SHARAN KUMAR REDDY BOBBALA

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RESEARCH INTERESTS

The overarching goal of my research is to design and develop novel delivery platforms that can efficiently target drugs and vaccines to the body for prophylactic and therapeutic implementations. More specifically, I aim to accomplish the controlled release of drugs and vaccines in intracellular and extracellular environments *via* the rational design of nanoparticles and hydrogels, and diverse pharmaceutical formulation approaches. These efforts are centered on addressing fundamental problems in the areas of drug delivery, vaccination, bioavailability, and diagnostics.

CURRENT POSITION

Assistant Professor (**August 2021-Present)**

Department of Pharmaceutical Sciences, School of Pharmacy, West Virginia University, Morgantown, WV, USA

PROFESSIONAL EXPERIENCE

Postdoctoral Fellow (April 2016-August 2021)

Department of Biomedical Engineering, Northwestern University, Evanston, IL, USA

Advisor: Professor Evan Scott (*Nano-Immunoengineering group*)

EDUCATION

Ph.D. in Pharmaceutical Sciences (July 2012- December 2015)

New Zealand's National School of Pharmacy, University of Otago, New Zealand

Thesis: Novel Injectable Thermoresponsive Hydrogels for Sustained Release Vaccines

Advisors: Professor Sarah Hook and Professor Arlene McDowell

M. Pharm in Industrial Pharmacy (Pharmaceutics) (October 2009-January 2012)

Kakatiya University, India

Thesis: Isradipine Loaded Proliposomal Powders for Oral Delivery

*Grade***: Gold Medal**- University First Rank with Distinction

B. Pharm in Pharmaceutical Sciences (November 2005-June 2009)

Kakatiya University, India

*Grade***: Gold Medal**- University First Rank with Distinction

TEACHING EXPERIENCE

West Virginia University School of Pharmacy, Department of Pharmaceutical Sciences

Assistant Professor

Graduate Courses: PHAR 779 (Drug Discovery) **(Fall 2021, 2022),** BMS 793A **(Fall 2022, 2023)**

Pharm D Courses: PHAR 814 (Biochemical Pharmacology) **(Spring 2024)**

PHAR 817 (Principles of Immunology and Microbiology) **(Spring 2022, 2023)**

PHAR 801 (Drug Delivery) **(Fall 2023)**

PHAR 749 (Pharmaceutical Investigation) **(Fall & Spring 2022, 2023)**

Northwestern University, Department of Biomedical Engineering (Fall 2019)

Teaching assistant (for Prof. Evan Scott)

Course: BME 344 (Biological Performance of Materials)

University of Otago (March 2013-August 2015)

Demonstrator/Tutor

Course: PHCY 342 (Drug Delivery Systems)- Sterile and non-sterile dosage forms

Course: PHCY 258 (Drug action)- Mechanisms of Drug Action

Care College of Pharmacy, Kakatiya University (January 2012-June 2012)

Assistant Professor in Pharmaceutics

Courses: Advanced Drug Delivery Systems; Biopharmaceutics;

Pharmacokinetics; and Quality Assurance in Pharmaceutical Industry

AWARDS & ACHIEVEMENTS

1. Lurie Cancer Center Basic Sciences “The H Foundation Postdoctoral Award 2020”.
2. Northwestern University Professional Development Award (2018 and 2019).
3. Recipient of Prestigious “University of Otago Doctoral Scholarship (2012-2015)”.
4. All India Council of Technical Education (AICTE) Research Scholarship (2009-2011).
5. NIH Trainee Travel Grant 2019 to attend Regenerative Medicine Workshop 2019, South Carolina.
6. Best poster presentation award at Controlled Release Society Annual Meeting 2018, New York.
7. Best rapid-fire oral presentation award at Drug delivery Australia 2015 conference, Brisbane, Australia, 2015.
8. NZ-Controlled Release Society Winner of prize for Best Oral Presentation 2014.
9. Otago Division of Health Sciences travel award to attend AAPS, 2014, San Diego, USA.
10. Awarded Gold Medals by the Kakatiya University for academic excellence in the course during B. Pharm (2009) and M. Pharm (2012).

RESEARCH FUNDING

1. **Combinatorial targeting for the treatment of B-cell acute lymphoblastic leukemia**

   Bobbala (Project leader)

   NIGMS (#2P20GM121322-06) Tumor Microenvironment-TME CoBRE

   09/1/2023 to 06/30/2026

   Total costs: $791,070

2. **Development and optimization of ionizable lipid nanoparticles for precise intracellular delivery of adjuvants**

   Bobbala (PI)

   Merck and Company Inc (Merck Investigator Studies Program (MISP) #101017)

   07/14/2023 to 07/13/2025

   Total costs: $323,105

3. **Nanomaterial-based Drug and Vaccine Development**

   Bobbala (PI)

   West Virginia University School of Pharmacy Start-up Research Grant

   09/1/2021 to 08/31/2026

   Total costs: $5,00,000

4. **pH-responsive carbohydrate nanoparticles for the treatment of drug-resistant leukemia**

   Bobbala (PI)

   West Virginia IDeA Network for Biomedical Research Excellence-Pilot Award

   08/1/2022 to 07/31/2023

   Total costs: $45,600

5. **Druggable and undruggable cancer target: cell-selective intracellular delivery of the RAS-Rap1 specific endopeptidases as a treatment of Ras-driven cancers**

   Bobbala (PI)

   Robert H Lurie Comprehensive Cancer Center The H-Foundation Postdoctoral award

   05/20/2020 to 07/01/2021

   Total costs: $20,000

PUBLICATIONS

Google Scholar CITATIONS	**1786**
h-index	**25**
i10-index	**33**

Google Scholar: https://scholar.google.co.in/citations?user=unL6MjEAAAAJ&hl=en

1. B. Misra, K. A. Hughes, W. H.Pentz, P. Samart, W. Geldenhuys, **S. Bobbala**[*], Flash nanoprecipitation assisted self-assembly of ionizable lipid nanoparticles for nucleic acid delivery. *Nanoscale*. 16 (2024). 6939-6948.
2. K. A. Hughes, B. Misra, M. Maghareh, P. Samart, E. Nguyen, S. Hussain, W. Geldenhuys, **S. Bobbala**[*], Flash nanoprecipitation allows easy fabrication of pH-responsive acetalated dextran nanoparticles for intracellular release of payloads. *Discover Nano*. 19 (2024).
3. G.H. Palliyage, P. Samart, **S. Bobbala**, L. W. Rojanasakul, J. Koyle, K. Martin, P. Callery, Y. Rojanasakul, Chemotherapy-induced PDL-1 expression in cancer-associated fibroblasts promotes chemoresistance in NSCLC. *Lung Cancer*. 181 (2023) 107258.
4. E. Morgun, J. Zhu, S. Almunif, **S. Bobbala**, J. Wang, C. Seshadri, E.A. Scott, C. Wang, Vaccination with mycobacterial lipid loaded nanoparticle leads to lipid antigen persistence and memory differentiation of antigen-specific T cells. *eLife*. 12 (2023) RP87431.
5. K. A. Hughes, B. Misra, M. Maghareh, **S. Bobbala**[*], Use of stimulatory responsive soft nanoparticles for intracellular drug delivery. *Nano Research*. 16 (2023) 6974-6990.
6. C. Lescott, **S. Bobbala**, M. Modak, R. Reis, E.A. Scott, V. Dravid, Multimodal STEM investigation of polymer damage processes induced by electron beam irradiation. *Microscopy and Microanalysis*. 29 (2023) 16-26.
7. J. Burke, X. Zhang, **S. Bobbala,** M. Frey, Y.G. Liu, S. Allen, G. Ameer, E.A. Scott, Subcutaneous nanotherapy repurposes the immunosuppressive mechanism of rapamycin to enhance allogenic islet graft viability. *Nature Nanotechnology*. 17 (2022) 319-330.
8. S. Barman, F. Borriello, D. Soni, S. Yi, **S. Bobbala,** E.A. Scott, D. Dowling, Shaping neonatal immunization by tuning the delivery of synergistic adjuvants via nanocarriers. *ACS Chemical Biology*. 17 (2022) 2559-2571.
9. M. Vincent, J. Navidzadeh, **S. Bobbala**, E.A. Scott, Leveraging self-assembled nanobiomaterials for improved cancer immunotherapy. *Cancer Cell*. 40 (2022) 255-276.

10. S. Yi, S.Y. Kim, M. Vincent, S.A. Yuk, **S. Bobbala**, F Du, E.A. Scott, Dendritic peptide-conjugated polymeric nanovectors for nontoxic delivery of plasmid DNA and enhanced non-viral transfection of immune cells. *iScience*. 7 (2022) 104555.
11. M. E. Allen, A. Golding, N. Karabin, S. Li, **S. Bobbala,** E.A. Scott, G. Szeto, Targeted delivery of chloroquine to plasmacytoid dendritic cells enhances the inhibition of the type I interferon response. *ACS Biomaterials Science & Engineering*. 12 (2021) 5666-5677.
12. **S. Bobbala**, M. Vincent, E.A. Scott, Just add water: hydratable, morphologically diverse nanocarrier powders for targeted delivery. *Nanoscale*, 13 (2021) 11349 -11359.
13. M. Vincent, **S. Bobbala**, N. Karabin, Y.G. Liu, M. Frey, E.A. Scott, Surface chemistry-mediated modulation of adsorbed albumin folding state specifies nanocarrier clearance by distinct macrophage subsets. *Nature Communications*, 12 (2021) 1-18.
14. S. Li, **S. Bobbala,** M. Vincent, M. Modak, Y.G. Liu, E.A. Scott, Pi-Stacking enhances stability, scalability of formation, control over flexibility and circulation time of polymeric filamentous nanocarriers. *Advanced NanoBiomed Research*, 11 (2021) 2100063.
15. N. Karabin, M. Vincent, S. Allen, **S. Bobbala**, E.A. Scott, The combination of morphology and surface chemistry defines the biological identity of nanocarriers in human blood. *Advanced Therapeutics* (2021) 2100062.
16. T. Stack, Y.G. Liu, M Frey, **S. Bobbala**, E.A. Scott, Enhancing subcutaneous injection and target tissue accumulation of nanoparticles via co-administration with micropinocytosis-inhibiting nanoparticles (MiNP). *Nanoscale Horizons*. 6 (2021) 393-400.
17. D. Soni, **S. Bobbala**, S. Li, E.A. Scott, D. Dowling, Immunoengineering strategies for neonatal vaccination. *Pediatric Research* (Nature publisher, Invited review). 89 (2021). 1364-1372.
18. G C Porter, D Schwass, G Tompkins, **S. Bobbala**, N Medlicott, C J Meledandri, AgNP/Alginate nanocomposite hydrogel for antimicrobial and antibiofilm applications. *Carbohydrate Polymers*. 251 (2021) 117017.
19. **S. Bobbala**, S. Allen, S. Yi, N. Karabin, E.A. Scott, Employing bicontinuous to micellar transitions in nanostructure morphology for on-demand photo-oxidation responsive cytosolic delivery and off-on cytotoxicity. *Nanoscale*, 12 (2020) 5332-5340.
20. **S. Bobbala** and S. Hook, Vaccine implants: current status and recent advancements. *Emerging Topics in Life Sciences*, 6 (2020) 601-612. (Invited Expert Review for Royal Society of Biology).
21. W. Li, **S. Bobbala**, Y. Liu, E.A. Scott, F. Stoddart*, X cage: A Shape complementary host for perylene dimide with picomolar affinity in water. *Journal of the American Chemical Society*, 142 (2020) 3165-3173. ***Fraser Stoddart is a 2016 Noble laureate in Chemistry.**

22. M. Modak, **S. Bobbala**, V. Nandwana, V. Dravid, E.A. Scott, Magnetic nanostructure-loaded bicontinuous nanospheres support multi-cargo intracellular delivery and oxidation-responsive morphological transitions. *ACS Applied Materials & Interfaces*, 12 (2020) 55584-55595.
23. F. du, B. Qiao, M. Vincent**, S. Bobbala**, S. Yi, E.A. Scott, Homopolymer self-assembly via poly(propylene sulfone) hydrogels via dynamic non-covalent sulfone-sulfone bonding. *Nature Communications*, 11 (2020) 1-9.
24. M. Frey, M. Vincent, **S. Bobbala**, E.A. Scott, Mapping the supramolecular assembly space of poly (sarcosine)-b-poly (propylene sulfide) using a combinatorial library. *Chemical Communications*, 56 (2020). 6644-6647.
25. S. Yi, N. Karabin, J. Zhu, **S. Bobbala**, An injectable hydrogel platform for sustained delivery of anti-inflammatory nanocarriers and induction of regulatory T cells in atherosclerosis. *Frontiers in Bioengineering and Biotechnology*, 8 (2020).
26. S. Allen[#], **S. Bobbala[#]**, N. Karabin, E.A. Scott, On the advancement of polymeric bicontinuous nanospheres toward biomedical applications. *Nanoscale Horizons*, 4 (2019) 258-272.

    [#] **Contributed equally to this work.**
27. I. Roy, **S. Bobbala**, S. Allen, E.A. Scott, F. Stoddart*, A supramolecular approach for modulated photoprotection, lysosomal delivery and photodynamic activity of a photosensitizer. Journal of the American Chemical Society, 141 (2019) 12296-12304. ***Fraser Stoddart is a 2016 Noble laureate in Chemistry.**
28. S. Yi, X Zhang, Y. Liu, S. Allen, **S. Bobbala**, E.A. Scott, Surface engineered polymersomes for enhanced modulation of dendritic cells during cardiovascular immunotherapy. *Advanced Functional Materials*. 29 (2019) 1904399.
29. S. Allen, Y. Liu, **S. Bobbala**, E.A. Scott, Celastrol loaded PEG-b-PPS nanocarriers as an anti-inflammatory treatment in atherosclerosis. *Biomaterials Science*. 20 (2019) 2441-24463.
30. K.A. Parker, **S. Bobbala**, E.A. Scott, V. Dravid, Soft microscopy of macromolecules: corelative imaging and enhancing contrast. *Microscopy and Microanalysis*. 25 (2019) 496-497.
31. **S. Bobbala**, S. Allen, E.A. Scott, Flash nanoprecipitation permits versatile assembly and loading of polymeric bicontinuous cubic nanospheres. *Nanoscale*, 10 (2018) 5078-5088. * **Journal Front Cover Article.**
32. S. Allen[#], **S. Bobbala[#]**, N. Karabin, M. Modak, E.A. Scott, Benchmarking bicontinuous nanospheres against polymersomes for in vivo biodistribution and dual intracellular delivery of lipophilic and water-soluble payloads. *ACS Applied Materials & Interfaces*, 10 (2018) 33857-33866. [#] **Contributed equally to this work.**

33. **S. Bobbala**, B. Gibson, A. McDowell, A. Gamble, S. Hook, Polaxamer 407-chitosan grafted thermoresponsive hydrogels achieve synchronous and sustained release of antigen and adjuvant from single-shot vaccines. *Immunology and Cell biology*, 96 (2018) 656-665.
34. I. Roy, **S. Bobbala**, S.M. Nalluri, E.A. Scott, F. Stoddart*, ExTzBox: A glowing cyclophane for live-cell imaging. *Journal of the American Chemical Society*, 140 (2018) 7206-7212. ***Fraser Stoddart is a 2016 Noble laureate in Chemistry.**
35. N. Karabin, S. Allen, H. Kwon, **S. Bobbala**, E. Firlar, T. Shookuhfar, K. Shull, E.A. Scott, Sustained micellar delivery via transducible transitions in nanostructure morphology. *Nature Communications*, 9 (2018) 1-13.
36. S. Allen, Y. Liu, **S. Bobbala**, R. Temel, E.A. Scott, Rapid and scalable polymersome formation via flash nanoprecipitation for non-toxic administration to non-human primates. *Nano Research*, 10 (2018) 5689-5703.
37. F. du, **S. Bobbala**, S. Yi, E.A. Scott, Sequential intracellular release of water-soluble cargos from shell cross-linked polymersomes. *Journal of Controlled Release*, 282 (2018) 90-100.
38. M. Frey, **S. Bobbala**, N. Karabin, S. Allen, E. A. Scott, Influences of nanocarrier morphology on therapeutic immunomodulation. *Nanomedicine*, 13 (2018) 1-18.
39. M.P. Even, **S. Bobbala**, B. Gibson, S. Hook, G. Winter, J. Engert, Twin-screw extruded lipid implants containing TRP2 peptide for tumour therapy. *European Journal of Pharmaceutics and Biopharmaceutics*, 114 (2017) 79-87.
40. **S. Bobbala**, S. Hook, Is There an Optimal Formulation and Delivery Strategy for Subunit Vaccines?, Pharmaceutical Research, 33 (2016) 2078-2097.
41. **S. Bobbala,** V. Tamboli, A. McDowell, A.K. Mitra, S. Hook, Novel Injectable Pentablock Copolymer Based Thermoresponsive Hydrogels for Sustained Release Vaccines, The AAPS Journal, 18 (2016) 261-269.
42. **S. Bobbala**, A. McDowell, S. Hook, Quantitation of the immunological adjuvants, monophosphoryl lipid A and Quil A in poly (lactic-co-glycolic acid) nanoparticles using high performance liquid chromatography with evaporative light scattering detection, Journal of Chromatography B, 975 (2015) 45-51.
43. M.P. Even, **S. Bobbala**, L. K. Kok, S. Hook, G. Winter, J. Engert, Impact of implant composition of twin-screw extruded lipid implants on the release behavior, International Journal of Pharmaceutics, 493 (2015) 102-110.
44. S. Hook, **S. Bobbala**, A. Mitra, One-shot sustained release nanoparticle vaccines (VAC13P.1133), The Journal of Immunology, 194 (2015) 214.213.

45. **S. Bobbala**, P.R. Veerareddy, Enhanced oral bioavailability of isradipine via proniosomal systems, *Drug Development and Industrial Pharmacy*, 39 (2013) 909-917.
46. **S. Bobbala**, P.R. Veerareddy, Formulation, evaluation, and pharmacokinetics of isradipine proliposomes for oral delivery, *Journal of Liposome Research*, (2012) 285-294.
47. A. Gurrapu, R. Jukanti, **S. Bobbala**, S. Kanuganti, J.B. Jeevana, Improved oral delivery of valsartan from maltodextrin based proniosome powders, *Advanced Powder Technology*, 23 (2012) 583-590.

PATENTS

1. **S. Bobbala**, B. Misra, Ionizable and cationic lipid nanoparticles for intracellular drug delivery. *U.S. Patent Application No, 24/36890*.
2. E.A. Scott, **S. Bobbala**, S. Allen, Remote modulation of bicontinuous nanospheres for controlled delivery applications. *U.S. Patent Application No, 17/301, 512*, 2021.
3. E.A. Scott, **S. Bobbala**, M. Vincent, Rehydratable, morphologically diverse nanocarrier powders. *U.S. Patent Application No, 17/807, 372*, 2022.

TEXTBOOK CHAPTERS

1. B. Misra, K. A. Hughes, **S. Bobbala**, Nano-Adjuvants. In *Nanomedicines for the prevention and treatment of infectious diseases*. Springer International Publishing (2023) pp 297-330. (**Part of AAPS Advances in the Pharmaceutical Sciences Series book series)
2. J. Rice, M. Martino, **S. Bobbala**, E.A. Scott, J. Hubbell. Controlled release strategies in tissue engineering. In *Tissue Engineering*. Academic Press (2023) pp 387-430.

INVITED TALKS

1. "Nanomaterials for vaccine delivery" **at MBT program invited seminar series, Department of Biomedical Sciences, University of Illinois Chicago,** Rockford, IL, USA November 2023.
2. "Nanomaterials for vaccine delivery" **at MBT program invited seminar series, Department of Biomedical Sciences, University of Illinois Chicago,** Rockford, IL, USA October 2022.
3. "Stimuli-responsive biomaterials for immunomodulation and vaccine delivery" **at Virtual Mini-symposium series, Biomaterials and Tissue Engineering, IIT Madras,** Chennai, India, November 2021.
4. "Immunomodulation and vaccine delivery" **at Faculty candidate seminar series, University of Arizona, College of Pharmacy,** Tucson, AZ, USA, March 2021.

5. "Morphologically diverse nanocarriers for immunomodulation and vaccine delivery" **at Faculty candidate seminar series, West Virginia University, School of Pharmacy,** Morgantown, WV, USA, January 2021.
6. "Morphologically diverse self-assembled nanocarriers for immunomodulation" **at Pharmacy seminar series, West Virginia University, School of Pharmacy,** Morgantown, WV, USA, February 2019.
7. "Engineering morphologically diverse self-assembled nanocarriers for immunomodulation" **at BSSE-IISc seminar series, Indian Institute of Science, Centre of Biosystems Science and Engineering,** Bengaluru, India, September 2018.
8. "Oxidation-responsive polymeric bicontinuous nanospheres for drug and vaccine delivery" **at NanoBio Collaborative International Conference 2018, University of South Florida,** Tampa, Florida, USA, January 2018.
9. Emerging Researcher & UCPSC-Alumni special lecture on "Novel Delivery Strategies for Single-shot Vaccines" **at University College of Pharmaceutical Sciences, Kakatiya University,** Warangal, India, August 2017**.**
10. **"**Rheological characterization of thermoresponsive hydrogels" at **Joint New Zealand & Australian Chapters of the Controlled Release Society Rheology workshop**, Dunedin, New Zealand, December 2015.
11. **AAPS & PSGSA** student chapter special seminar on "Novel injectable pentablock copolymer hydrogels for sustained release cancer vaccines" at UKMC School of pharmacy, Kansas City, MO, USA, October 2014.

ABSTRACTS AND CONFERENCE PRESENTATIONS (SELECTED)

1. B. Misra and **S. Bobbala**, Adjuvanted ionizable lipid nanoparticles for mRNA delivery. **Poster Presentation** at the 2023 AAPS PharmSci 360, Orlando, USA, 2023. *(Best Abstract Award)*
2. K.A. Hughes, W. Geldenhuys, **S. Bobbala**, Acetalated dextran nanoparticles allow precise intracellular drug delivery into B-cell acute lymphocytic leukemia cells. **Poster Presentation** at the 2023 AAPS PharmSci 360, Orlando, USA, 2023.
3. B. Misra and **S. Bobbala**, Ionizable lipid nanoparticles for precise intracellular delivery of CpG DNA adjuvant. **Poster Presentation** at the 2022 AAPS PharmSci 360, Boston, USA, 2022.
4. K.A. Hughes, B. Misra**,** M. Maghareh, **S. Bobbala**, Fabrication of pH-responsive acetalated dextran nanoparticles using flash nanoprecipitation of intracellular delivery of payloads. **Poster Presentation** at the 2022 AAPS PharmSci 360, Boston, USA, 2022. *(Special Poster Collection)*

5. **S. Bobbala**, S. Allen, N. Karabin, E. A. Scott Versatile assembly of polymeric bicontinuous nanospheres via flash nanoprecipitation **Oral Presentation** at the SFB Annual Meeting 2019, Seattle, USA, 2019.
6. **S. Bobbala**, S. Allen, N. Karabin, E. A. Scott Versatile assembly of oxidation-responsive polymeric bicontinuous nanospheres via flash nanoprecipitation: In vitro and in vivo evaluation **Oral Presentation** at the BMES Annual Conference 2018, Atlanta, USA, 2018.
7. **S. Bobbala**, S. Allen, E. A. Scott Oxidation-responsive polymeric bicontinuous nanospheres for drug and vaccine delivery **Oral Presentation** at the NanoBio Collaborative International Conference 2018, Tampa, USA, 2018.
8. N. Karabin, S. Allen, **S. Bobbala**, T. Shookuhfar, K. Shull, E.A. Scott In situ generation and release of monodisperse micellar vehicles for sustained delivery to antigen presenting cells **Poster Presentation** at the Gordon Research Seminar on Bio-Inspired Materials 2018, Les Diablerets, Switzerland, 2018.
9. S. Yi, **S. Bobbala**, Y. Liu, E.A. Scott Engineered immunomodulatory nanocarriers reduce atherosclerosis in apolipoprotein E knockout mice **Moderated Poster Presentation** at the American Heart Association 2018, Chicago, USA, 2018.
10. **S. Bobbala**, S. Allen, E. A. Scott Flash nanoprecipitation supports the self-assembly and loading of oxidation-responsive polymeric bicontinuous nanospheres **Poster Presentation** at the Controlled Release Society Annual Meeting 2018, New York, USA, 2018.
11. **S. Bobbala,** S. Allen, T. Stack, N. Karabin, E. A. Scott Engineering nanomaterial morphology to enhance immunotheranostic strategies **Poster Presentation** at the Regenerative biology and stem cell retreat, Chicago, USA, 2017.
12. **S. Bobbala,** B. Gibson, S. Hook Is the sustained release of vaccine antigens beneficial or detrimental to the development of immunity? **Oral Presentation** at the International Congress of Immunology, Melbourne, Australia, 2016.
13. **S. Bobbala,** A. McDowell, A. Gamble, S. Hook Injectable modified chitosan hydrogels for single-shot sustained release vaccines **Poster presentation** at the Drug delivery Australia 2015, Brisbane, Australia, 2015.
14. **S. Bobbala,** V. Tamboli , A. McDowell , A. Mitra , S. Hook Novel injectable pentablock copolymer hydrogels containing PLGA nanoparticles for sustained release cancer vaccines **Poster presentation** at the 2014 AAPS Annual Meeting and Exposition, San Diego, USA, 2014.
15. **S. Bobbala,** V. Tamboli , A. McDowell , A. Mitra , S. Hook Novel injectable pentablock copolymer hydrogels for sustained release cancer vaccines **Oral presentation** at the D4 - Devices for Diagnostics and Drug Delivery, Dunedin, NZ, 2014.

16. **S. Bobbala,** V. Tamboli, A. McDowell , A. Mitra , S. Hook Novel poly lactic-co-glycolic acid (PLGA) loaded-pentablock copolymer thermoresponsive hydrogels for sustained vaccine delivery **Oral presentation** at the NZ ASI, Palmerston North, NZ, 2014.
17. **S. Bobbala,** V. Tamboli , K. Young, A. McDowell , A. Mitra , S. Hook Novel injectable pentablock copolymer- based thermoresponsive hydrogels for sustained vaccine delivery **Oral presentation** at the 5th FIP Pharmaceutical Sciences World Congress, Melbourne, Australia, 2014.
18. **S. Bobbala,** V. Tamboli, A. McDowell , A. Mitra , S. Hook PLGA nanoparticle-embedded thermoresponsive hydrogels for sustained vaccine delivery **Poster presentation** at the Australasian Pharmaceutical Science Association annual meeting, Dunedin, NZ, 2013.
19. **S. Bobbala,** S. Bandari, R. Jukanti, P. Veerareddy Isradipine loaded proliposome powders for improved oral delivery **Poster presentation** at the 2011 AAPS annual meeting and exposition, Washington DC, USA, 2011.

GRADUATE STUDENTS MENTORING (WVU)

Student	Year	Qualification
Krystal Hughes	2021-Present	Pharm D
Bishal Misra	2022-Present	MS
William Pentz (MD PHD)	2023-Present	BS

SUMMER STUDENTS MENTORING (WVU)

Student	Year	Pursuing course
Morgan Surface	2023	Pharm D
Ethan Nguyen	2023	BS
Maryam Maghareh	2022	Pharm D
Numa Kamal	2022	High School Junior

ROTATION GRADUATE STUDENTS (WVU)

Student	Month/Year
William Pentz	May 2023
Krystal Hughes	October 2021
David Salcedo Tacuma	November 2021

Bishal Misra	December 2021

GRADUATE THESIS COMMITTEE (WVU)

Student	**Month/Year**
David Salcedo Tacuma	2023-Present
Emily Henderson	2023-Present
James Mersch	2021-Present
Megan Holloway	2021-Present
Surya Prasad Devkota (MS)	2022-2023
Wollford Cullen	2022-Present
Mena Mansy (MS)	2022-2023
Gayathri Palliyage	2022-2023

REVIEWER/EDITORIAL ROLE

1. Topic Editorial Member for Pharmaceutics (MDPI Journal)- (2020-Present)
2. Review Editor- Frontiers in Drug Delivery, Vaccine Delivery Section (Frontiers)- (2021-Present)
3. Manuscript Reviewer for Nature Nanotechnology (Nature Publisher) (2022-Present).
4. Manuscript Reviewer for European Journal of Pharmaceutics and Biopharmaceutics (Elsevier) (2023-Present).
5. Manuscript Reviewer for Journal of Materials Science (Springer)- (2023-Present).
6. Manuscript Reviewer for Journal of Biomaterials Research Part A (Springer)- (2023-Present).
7. Manuscript Reviewer for Journal of Biomaterial Applications (SAGE) (2018-Present).
8. Manuscript Reviewer for Colloids and Surfaces B: Biointerfaces (Elsevier) (2017-Present).
9. Manuscript Reviewer for Journal of Drug Delivery Science and Technology (Elsevier) (2017-Present).
10. Manuscript Reviewer for Pharmaceutical Research (Springer)- (2016-Present).
11. Manuscript Reviewer for Pharmaceutics (MDPI Journal)- (2017-Present).
12. Manuscript Reviewer for Vaccines (MDPI Journal)- (2019-Present).
13. Manuscript Reviewer for International Journal of Molecular sciences (MDPI Journal)- (2018-Present).
14. Manuscript Reviewer for Applied Sciences (MDPI Journal)- (2018-Present).

ACTIVITIES

- Volunteer at **"**STEM pathway for Parents**"** at Northwestern University- An outreach program aimed at increasing participation of women and underrepresented minorities (URM) in STEM fields.
- Appraiser at 'Destination Imagination', a children talent search competition, Chicago, USA.
- Organizing chair for Joint New Zealand & Australian Chapters of the Controlled Release Society Rheology workshop, Dunedin, New Zealand, 2015.
- Postgraduate representative in New Zealand's National School of Pharmacy (2014-2015).
- Member of Research Committee (elected- postgraduate student) in New Zealand's National School of Pharmacy (2014-2015).
- Student advisor to International Postgraduate students at University of Otago (2013-2015).
- President National Green Corps (NGC)-Ministry of Environment, in High School (2000-2003).

MEMBERSHIPS

- American Association of Colleges of Pharmacy (AACP)
- American Association of Pharmaceutical Scientists (AAPS)
- Controlled Release Society (CRS)
- Biomedical Engineers Society (BMES)
- Society for Biomaterials (SFB)