Pharmaceutical Sciences	2019	Engineered probiotics to treat inflammatory bowel diseases	Flash Talk at AICHE, 2022 PhRMA Foundation alternate
Emma Etter	BS BME at NCState	Graduate Student, BME	2020	Patch-based therapeutics	
Tim Little	BS Pharmaceutical Sciences, University of Philadelphia	Graduate Student, Pharmaceutical Sciences	2020	Multi-epitope blocking of CCR2 to inhibit tumor growth and metastasis	NIH/NCI Diversity Supplement
Ameya Chaudhari	MS in BME, Duke University	Graduate Student, Pharmaceutical Sciences	2021	Developing bar-coded exosome therapeutics	
Jessica Tetterton	BS in Biochemistry, Clemson University	Graduate Student, Pharmaceutical Sciences	2021	Developing therapeutics to treat chemo-induced cardiotoxicity	T32 Translational Science Fellowship, NIGMS
Anthony Hazelton	BS in Biochemistry, Clemson University	Graduate Student, Pharmacology	2021	Engineered, inducible probiotics to treat ulcerative colitis	T32 Pharmacology Fellowship

Name	Previous Degree	Position	Year Started	Topic	Awards
Undergraduate					
Alaina Parker		Undergraduate Researcher in Biomedical Engineering	2022	Engineered yeast Therapeutics	Chancellor's Science Scholar
Hannah Oh		Undergraduate Researcher in Biology	2022	Biotherapeutics for Cardiac Repair	
Robert Wilson		Undergraduate Researcher in BME	2022	Patch therapeutics	
Nash Philbeck		Undergraduate Researcher in Neuroscience	2022	Engineered proteins	

Former Lab Members

Name	Previous Degree	Position	Years	Topic	Next Position
Post Doc					
Kuo-Ching Mei	Pharm Sci, King's College London	Post Doc	2020-2022	Immunomodulatory lipids	Assistant Professor at SUNY Binghamton
Murali Murath-mutha	Biochemistry	Postdoc	2021-2022	Protein therapeutics	Scientist BASF
Parth Chansoria	PhD Industrial Engineering NCState	Post Doc	2020-2021	Auxetic patches	Marie-Curie fellow at ETH Zuerich (Switzerland)
Adam Brown	PhD BME	Post Doc	2019-2021	Engineered Proteins	Scientist II at Precision Biosciences
Anjali Verma	PhD Biomedical Engineering, VCU	Post Doc	2019-2022	Lipid-mediated therapeutics	Biomedical Engineer at the FDA
Maixian Liu	PhD in Chemistry, University at Buffalo	Post Doc	2016-2018	Protein therapeutics	Scientist at Shenzen University
Supriya Patil	PhD in Microbiology, IIT Roorkee	Post Doc	2013 - 2015	Protein therapeutics	Scientist at Scripps University

Former Lab Members

Name	Previous Degree	Position	Years	Thesis Title/Topic	Awards	Next Position
PhD students						
Emily Bonacquisti	BS in Biology	Graduate Student, Pharmaceutical Sciences	2018-2022`	Tracking and imaging exosomes	UNC Dissertation Fellowship	Scientist at VitaKey
Natalie Jasiewicz	BS in Chemistry	Graduate Student, Pharmaceutical Sciences	2017-2022`	ZipperCells and Zippersomes to mediate cardiac repair	PhRMA predoctoral fellowship, NanoDDS poster award	Scientist at Regeneron
Scott Ferguson	BS Pharmaceutical Sciences	Graduate Student, Pharmaceutical Sciences	2014-2019	EXO-Codes, exosomes	Allen Barnett Fellowship	Postdoc at Harvard University

Name	Previous Degree	Position	Years	Thesis Title/Topic	Awards	Next Position
Michael Deci	MS Pharmaceutical Sciences	Graduate Student, Pharmaceutical Sciences	2014-2019	Developing antibodies to block CCR2	Allen Barnette Fellowship	Senior Scientist at Moderna
Jinli Wang	BS in Biology	Graduate Student, BME	2016-2020	Cardiac therapeutics		Scientist at University at Buffalo
MS students						
Danni Chen	BS Pharmaceutical Sciences	BS/MS student	2017-2019	siRNA delivery		Research Scientist at Bristol Meyers Squibb
Jacqueline Gonya	BS Pharmaceutical Sciences	BS/MS	2017-2019	CXCR4 antagonists		Protein engineer at AMRI
Gbassey Oteme	BS in Biology	MS	2017-2019	Protein-based		Graduate student at University at Buffalo
Lujing Wang	BS in BME	MS student	2015-2017	Phage display		PhD student at Rutgers University
Jiaxin Song	BS in Biology	MS student	2015-2017	mRNA delivery		Research Associate at Pfizer
Jake Megna	BS Pharmaceutical Sciences	BS/MS student	2016-2018	Exosomes		Research Associate Regeneron
Nancy Song	BS Pharmaceutical Sciences	MS student	2016-2018	mRNA delivery		Scientist Pfizer
Sydney Scatigno	BS Pharmaceutical Sciences	BS/MS student	2016-2018	Protein therapeutics		Research Associate Thermofisher
Christine Lee	BS Pharmaceutical Sciences	BS/MS student	2016-2018	Protein therapeutics		PhD student SUNY Buffalo
Vivian Seo		PharmD/MS student	2017-2018	Micelles – cardiac regeneration		Pharmacist – Hospital Pharmacy
Sera Kim		PharmD/MS student	2017-2018	miRNA- bioinformatics		PharmD - Cosmetics
Postbac						
Mitzy Garner	BS in Chemistry	Postbac	2021-2022	Microbe-based therapeutics		PhD student at Duke University

FORMER UNDERGRADUATE STUDENTS

- Lina Le (2020-2022): currently PhD student at the University of Minnesota
- Matthew Errington (2021-2022): Associate Scientist at Pfizer
- Taylor Neal (2021-2022): currently medical student
- Franklin Llogho (2014): currently Environmental Health & Safety Manager at Eaton
- Nathan Williams (2014)
- Sarah Delisle (2014-2015): currently Data Manager at Roswell Park Cancer Institute
- Colin Cess (2016-2017): currently PhD student at the University of Southern California
- Damian Peterson (2014-2015): currently PharmD student at UNC
- Elaine Cheng (2014-2015)
- Sydney Scatigno (2016-2017): currently Research Associate at Thermofisher

Juliane Nguyen

- Jake Megna (2015-2017): currently Research Associate at Regeneron
- Tingyi Li (2016-2017): currently PhD student at UB
- Danni Chen (2016-2018): currently BS/MS student at UB
- Jacqueline Gonya (2016-2018): currently BS/MS student at UB
- Kenneth Anderson (2018-2019): currently BS/MS student at UB
- Hao Yeng (2018-present)
- Nicholas Cheung (2018-2019): currently BS/MS student at UB

FORMER MINORITY UNDERGRADUATE STUDENTS via iSEED

Yaritza Velos Burgos, Summer 2015

Project: Utilizing Clathrin Triskelions for Spatially Controlled Protein Display

Sheyanne Santiago, Summer 2016

Project: Differences in Sensitivity between the MTT and MTS assays

Yadilyz Caballero-Lopez, Summer 2018

Project: Recombinant expression of scFv against CXCR4

PHD THESIS ADVISORY COMMITTEE

Gabriel Federico Arias, PhD Committee Member, 2022- present

Sarah Ann Howard, PhD Committee Member, 2022- present

Breanna Mann, PhD Committee Member, 2022- present

Sarah Grace Nagy, PhD Committee Member, 2022- present

Peter Voorhees, PhD Committee Member, 2021 - present

Isabella Young, PhD Committee Chair, 2021- present

Rebecca Stiepel, PhD Committee Chair, 2020 – present

Natalie Jasiewicz, PhD Committee Member/PhD advisor – 2019 -2022

Emily Bonacquisti, PhD Committee Member/PhD advisor, 2019 – 2022

Cole Batty, PhD Committee Chair, 2020 – 2022

Jordan Joiner, PhD Committee Chair, 2020 – 2022

Hunter Bomba, PhD Committee Chair, 2019 – 2021

Alison Mercer-Smith, PhD Committee Member, 2019 – 2021

Patrick Glassman, PhD Committee Member, 2013-2016

Daniel Ferguson, PhD Committee Member, 2015-2017

Fiona Yau, PhD Committee Member, 2014-2018

Darren Chan, PhD Committee Member, 2015-2019

George Techiryan, PhD Committee Member, 2015-2019

Robert Jones, PhD Committee Member, 2015-2019

Mark Bryniarski, PhD Committee Member, 2015-2019

Vivian Rodriguez, PhD Committee Member, 2016-2019

Brandon Bordeau, PhD Committee Member, 2017-2019

Jue Gong, PhD Committee Member, 2018-2019

Ting Chen, PhD Committee Member, 2018-2019

MS THESIS ADVISORY COMMITTEE

Brittany Walker (2013-2014)

Yuyie Yang (2014-2016)

Wesley Hill (2015-2017)

Srividya Myeni (2015-2017)

MENTORED TRAINEES' ACHIEVEMENTS

- **Kuo-Ching Mei, postdoc**

Juliane Nguyen

- Assistant Professor at SUNY Binghamton - 2022
- **Natalie Jasiewicz, PhD student**
 - Presented her work at the Gordon Research Conference in Drug Carriers, August 2022
 - Recipient of a 2-year PhRMA fellowship, awarded \$50,000, 2021-2022
 - NanoDDS poster award – 2022
- **Emily Bonacquisti, PhD student**
 - UNC Dissertation Completion Fellowship – 2022 (awarded \$20,000)
 - Presented her work at the Gordon Research Seminar in Drug Carriers, August 2022
 - NanoDDS poster award – 2022
 - Eshelman School of Pharmacy research retreat poster award - 2022
 - National Science Foundation GRFP – Honorable Mention 2019
- **Mairead Heavey, PhD student**
 - Selected as alternative for PhRMA foundation predoctoral fellowship - 2022
- **Jessica Tetterton, PhD student**
 - T32 NIGMS Translational Program Fellowship – 2022 (awarded \$25,000)
- **Anthony Hazelton, PhD student**
 - T32 Pharmacological Sciences Training Program Fellowship – 2022 (awarded \$25,000)
- **Parth Chansoria, postdoc**
 - Marie Curie fellowship - 2021
- **Lina Le**
 - SURF fellowship - 2021
- **Scott Ferguson, PhD Candidate:**
 - Chair of the Gordon Research Seminar on Extracellular Vesicles – Aug. 2018
 - Allan Barnett Fellowship – 2014
- **Michael Deci, PhD Candidate**
 - Abstract selected for oral presentation at the 2018 Annual BMES Meeting, Oct. 2018
 - Selected for oral presentation at the GRS Drug Carriers in Medicine and Biology, Aug. 2018
 - 3rd place: Poster Competition at the International NanoDDS 2017
 - Allan Barnett Fellowship – 2016
- **Jacqueline Gonya, BS/MS student**
 - 1st place: Undergraduate Award for “Excellence in Research, Scholarship and Creativity” at the Celebration of Student Excellence, Buffalo 2018
 - 1st place: UB Pharmaceutical Sciences Annual Poster Session 2018
- **Jake Megna, BS/MS student**
 - Robert Guntow Undergraduate Research Award, 2017
 - 1st place: Undergraduate Award for “Excellence in Research, Scholarship and Creativity” at the Celebration of Student Excellence, Buffalo 2017
 - 2nd place: UB Pharmaceutical Sciences Annual Poster Session 2017
- **Tingyi Li, BS student**
 - 2nd place: UB Pharmaceutical Sciences Annual Poster Session 2017
- **Sydney Scatigno, BS/MS student**
 - 2nd place: UB Pharmaceutical Sciences Annual Poster Session 2017
- **Nancy Song – MS Student**
 - 1st place: Undergraduate Award for “Excellence in Research, Scholarship and Creativity” at the Celebration of Student Excellence, Buffalo 2016
 - 1st place: UB Pharmaceutical Sciences Annual Poster Session 2016
- **Ananya Murthy - High School Student**
 - Naval Research Award 2016
 - Highest Honor Award at the CWS STANYS Science Congress 2016
- **Sarah Delisle – Undergraduate Student**
 - 2nd place: UB Pharmaceutical Sciences Annual Poster Session 2015

- **Nathan Williams** – Undergraduate Student
 - 2nd place: UB Pharmaceutical Sciences Annual Poster Session 2014

PROFESSIONAL SERVICE

GRANT REVIEW ACTIVITIES: Reviewed on >30 study sections since 2015

- Standing member of the NIH DBTD study section -2023-2025
- Standing member of the NIH GDD study section -2021-2022
- December 2020: NHLBI reviewer
- March 2020: Mail reviewer: NIH Transformative Research Award
- Jan. 2020: NSF Biomaterials panel
- Jan. 2020: NSF GRFP - reviewer
- Dec. 2019: NIH – NCATS SIBR review panel
- Nov. 2019: NIH – NCATS SIBR review panel
- August 2019: NASA grant review panel – Just-in-time medication
- June 2019: NIH – Bioengineering Sciences and Technologies IRG
- March 2019: NIH – Genome Editing Panel
- Nov. 2018: NSF – Excellence in Research Awards panel
- May 2018: NIH ZRG1 MDCN-T(50) - Exosomes
- Feb. 2018: NSF Biomaterials panel
- Feb. 2018: NIH NANO
- Nov. 2017: NIH Biomaterials and Biointerfaces study section (NIH BMBI)
- June 2017: NIH Gene and Drug Delivery study section (NIH GDD)
- Feb. 2017: NSF Biomaterials panel
- Oct. 2016: NIH NANO
- Oct. 2016: British Council on Exosomes
- June 2016: NIH SBIR Biomaterials, Delivery, and Nanotechnology (BST10) study section
- March 2016: NIH SBIR Biomaterials, Delivery, and Nanotechnology (BST10) study section
- Feb. 2016: NSF Biomaterials panel
- Nov. 2015: NIH SBIR Biomaterials, Delivery, and Nanotechnology (BST10) study section
- Nov. 2015: NSF Biomaterials panel

PEER REVIEW FOR JOURNALS:

Nature Materials, Nature Nanotechnology, Nature Biomedical Engineering, Nature Communications, Nano-Letters, ACS Nano, Scientific Reports, Molecular Therapy – Nucleic Acids, Acta Biomaterialia, Journal of Controlled Release, Nanomedicine, Expert Opinion on Drug Delivery, Pharmaceutical Research, European Journal of Pharmaceutics and Biopharmaceutics, Drug Metabolism and Disposition, AAPS Journal, Journal of Pharmaceutical Sciences, Biotechnology Advances, Journal of Pharmacokinetics and Pharmacodynamics, ACS Biomaterials Science & Engineering, Bioengineering & Translational Medicine, Journal of Drug Delivery Science and Technology, Molecular Pharmaceutics, The FASEB Journal, Biomaterials, AAPS Journal, Science Advances

CONFERENCE & SESSION ORGANIZATION

- **2022: Chair of the 20th NanoDDS Symposium with co-chairs Dr. Kristy Ainslie, Dr. Yevgeny Brudno, Dr. Owen Fenton**
 - Raised >\$80K to cover conference venue, audio/video, meals, speaker travel and lodging
 - Provided fellowships for underrepresented minorities (URM)
 - 180 attendees, 25 speakers and session chairs
 - 80 poster attendees
- **2022: Discussion leader at the Gordon Research Conference on Drug Carriers in Biology and Medicine**
- **2021: Co-organized NanoDDS 2021 with Rice University**
 - **Session chair NanoDDS**

- **2021: AAPS Track Chair for Discovery and Basic Research**
 - Organizing Committee
- **2021: Session Chair CRS**
- **2020-2021: Co-Host – Webinar series titled “Rising Star in Drug Delivery and Novel Carriers”**
 - Since July 2020 – June 2021
- **2020: Session chair – NanoDDS**
- **2020: Co-chair of the Drug Delivery Track for the 2020 Virtual BMES Annual Meeting** Select reviewers and session chairs in the field
- Selected invited speakers for specific sessions
- Organized oral abstracts
- **2020: AAPS Sub-track Chair for Discovery and Basic Research**
 - Organizing Committee
 - Establish new track for 2020 PharmSci 360 Annual Meeting
 - Develop topics and themes for PharmSci 360 Annual Meeting
- **2020: Selected as Luminary for the YSC part of the Controlled Release Society**
- **2021: CRS Focus Group Gene Delivery and Gene Editing**
 - Social Media Director: 2019-2021
- **2018: BMES Atlanta**
 - Session Chair: Nanoparticles for Drug Delivery and Gene Engineering
- **2018: 14th Buffalo Pharmaceuticals Symposium**
 - Session Chair: Drug Delivery
- **2018: 2nd Annual Stem Cells in Regenerative Medicine Symposium, Buffalo**
 - Judge of students’ poster competition
- **2017: End2Cancer, Oklahoma**
 - Judge of students’ poster competition
- **2017: NanoDDS - 15th International Nanomedicine and Drug Delivery Symposium, Michigan**
 - Session moderator
- **2017: BioTx Conference, Buffalo**
 - Session Chair: Novel Drug Delivery Systems
- **2016/2017: AAPS-NERDG**
 - Organizing Committee
 - Session Chair: Nucleic Acid Delivery
 - Session Chair: Short Topic Presentations

ADMINISTRATION and UNIVERSITY SERVICE

A. Department-level/Division level

- 2022 – present: Director of DPMP Graduate Admissions
- 2022 – present: Graduate Education Committee (GEC) – Voting Committee
- 2021/2022: DPMP faculty search committee chair
- 2017-2019: School webpage
- 2019: Faculty search committee
- 2018-2019: Graduate studies committee
- 2018-2019: Graduate curriculum committee
- 2017-2018: Faculty search committee
- 2015: Graduate course review taskforce
- 2016: Search committee for department chair
- 2013- 2019: Graduate admissions committee

B. School:

- 2022: Taskforce - Guidelines for Faculty Teaching Effort” taskforce
- 2021-present: Advisor to Student National Pharmaceutical Association (SNPhA) at UNC
- 2020/2021: Organizing Committee – Graduate Research Retreat
- 2014-2017: Equipment Committee

C. University:

- 2022: BBSP - TMED admissions committee
- 2014-2019: Mentoring of iSEED students

EXTERNAL REVIEW FOR FACULTY TENURE PROMOTION

Provided independent external reviews for tenure promotion of faculty at the following universities:

- 2022: University of Michigan
- 2022: University of Kentucky
- 2022: Virginia Commonwealth University
- 2022: University at Buffalo
- 2021: University of Utah

OUTREACH ACTIVITIES as PART of the NSF CAREER AWARD

- 2015 – present: Outreach to K12 and First-Generation College Students via summer research internships
 - Work with high-needs public schools in Buffalo and the Carolina region, which have a high percentage of underrepresented students, for in-lab experience and direct mentorship.
 - Developed online video platform to enable students and the public to visualize, and therefore better understand, science, leveraging the visual-pictorial and auditory-verbal power of animations.
 - Our video online learning platform has shown to significantly decrease the entry threshold into STEM for minority and 1st generation students to enter STEM and to engage in research <http://ngu-yenlab.web.unc.edu/science-explained-outreach/>
https://www.youtube.com/channel/UCj5HCfBJUmHkpd7YTWNG4tw?view_as=subscriber
- 2015 – 2019: Outreach to Buffalo’s high schools
- August 2018: Hosted a high school teacher from the Bennett High School

PROFESSIONAL DEVELOPMENT

- Venture Catalyst program 2022 Engineered yeast therapeutic
- Venture Catalyst program 2021 Auxetic patch therapeutics platform
- Aug. – Nov. 2020 UNC Innovation workshop
- Aug. – 2020 UNC Leadership development course

PROFESSIONAL ORGANIZATIONS

Memberships

- American Association of Pharmaceutical Scientists (AAPS)
- Biomedical Engineering Society (BMES)
- Controlled Release Society (CRS)
- AAAS