

JEOUNG SOO LEE, PHD

PERSONAL DATA

Professor
Department of Bioengineering
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Clemson University
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EDUCATION:

B. S. Pharmacy, College of Pharmacy, Pusan National University, Korea
M. S. Pharmaceutical Sciences, College of Pharmacy, Pusan National University, Korea
Ph. D. Pharmaceutical Sciences, College of Pharmacy, Pusan National University, Korea
Post-doc, Pharmaceutics & Pharmaceutical Chemistry, University of Utah
Post-doc, Bioengineering, Clemson University

PROFESSIONAL EXPERIENCE

2023-Present Professor, Clemson University, Dept. of Bioengineering, Clemson, SC
2023-Present Research Professor, Furman University, Chemistry Department, Greenville, SC
2023-Present Member of Global Advisory Group, Ministry of Korean Food and Drug Safety
Seoul, South Korea
2022-Present Founder & CTO, NeuroHope Therapeutics, Inc, Greenville, SC
2019-present Adjunct faculty, University of South Carolina, Medical school, Columbia, SC
2018-2023 Associate professor, Clemson University, Dept. of Bioengineering, Clemson, SC
2017- 2019 Globex Faculty Fellow, Pecking University, College of Engineering, Beijing, China
2012-2018 Assistant Professor, Clemson University, Dept. of Bioengineering, Clemson, SC
2006-2012 Research Assistant Professor, Clemson University, Dept. of Bioengineering,
Clemson, SC
2003-2006 Post-Doctoral research associate, Clemson University, Dept. of Bioengineering,
Clemson, SC
1999-2003 Post-Doctoral research associate, University of Utah, Dept. of Pharmaceutics
and Pharmaceutical Chemistry, Salt Lake City, UT
1999 Post-Doctoral research associate, Pusan National University,
Research Institute of New Drug Development, Pusan, Republic of Korea
1998-1999 Lecturer, Jinju University, Department of Nursing, Jinju, Republic of Korea
1997-1999 Lecturer, Catholic University of Pusan, Pusan, Republic of Korea
1994-1996 Teaching assistant, Pusan National University, College of Pharmacy,
Pusan, Republic of Korea

MEMBERSHIPS

SCBio : 2022~present
South Carolina Research Authority: 2022 ~ present
Society for Neurosciences : 2016 ~ present

National Neurotrauma Society: 2022~present
Military Health System Research: 2016~ present
Society for Biomaterials : 2003~ present
Biomedical Engineering Society : 2010~ present
Korean-American Scientists and Engineers Association : 2017~ present
Korean-American Women in Science and Engineering: 2019~ present
American Society of Cell and Gene Therapy : 2001~2003
American Association of Pharmaceutical Scientists : 1999~2010
Controlled Release Society :2001~2003

Professional Activities

Member, Global Expert Advisory Group : 08/2023~ present
Korean Ministry of Food and Drug Safety. Seoul, South Korea

Member, Board of Trustees : 08/2023~ present
St Joseph's High School, Greenville, SC

Special Issue Editor : 04/2022 ~08/2023
MDPI Bioengineering, Special Issue "Regeneration and Repair in the Central Nervous System"
https://www.mdpi.com/journal/bioengineering/special_issues/central_nervous_system

Topic editor : October 2020 ~Sep 2023
MDPI Bioengineering

Review Editor : Jan 2021~ present
Frontiers in cellular and molecular Biology, Molecular and cellular oncology,

Grant Reviewer:

- Peer reviewer, CDMRP/Peer Reviewed Medical Research Program 2023, Aug. 2023
- Peer reviewer, CDMRP/DoD, Spinal Cord Injury Research Program, Nov. 2021
- Peer reviewer, South Carolina Spinal Cord Injury Research Fund, 2020~2021
- Peer reviewer, American Heart Association AIREA 2 roster, November 2019

Session organizer:

Organized a session and served as a session Chair for "Materials and Technology for drug and nucleic acid delivery" in Institute of Biological Engineering (IBE) 2017 meeting, SLC, UT

Junior Faculty Mentor:

NIH/UTEP BUILDing SCHOLARS: First Class of Supermentors program (2015)

Student Mentor:

TEAM Local Diversity Engagement Program in National Neurotrauma Society meeting, Atlanta, GA (2022)
NIH/UTEP BUILDing Scholars - Faculty- Student Mentoring Program (2017)

Journal Ad-hoc Reviewer:

- Small
- Nanomedicine; Nanotechnology, Biology and Medicine
- Nanoscale

- Journal of Cancer Research and Clinical Oncology
- Theranostics
- Biomaterials
- Molecular Therapy
- IET Nanobiotechnology
- Neuroreport
- Journal of Biomedical Engineering
- Acta Biomaterialia
- Scientific reports
- PLOS One
- Applied Surface Science
- European Journal of Medicinal Chemistry
- DNA and RNA nanotechnology

Conference abstract reviewer:

- Biomedical Engineering Society 2011 Annual Meeting

External reviewer for faculty in Academia

- Drexel University
- University of Georgia
- Uniformed Services University

AWARDS AND HONORS

- 2019 “A cationic amphiphilic co-polymer as a carrier of nucleic acid nanoparticles (NANPs) for controlled gene silencing, immunostimulation, and biodistribution”, *Nanomedicine: Nanotechnology, Biology and Medicine*, 23 (2019), **co-corresponding author**, Selected as Feature Article for the January 2020 issue of *Nanomedicine: NBM*.
- 2019 1ST and 2ND poster award at the Wallace R. Roy Functional Radiology Symposium
- 2016 Young Investigator Award at the 6th Biennial NIH (National Institutes of Health) NISBRE (National IDeA Symposium of Biomedical Research Excellence)
- 2014 Young Investigator Award at the 5th Biennial NIH (National Institutes of Health) NISBRE (National IDeA Symposium of Biomedical Research Excellence)
- 1998 Graduate Fellowship Award, Korea Research Fountain (KRF)

INVITED PRESENTATION

1. Multi-functional Polymeric Micelle Nanocarrier for Central Nervous System Injury Repair, Cha Medical University, Seoul, South Korea (June 17, 2024)
2. Multi-functional Polymeric Micelle Nanocarrier for Central Nervous System Injury Repair, College of Pharmacy, Busan National University, Busan, South Korea (May 24, 2024)
3. Neuron-specific Nanotherapeutics for Traumatic Brain Injury Repair, Loyola University, Chicago, IL, (March 20, 2024)
4. Polymeric Micelle Nanocarrier as a drug and gene carrier for CNS Injury and Disease, Department of Physics, Clemson University (March 7, 2024)

5. Multi-functional Polymeric Nanocarrier for CNS Injury and Disease, Department of Pathology and Laboratory Medicine, Medical University of South Carolina, Charleston, SC (Nov 28, 2023)
6. Journey to Develop Neuron-specific Nanotherapeutics for Spinal Cord Injury Repair, South Carolina Spinal Cord Injury Research Fund 2023 Conference, Charleston, SC (Nov 3, 2023)
7. Multi-functional Polymeric Nanocarrier for Combinatorial Therapy of Bioactive Molecules, Korean-American Women in Science and Engineering (KWise) 2019 meeting, Atlanta, GA (May 18, 2019)
8. Multi-functional Polymeric Nanocarrier for Combinatorial Therapy of Bioactive Molecules, College of Pharmacy, University of Georgia, Athens, GA (Feb 6, 2019)
9. Multi-functional nanocarrier for drug-loaded vascular suture, Universite Haute Alsace, Mulhouse, Alsace, France (Dec 19, 2018)
10. Multifunctional nanocarriers for combinatorial therapy of drug and therapeutic nucleic acids, 2018 SC Association of Neurological Surgeons Meeting, Charleston, SC (Dec 1, 2018)
11. Multi-functional Polymeric Micelle Nanocarriers for Central Nervous System Regeneration, School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore (June 24, 2018)
12. Combinatorial Therapy using Polymeric Micelle Nanocarrier for Axon Regeneration after CNS injury, SEBC 2018 Conference, Charlotte, NC (Mar 9-11, 2018)
13. Multifunctional nanotherapeutics for spinal cord injury repair, 2017 SC Association of Neurological Surgeons Meeting, Charleston, SC (Dec 1, 2017)
14. Combinatorial Therapy Using Polymeric Micelle Nanocarrier for CNS regeneration, Clemson-China International Symposium, Clemson (Apr 10, 2017)
15. Neuron-specific nanotherapeutics for axonal regeneration after spinal cord injury, South Carolina-Spinal Cord Injury research Fund Conference, MUSC, Charleston (Mar 10, 2017)
16. Cationic, amphiphilic polymeric micelle mediated RhoA siRNA knockdown promote axon regeneration after spinal cord injury, Storm Eye Institute, MUSC, SC (Jan 19, 2017)
17. Multi-functional polymeric micelle nanocarrier for CNS regeneration, Biomaterials Day 2016, Georgia Tech, Atlanta, GA (Oct 14, 2016)
18. Polymeric Micelle Nanocarriers for Combinatorial Therapy of Bioactive Molecules, School of Pharmacy, UW Medison, WI (Oct 20, 2016)
19. Engineered target-specific Nanocarrier for Combinatorial Therapy of Bioactive Molecules, Department of Chemistry, UNCC (Sep 20, 2015)
20. Jeoung Soo Lee, Neuron-specific Polymeric Nanocarrier for Axon Regeneration after CNS Injury, Brain Korea 21 Seminar Series, Department of Pharmaceutics, College of Pharmacy, Pusan National University, Busan, Korea (June, 2015)
21. Jeoung Soo Lee, Engineered Polymeric Nanocarrier for Combinatorial Therapy of Bioactive Molecules, 2015 Global RNAi Carrier Initiative Symposium, Korea Institute of science and technology (KIST), Seoul, Korea (May, 2015)
22. Jeoung Soo Lee, Multifunctional Polymeric Micelle Nanocarrier for Combinatorial Therapy, Clemson University-Japan International Symposium, Clemson, SC (Apr 2015)

MANUSCRIPT IN PREPARATION

1. Zhen Liao, Jun Gao, Min Kyeong Khang, Megan Detloff, Ken Webb, and **Jeoung Soo Lee**. Intrathecally administered Rolipram loaded P_gP (Rm-P_gP) nanoparticle improves motor function and reduces neuropathic pain in a rat moderate contusion SCI model. Manuscript in preparation. Manuscript in preparation for Journal of Neuroscience.
2. Zhen Liao, Jun Gao, Min Kyeong Khang, Megan Detloff, Ken Webb, and **Jeoung Soo Lee**. Intrathecally administered Rolipram loaded P_gP nanoparticle reduces secondary injury in a rat moderate contusion SCI model. Manuscript in preparation for Journal of Neurotrauma.

3. Claire E. Jones, Bradley Elliott, Fuying Ma, Zack Johnson, Zhen Liao, Zachary Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and **Jeoung Soo Lee**, PEG based HA-Dexamethasone hydrogel reduced inflammatory response and improves motor function in a rat moderate controlled cortical impact (CCI) TBI model. Manuscript in preparation for Biomedicine
- 4.

PEER REVIEWED PUBLICATIONS

- 1) Jun Gao, MinKyung Khang, Zhen Liao, Ken Webb, Megan Detloff, and Jeoung Soo Lee, Rolipram-loaded PgP nanoparticle reduces secondary injury and enhances motor function recovery in a rat moderate contusion SCI model. *Nanomedicine*. 2023 Sep;53:102702. doi: 10.1016/j.nano.2023.102702. Epub 2023 Aug 11. PMID: 37574117.
- 2) Claire Jones, Bradley Elliott, Zhen Liao, Zack Johnson, Fuying Ma, Zachary S Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and **Jeoung Soo Lee**. PEG hydrogel containing dexamethasone-conjugated hyaluronic acid reduces secondary injury and improves motor function in a rat moderate TBI model. *Exp Neurol*. 2023 Nov; 369:114533. doi: 10.1016/j.expneurol.2023.114533. Epub 2023 Sep 4. PMID: 37666386.
- 3) Christian Macks, Daun Jeong, Sooneon Bae, Ken Webb, and **Jeoung Soo Lee**. Dexamethasone-Loaded Hydrogels Improve Motor and Cognitive Functions in a Rat Mild Traumatic Brain Injury Model. *Int J Mol Sci*. 2022 Sep 22;23(19):11153. doi: 10.3390/ijms231911153. PMID: 36232454; PMCID: PMC9570348.
- 4) Morgan Chandler, Lewis Rolband, M. Brittany Johnson, Da Shi, Yelixza I. Avila, Edward Cedrone, Damian Beasock, Leyla Danai, Elizabeth Stassenko, Joanna K. Krueger, Jiancheng Jiang, **Jeoung Soo Lee**, Marina A. Dobrovolskaia, Kirill A. Afonin. Expanding structural space for immunomodulatory nucleic acid nanoparticles (NANPs) via spatial arrangement of their therapeutic moieties, *Advanced Functional Materials*. 2022 Oct, 32 (43) doi.org/10.1002/adfm.202205581
- 5) Christian Macks, Daun Jeong, and **Jeoung Soo Lee**. Rolipram by PgP nanocarrier reduces secondary injury and improves motor function in a rat mild TBI model. *Nanomedicine (Lond)*. 2022 Mar;17(7):431-445. doi: 10.2217/nnm-2021-0271. Epub 2022 Feb 21. PMID: 35184609; PMCID: PMC8905552.
- 6) Joshua Woo and **Jeoung Soo Lee**. Effect of lyoprotectants on long-term stability and transfection efficacy of lyophilized poly(lactide-co-glycolide)-graft-polyethylenimine/plasmid DNA polyplexes. *Nanomedicine (Lond)*. 2021 Jun;16(15):1269-1280. doi: 10.2217/nnm-2021-0065. Epub 2021 May 28. PMID: 34044608
- 7) Christian Macks, Daun Jeong, Michael Lynn, and **Jeoung Soo Lee**, Local delivery of RhoA siRNA by PgP nanocarrier reduces inflammatory response and improves neuronal cell survival in a rat TBI model. *Nanomedicine, NBM*. 2020 Nov 28:102343. doi: 10.1016/j.nano.2020.102343. Epub ahead of print. PMID: 33259960.
- 8) Jeong DU, Bae S, Macks C, Whitaker J, Lynn M, Webb K, **Jeoung Soo Lee**. Hydrogel-mediated local delivery of dexamethasone reduces neuroinflammation after traumatic brain injury. *Biomed Mater*. 2020 Nov 5. doi: 10.1088/1748-605X/abc7f1. Epub ahead of print. PMID: 33152711.
- 9) Jayesh Betala, Sooneon Bae, Eugene M. Langan III, Martine LaBerge, and **Jeoung Soo Lee**, Combinatorial Therapy of Sirolimus and Heparin by Cationic Amphiphilic Nanocarrier Inhibits Restenosis in Porcine Coronary Artery after Balloon Angioplasty *ex vivo*. *Nanomedicine (Lond)*. 2020 May;15(12):1205-1220. doi: 10.2217/nnm-2020-0028. Epub 2020 Apr 28. PMID: 32340540; PMCID: PMC7466912.

- 10) Justin Halman, Ki-Taek Kim, So-Jung Gawk, Richard Pace, Morgan B Johnson, Morgan R Chandler, Lauren Rackley, Mathias Viard, Ian Marriott, **Jeoung Soo Lee (Co-corresponding author)**, and Kirill Afonin, A cationic amphiphilic co-polymer as a carrier of nucleic acid nanoparticles (NANPs) for controlled gene silencing, immunostimulation, and biodistribution, *Nanomedicine, Nanotechnology, Biology, and Medicine*, 23 (2020), 102094
- 11) So-Jung Gwak and **Jeoung Soo Lee**, Suicide gene therapy by amphiphilic copolymer nanocarrier for spinal cord tumor., *Nanomaterials* **2019**, 9(4), 573
- 12) Sooneon Bae, Mike J DiBalsi, Nicole Meilinger, Changzhi Zhang, Beal, Guzylieva Korneva, Robert Brown, Konstantin Kornev, **Jeoung Soo Lee**. Heparin-Eluting Electrospun Nanofiber Yarns for Antithrombotic Vascular Sutures. *ACS Appl Mater Interfaces*. 2018, 14;10(10):8426-8435. doi: 10.1021/acsami.7b14888. Epub 2018 Mar 5. PMID: 29461035
- 13) Jayesh Betala, **Jeoung Soo Lee**, Eugene M. Langan III, and Martine LaBerge, Effect of 17- β Estradiol and Iopromide on Rat Primary Smooth Muscle Cell Hyperplastic Response in Static and Dynamic Conditions, *Annals of Vascular Medicine and Research*, 2018, 5(2): 1088
- 14) Christian Macks, So-Jung Gwak, Michael Lynn, and **Jeoung Soo Lee**. Rolipram-loaded polymeric micelle nanoparticle reduces secondary injury after rat compression spinal cord injury, *Journal of Neurotrauma*, 2018, 35:582–592, Jan 3. doi: 10.1089/neu. 2017.5092. [Epub ahead of print], PMID:29065765, PMCID:PMC5793955
- 15) So-Jung Gwak, Christian Macks, Sooneon Bae, Noah Cecil, and **Jeoung Soo Lee**. Physicochemical stability and transfection efficiency of cationic amphiphilic copolymer/pDNA polyplexes for spinal cord injury repair, *Scientific Report*, 2017, 12;7(1):11247. doi: 10.1038/s41598-017-10982-y. PMID:28900263, PMCID:PMC5595900
- 16) So Jung Gwak, Christian Macks, Mark Kindy, Michael Lynn, Ken Webb, and **Jeoung Soo Lee**, RhoA knockdown by PgP/RhoA siRNA polyplex enhances axona regeneration after spinal cord injury, *Biomaterials*, 2017; 121, 155-166, PMID:28088077, PMCID: PMC5315572I
- 17) Jeremy Zhang, Atanu Sen, Eenhee, Cho, **Jeoung Soo Lee** and K. Webb. "Poloxamine/fibrin hybrid hydrogels for controlled release of nonviral vectors" *Journal of Tissue Engineering and Regenerative Medicine* 11(1): 246-255 (2017)., PMID:24889259
- 18) So Jung Gwak, Justin Nice, Jeremy Zhang, Benjamin green, Christian Macks, Sooneon Bae, and Ken Webb, and **Jeoung Soo Lee**. Cationic, amphiphilic polymeric micelle as a nucleic acid carrier in the rat spinal cord. *Acta Biomaterialia*, 2016; 35:98-108., PMID:26873365 PMCID:PMC4829463
- 19) Sooneon Bae, Ho Joon Lee, **Jeoung Soo Lee**, and Ken Webb. **(Co-corresponding author)** Cell-Mediated Dexamethasone Release from Semi-IPNs Stimulates Osteogenic Differentiation of Encapsulated Mesenchymal Stem Cells. *Biomacromolecules*. 2015; 16(9):2757-65., PMCID:PMC5352458,
- 20) Christian Macks and Jeoung Soo Lee, Non-viral Vector Mediated RNA Interference Technology for Central Nervous System Injury, *DNA and RNA Nanotechnology*. 2016 June 22; 3:13-22
- 21) Ho Joon Lee, Sooneon Bae, Atanu Seng, **Jeoung Soo Lee**, and Ken Webb. PEG-diacrylate/hyaluronic acid semi-interpenetrating network compositions for 3D cell spreading and migration. *Acta Biomaterialia* 14:43-52 (2015), 25523876, PMCID:PMC4313787
- 22) Jeremy Zhang, Sooneon, Bae, **Jeoung Soo Lee**, and Ken Webb. Efficacy and mechanism of poloxamine-assisted polyplex transfection. *Journal of Gene Medicine*. 15 (8-9), 271-281 (2013), 23813893, PMCID:PMC4085676

- 23) Eunhee Cho, **Jeoung Soo Lee**, and Ken Webb. "Formulation and characterization of poloxamine-based hydrogels as tissue sealants", *Acta Biomaterialia*. 8(6):2223-32 (2012), 22406506, PMID:PMC3348439
- 24) Eunhee Cho, Jaishankar K. Kutty, Kedar Datar, **Jeoung Soo Lee**, Naren R. Vyavahare and Ken Webb. "A Novel Synthetic Route for the Preparation of Hydrolytically Degradable Synthetic Hydrogels. *JBMR (Part A)*, 90 (4): 1073-1082 (2009), 18671270
- 25) Rebecca C Cribb, F. T. Haddadin, **Jeoung Soo Lee**, and Ken Webb. "Baculovirus Expression and Bioactivity of a Soluble 140 kDa Extracellular Cleavage Fragment of L1 Neural Cell Adhesion Molecule." *Protein Expression and Purification*. 57 (2):172-179 (2008), 18060806
- 26) Jaishankar K Kutty, Eunhee Cho, **Jeoung Soo Lee**, Naren R. Vyavahare, and Ken Webb. "The effect of hyaluronic acid incorporation on fibroblast spreading and proliferation within PEG-diacrylate based semi-interpenetrating networks" *Biomaterials* 28:4928-38 (2007). 17720239
- 27) **Jeoung Soo Lee**, Joo Hyeun Rho, Young Wook Yang, Hae sik Kong, and Young Mi Kim, Synthesis and in vitro evaluation of N-nicotinoylglycyl-2-(5-fluorouracil-1-yl)-D,L-glycine as a colon-specific prodrug of 5-fluorouracil. *J Drug Target*, 2007, 15(3):199-205
- 28) **Jeoung Soo Lee**, Young Wook Yang, Inho Kim, Yun Jin Jung, and Young Mi Kim, Synthesis and properties of N-nicotinoyl-2-(5-fluorouracil-1-yl)-D,L-glycine ester as a prodrug of 5-fluorouracil for rectal administration. *Eur J Pharm Biopharm*. 2007 66(2):260-267, 17182232
- 29) **Jeoung Soo Lee**, Dina M. Basalyga, Agneta Simionescu, Jason C. Isenburg, Dan T. Simionescu, and Narendra R. Vyavahare, Elastin calcification in the rat subdermal model is accompanied by upregulation of degradative and osteogenic cellular responses. *Am J. Pathol*, 168 (2), 490-498 (2006), 16436663
- 30) Dan T. Simionescu, Quijin Lu, Ying Song, **Jeoung Soo Lee**, TN Rosenbalm, C Kelly, and Naren Vyavahare, Biocompatibility and remodeling potential of pure arterial elastin and collagen scaffolds. *Biomaterials*, 27(5), 702-713 (2006). 16048731
- 31) **Jeoung Soo Lee**, Minhyung Lee, and Sung Wan Kim, A New Potent hFIX Plasmid for Hemophilia B Gene Therapy, *Pharm. Res.*, 21 (7), 1229-1232 (2004), 15290864
- 32) Yun Jin Jung, Minju Doh, Haesik Kong, **Jeoung Soo Lee** and Young Mi Kim Prednisolone 21-sulfate sodium: a colon-specific pro-drug of prednisolone, *J Pharm Pharmacology*, 55 (8), 1075-1082 (2003), 12956896
- 33) Seong-Wan Cho, Jeoung Soo Lee, and Seung-Ho Choi, Enhanced oral bioavailability of poorly absorbed drugs. Screening of absorption carrier for the ceftriaxone complex. *Journal of Pharmaceutical Sciences*, 93(3):612-20 (2004), 14762900
- 34) **Jeoung Soo Lee**, SeungHo Choi, and SungWan Kim. Improvement of Oral Absorption of Ceftriaxone using bioadhesive polymers. *Tenth International Symposium on recent Advances in Drug Delivery Systems*, 145-146 (2001)
- 35) Yun Jin Jung, **Jeoung Soo Lee** and Young Mi Kim, Colon-specific Prodrug of 5-Aminosalicylic acid: Synthesis and *In Vitro/In Vivo* Properties of Acidic Amino acid Derivatives of 5-Aminosalicylic acid. *J. Pharm.Sci.*, 90 (11), 1767-1775 (2001)
- 36) **Jeoung Soo Lee**, Yun Jin Jung, Minju Doh, and Young Mi Kim, Synthesis and Properties of Dextran-Nalidixic acid Ester as a Colon-specific Prodrug of Nalidixic acid. *Drug Dev Ind Pharm.*, 27(4), 331-336 (2001)
- 37) **Jeoung Soo Lee**, Yun Jin Jung, Hak Hyun Kim, and Young Mi Kim, Development of a Colon-specific Prodrug of 5-Fluorouracil: Synthesis and Properties of N-Nicotinyl-2-(5-Fluorouracil-1-yl)-D,L-Glycine. *J. Pharm. Sci.*, 90 (11), 1787-1794 (2001)
- 38) Yun Jin Jung, **Jeoung Soo Lee** and Young Mi Kim, Synthesis and *In Vitro/In Vivo* Evaluation of 5-Aminosalicyl-Glycine as a Colon-specific Prodrug of 5-Aminosalicylic acid. *J.*

- Pharm.Sci.*, **89** (5), 594-602 (2000)
- 39) **Jeoung Soo Lee**, Yun Jin Jung, Youn Taeg Kim, Young Mi Kim, Formation, Properties and Antimicrobial Activities of Cotton Xanthate-Cu(II)-Metronidazole Complex. *Textile Res. J.*, **70** (7), 641-645 (2000)
 - 40) **Jeoung Soo Lee**, Yun Jin Jung, Min Ju Doh and Young Mi Kim, Cotton Fabrics with Prolonged Antibacterial Activity: Formation, Properties of Cotton Xanthate-Al(III)-Tetracycline Complex. *J. Bioac. and Comp. Pol.*, **15** (5), 425-437 (2000)
 - 41) Yun Jin Jung, **Jeoung Soo Lee**, Yun Taek Kim, Young Mi Kim and Suk Kyu Han, Synthesis and Evaluation of 5-Aminosalicyl-glycine as a Potential Colon-specific Prodrug of 5-Aminosalicylic acid. *Arch. Pharm. Res.*, **21**(2), 174-178 (1998).
 - 42) Yun Jin Jung, **Jeoung Soo Lee**, Hak Hyun Kim, Young Mi Kim, and Suk Kyu Han, Synthesis and Properties of 5-Aminosalicyl-L-Aspartic Acid and 5-Aminosalicyl-L-Glutamic Acid as Colon-specific Prodrugs of 5-Aminosalicylic Acid. *Yakhak Hoeji*, **42**(1), 5-11 (1998).
 - 43) Young Mi Kim, Neung Jin Ha, Yun Jin Jung, and **Jeoung Soo Lee**, Formation and Properties of Cotton Xanthate-Mg(II)-Homosulfamine Complex. *Pusan Bulletin of Pharmaceutical Sciences*, **33**, 9-13 (1999)
 - 44) Yun Jin Jung, **Jeoung Soo Lee**, Hak Hyun Kim, Young Mi Kim, and Suk Kyu Han, Dextran-5-(4-Ethoxycarbonylphenylazo) Salicylic Acid Ester as a Colon-specific Prodrug of 5-Aminosalicylic Acid. *Yakhak Hoeji*, **42**(1), 31-38 (1998).
 - 45) Yun Jin Jung, **Jeoung Soo Lee**, Yun Taek Kim, Young Mi Kim, Synthesis and Properties of Dextran-5-Aminosalicylic Acid as a Potential Colon-specific Prodrug of 5-Aminosalicylic acid. *Arch. Pharm. Res.*, **21**(2), 179-186 (1998).
 - 46) Neung Jin Ha, Yun Jin Jung, **Jeoung Soo Lee**, Youn Taeg Kim and Young Mi Kim, Formation, Properties and Antimicrobial Activities of Cotton Xanthate-Cu(II)-Homosulfamine Complex. *Arch. Pharm. Res.*, **21**(5), 570-575(1998)
 - 47) Neung Jin Ha, Yun Jin Jung, **Jeoung Soo Lee**, Youn Taeg Kim, Young Mi Kim, Sung Cheul Hong, Suk Kyu Han, Formation, Properties and Antimicrobial Activities of Cotton Xanthate-Zn(II)-Homosulfamine Complex. *Pusan Bulletin of Pharmaceutical Sciences*, **31**(1), 13-19 (1997)
 - 48) **Jeoung Soo Lee**, Youn Taeg Kim, Yun Jin Jung, Young Mi Kim, and Bok Ruel Lee, and Won Jae Cho, Formation, Properties and Antimicrobial Activities of Cotton Xanthate-Cu(II)-Tetracycline Complex. *Pusan Bulletin of Pharmaceutical Sciences*, **30**(1), 11-17 (1996)
 - 49) Youn Taeg Kim, Yun Jin Jung, **Jeoung Soo Lee** and Young Mi Kim, Formation and Antimicrobial Activities of Chitosan-Zn(II)-Tetracycline Complex. *Pusan Bulletin of Pharmaceutical Sciences*, **31**(1), 5-10 (1996)
 - 50) Youn Taeg Kim, Jong Ho Yu, Yun Jin Jung, **Jeoung Soo Lee** and Young Mi Kim, Development of Polymeric Drugs Utilizing Dithiocarbamate Chitosan: Formation and Antimicrobial Activities of Dithiocarbamate Chitosan-Mg(II)-Tetracycline Complex., *Yakhak Hoeji*, **39**(4), 373-379 (1995)
 - 51) Yun Taek Kim, Young Mi Kim, Yun Jin Jung, **Jeoung Soo Lee**, Formation and Antimicrobial Activities of Chitosan-Cu(II)-Tetracycline Complex. *Pusan Bulletin of Pharmaceutical Sciences*, **28**(2), 29-34 (1994)
 - 52) **Jeoung Soo Lee**, Yun Jin Jung, Youn Taeg Kim, and Young Mi Kim, Preparation and Antimicrobial Activities of Cotton Xanthate-Metal-Oxine Complex. *Pusan Bulletin of Pharmaceutical Sciences*, **27**(2), 1-7 (1993)

BOOK CHAPTER

- 1) Ken Webb and **Jeoung Soo Lee**. "Molecular Analysis in Mechanobiology." In: J. Nagatomi, editor, *Mechanobiology Handbook*, Boca Raton: CRC Press, 2011, p. 45-72.

- 2) Ken Webb and **Jeoung Soo Lee**. "Molecular Analysis in Mechanobiology." In: J. Nagatomi, editor, *Mechanobiology Handbook*, 1st edition, Boca Raton: CRC Press, 2018

PEER REVIEWED INVITED REVIEWS

- 1) Jun Gao, Min Kyeong Khang, Zhen Liao, Megan Detloff, and Jeoung Soo Lee. Therapeutic targets and nanomaterial-based therapy for mitigation of secondary injury after spinal cord injury. *Nanomedicine (Lond)*. 2021 Sep;16(22):2013-2028. doi: 10.2217/nnm-2021-0113. Epub 2021 Aug 17. PMID: 34402308; PMCID: PMC8411395.
- 2) Breanne Hourigan, **Jeoung Soo Lee**, and Angela Alexander Bryant, Vectors for Glioblastoma Gene Therapy: Viral & Non-Viral Delivery Strategies, *Nanomaterials* **2019**, 9(1), 105
- 3) Christian Macks and **Jeoung Soo Lee**, Non-viral vector mediated RNA Interference Technology for Central Nerve System Injury, Mini-review, *DNA and RNA Nanotechnology*, 2016; 3, 14-22

ORAL PRESENTATION IN CONFERENCES

- 1) Zhen Liao, Claire Eleanor Jones, Bradley Elliott, Megan Ryan Detloff, Ken Webb and Jeoung Soo Lee. Rolipram loaded PgP nanoparticles via intrathecal administration improves secondary injury and motor function after spinal cord injury. World Biomaterials Conference 2024, Daegu, South Korea
- 2) Claire E. Jones, Bradley Elliot, Fuying Ma, Zack Johnson, Zhen Liao, Zachary Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and Jeoung Soo Lee. PEG based HA-Dexamethasone hydrogel improved motor and cognitive function in a rat moderate controlled cortical impact TBI model, MHSRS 2022 meeting, Orlando, FL, Sep 2022
- 3) Daun Jeong, Sooneon Bae, Christian Macks, Joseph Whitaker, Michael Lynn, Ken Webb, and Jeoung Soo Lee. Local Delivery of Dexamethasone by Hydrogel Reduces Secondary Injury and Promote Motor Function after Traumatic Brain Injury, National Capital Area, Traumatic Brain Injury 2020 Symposium, Washington DC, Mar 2020
- 4) David Oglesby, Wendy Cornett, and Jeoung Soo Lee, Combinatorial Therapy of siMDR1 and Doxorubicin to Mediate Drug Resistance in Breast Cancer Models, SFB 2019 meeting, Seattle, Washington, Apr 2019
- 5) Joshua Woo, Kitaek Kim, Christian Macks, and Jeoung Soo Lee, Characterization of Long-term stability of PgP/pGFP Polyplexes with Varying Cryoprotectants, SFB 2019 meeting, Seattle, Washington, Apr 2019
- 6) Christian Macks, DaUn Jeong, So-Jung Gwak, Michael Lynn, and **Jeoung Soo Lee**, RhoA knockdown by PgP/siRhoA polyplexes reduces secondary injury in a rat TBI model, in SFB 2018 meeting, Atlanta, GA, Apr 2018
- 7) Christian Macks, So Jung Gwak, Michael Lynn, **Jeoung Soo Lee**, Rolipram-loaded polymeric micelle reduces inflammatory response and apoptosis in Rat Spinal Cord, Presented in SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
- 8) Angela A. Alexander-Bryant, Breanne Hourigan, Michael Lynn, and **Jeoung Soo Lee**, Nanotherapeutics for combination drug and gene therapy in treating glioblastoma multiforme, SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
- 9) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and **Jeoung Soo Lee**, Cationic Polymeric Micelle as a drug and siRNA Carrier for Axonal Regeneration after rat compression SCI, Institute of Biological Engineering 2017 annual meeting, Salt Lake City, UT, Mar 31, 2017

- 10) Christian Macks, So-Jung Gwak, Michael Lynn, and **Jeoung Soo Lee**, The effect of rolipram-loaded polymeric micelle nanoparticle on cAMP level in hypoxia condition and in rat SCI model, Biomaterials Symposium in Rutgers Biomaterials Center, 2016
- 11) Angela A. Alexander-Bryant and **Jeoung Soo Lee**, Nanotherapeutics for combinatorial drug and gene therapy in treating glioblastoma multiforme, BMES 2016 annual meeting
- 12) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and **Jeoung Soo Lee**, 6th Biennial NIH (National Institutes of Health), NISBRE (National IDeA Symposium of Biomedical Research Excellence), Washington D.C., 2016
- 13) Christian Macks, So Jung Gwak, and **Jeoung Soo Lee**, 10th World Biomaterials Congress 2016, Montreal, Canada
- 14) Christian Macks, So Jung Gwak, and **Jeoung Soo Lee**, Biomaterials Day 2015
- 15) Graham Temples and **Jeoung Soo Lee**, Folate-functionalized Polymeric Micelle for Combinatorial Therapy to Overcome Drug Resistant Breast Cancer, Society for Biomaterials 2015 annual meeting, Charlotte, NC
- 16) Soon Eon Bae, **Jeoung Soo Lee**, Jeremy L Barth, and Ken Webb, Vibratory stimulation for anti-fibrotic therapy” Society for Biomaterials, Charlotte, NC, 2015

CONFERENCE PROCEEDINGS/PRESENTATIONS

- 1) M.R. Detloff, G.A. Giddings, Z. Liao, M.A. Singer, P.J. McGinnis, J.R. Walker, J.J. Wheeler, J.S. Lee. Effects of Nanotherapeutic Rolipram-PgP in the Spinal Cord and Dorsal Root Ganglia Associated with Improved Functional Recovery after Spinal Cord Injury. Society for Neuroscience. Chicago, IL, 2024.
- 2) Claire E. Jones, Bradley Elliott, Fuying Ma, Zack Johnson, Zhen Liao, Zachary Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and Jeoung Soo Lee, Point of injury treatment with hydrogel containing dexamethasone improves cognitive function in a rat moderate controlled cortical impact TBI model. Poster presentation in World Biomaterials Conference 2024, Daegu, South Korea
- 3) Claire E. Jones ¹, Bradley Elliott¹, Zhen Liao¹, Teresa A. Murray ², and Jeoung Soo Lee ^{1*} Rolipram loaded PgP nanoparticles reduces secondary injury and improves motor and cognitive function after traumatic brain injury, Poster presentation in World Biomaterials Conference 2024, Daegu, South Korea
- 4) Zhen Liao, Claire Eleanor Jones, Bradley Elliott, Krista Henrie, Megan Ryan Detloff , Ken Webb¹and Jeoung Soo Lee , Effect of repeat treatment of Rolipram loaded PgP nanoparticles via intrathecal administration on motor function and secondary injury in a female rat contusion SCI model, Poster presented in Society for Neuroscience 2023 meeting in Washington DC
- 5) Bradley Elliott, Claire E. Jones, Elizabeth Dodds, Krista Henrie, Teresa A. Murray, Jeoung Soo Lee, Biodistribution of dye-loaded PgP nanoparticles after intranasal and intrathecal administration in a rat female controlled cortical impact TBI model. Poster presented in Society for Neuroscience 2023 meeting in Washington DC
- 6) Claire E. Jones, Bradley Elliott¹, Krista Henrie, Zhen Liao, Teresa A. Murray , and Jeoung Soo Lee, Rolipram delivered by PgP nanocarrier reduces secondary injury and improves motor and cognitive function in a rat moderate controlled cortical Impact TBI model. Poster presented in Society for Neuroscience 2023 meeting in Washington DC
- 7) Zachary S. Bailey, Starlyn Okada-Rising, Linda Huynh, Intisar Diwani, Weihong Yang, Bradley Elliott, Ken Webb, JeoungSoo Lee, Anke H. Scultetus, Deborah A. Shear, Dose dependent efficacy of dexamethasone conjugated hydrogel treatment for acute traumatic brain injury in rats. Poster presented in National Neurotrauma Society 2023, Austin, TX

- 8)** Zachary S. Bailey, Starlyn Okada-Rising, Linda Huynh, Intisar Diwani, Weihong Yang, Bradley Elliott, Ken Webb, JeoungSoo Lee, Anke H. Scultetus, Deborah A. Shear, The dose effect of dexamethasone delivered by hydrogel for acute traumatic brain injury in rats. Poster presented in MHSRS 2023, Orlando, FL
- 9)** Zhen Liao, Jun Gao, Min Kyung Khang, Ken Webb, Megan Ryan Detloff, and Jeoung Soo Lee, Rolipram delivered by PgP nanocarrier via intrathecal injection reduces secondary injury in a rat moderate contusion SCI model, accepted poster presentation in Society for Neuroscience 2022 meeting, SanDiego, CA
- 10)** Zhen Liao, Jun Gao, Min Kyung Khang, Ken Webb, Megan Ryan Detloff, and Jeoung Soo Lee, Rolipram delivered by PgP nanocarrier via intrathecal injection restores motor function and reduces neuropathic pain in a rat moderate contusion SCI model, accepted poster presentation in Society for Neuroscience 2022 meeting, SanDiego, CA
- 11)** Claire E. Jones, Bradley Elliott, Fuying Ma, Zack Johnson, Zhen Liao, Zachary Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and Jeoung Soo Lee, PEG hydrogel containing hyaluronic acid (HA)-dexamethasone (DX) reduces inflammatory response and improves motor function in a rat moderate controlled cortical impact (CCI) TBI model, accepted poster presentation in Society for Neuroscience 2022 meeting, SanDiego, CA
- 12)** Claire E. Jones, Bradley Elliott, Fuying Ma, Zack Johnson, Zhen Liao, Zachary Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and Jeoung Soo Lee, Point of injury treatment with hydrogel containing dexamethasone improves cognitive function in a rat moderate controlled cortical impact TBI model, Society for Neuroscience 2022 meeting, SanDiego, CA
- 13)** Zhen Liao, Jun Gao, Min Kyung Khang, Megan Ryan Detloff, and Jeoung Soo Lee, Rolipram delivered by PgP nanocarrier enhances motor function in a rat moderate contusion SCI model. Presented in National Neurotrauma Society 2022 annual meeting, Atlanta, GA
- 14)** Claire E. Jones, Bradley Elliott, Fuying Ma, Zack Johnson, Zhen Liao, Zachary Bailey, Janice Gilsdorf, Anke Scultetus, Deborah Shear, Ken Webb, and Jeoung Soo Lee, PEG based HA-Dexamethasone hydrogel reduced inflammatory response and improves motor and cognitive function in a rat moderate controlled cortical impact (CCI) TBI model. Presented in National Neurotrauma Society 2022 annual meeting, Atlanta, GA
- 15)** Zhen Liao, Jun Gao, Min Kyung Khang, Megan Ryan Detloff, and Jeoung Soo Lee, Rolipram delivered by PgP nanocarrier enhances motor function and reduces neuropathic pain in a rat contusion SCI model. Presented in 18th International Symposium on Recent Advances in Drug Delivery Systems 2022, SLC, UT
- 16)** Christian Macks, Daun Jeong, Sooneon Bae, Ken Webb, and Jeoung Soo Lee, Local application of biodegradable dexamethasone-loaded hydrogel improves motor and cognitive functional recovery of after traumatic brain injury in rats. Presented in 18th International Symposium on Recent Advances in Drug Delivery Systems 2022, SLC, UT
- 17)** Jun Gao, Min Kyeung Khang, Zhen Liao, Megan Detloff, and Jeoung Soo Lee. Rolipram delivered by PgP nanocarrier enhances motor function recovery in a rat moderate contusion SCI model. Presented in Society for Neuroscience 2021 virtual annual meeting.
- 18)** Claire E. Jones, Chelsea Pernici, Jeoung Soo Lee, and Teresa A. Rolipram loaded PgP nanocarrier reduced secondary inflammation marker after murine brain injury. Presented in Society for Neuroscience 2021 Virtual annual meeting.
- 19)** Claire E. Jones, Jeoung Soo Lee, and Teresa A. Murray, Rolipram complexed with the PgP nanocarrier reduced secondary inflammation after murine brain injury, National Neurotrauma Society 2021 virtual meeting
- 20)** Daun Jeong, Sooneon Bae, Christian Macks, Joseph Whitaker, Michael Lynn, Ken Webb, and Jeoung Soo Lee, Local Delivery of Dexamethasone by Hydrogel Reduces Secondary Injury

and Promote Motor Function after Traumatic Brain Injury, National Capital Area, Traumatic Brain Injury 2020 Symposium, Washington DC, Mar 2020

21) Christian Macks, Da Un Jeong, Michael Lynn, and Jeoung Soo Lee, Cyclic AMP restoration by rolipram- loaded nanocarrier reduces secondary injury after traumatic brain injury, National Capital Area, Traumatic Brain Injury 2020 Symposium, Washington DC, Mar 2020

22) Christian Macks, Da Un Jeong, Michael Lynn, and Jeoung Soo Lee, RhoA knockdown by PgP/siRhoA nanopolyplex enhances traumatic brain injury repair, *Southeast Regional IDeA Conference 2019, Lexington, KY*

23) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, Mark Kindy and Jeoung Soo Lee. Rolipram and RhoA siRNA combinatorial by PgP Nanoparticle Increases Functional Recovery in a Rat Contusion Spinal Cord Injury Model, *Southeast Regional IDeA Conference 2019, Lexington, KY*

24) Ki-Taek Kim, Justin Halman, Christian Macks, Kirill Afonin, and Jeoung Soo Lee. Blood compatibility and biodistribution of various PgP/nucleic acid polyplex nanoparticles *in vivo*, *Southeast Regional IDeA Conference 2019, Lexington, KY*

25) Christian Macks, Daun Jeong, Michael Lynn, Mark Kindy, and Jeoung Soo Lee, RhoA siRNA local delivery by pgg nanocarrier reduces secondary injury after traumatic brain injury, Society for Neuroscience 2019 meeting, Chicago, IL, 2019

26) Christian Macks, Daun Jeong, Michael Lynn, Mark Kindy, and Jeoung Soo Lee, Local delivery of Rolipram using PgP nanocarrier reduces secondary injury after traumatic brain injury, Society for Neuroscience 2019 meeting, Chicago, IL, 2019

27) David Oglesby, Wendy Cornett, and Jeoung Soo Lee, Combinatorial Therapy of siMDR1 and Doxorubicin to Mediate Drug Resistance in Breast Cancer Models, Society for Biomaterials, Seattle, Washington, Apr 2019

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- 37)** Andrew DeMaria, Jeoung Soo Lee, and Ken Webb. "Development on N-oxalylglycine-conjugated hyaluronic acid for therapeutic angiogenesis", Society for Biomaterials, Atlanta, GA, Apr 2018
- 38)** Christian Macks, So Jung Gwak, Michael Lynn, **Jeoung Soo Lee**, Rolipram-loaded polymeric micelle reduces inflammatory response and apoptosis in Rat Spinal Cord, Presented in SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
- 39)** So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, Mark Kindy and Jeoung Soo Lee. Combinatorial Treatment of Rolipram and RhoA siRNA delivered by PgP Nanoparticle Increases Functional Recovery in a Rat Contusion Spinal Cord Injury Model, Society for Neuroscience 2018 meeting, San Diego, CA, 2018
- 40)** Joshua Woo, Ki Taek Kim, Christian Macks, Jeoung Soo Lee, Effects of Varying Cryoprotectants on Transfection Efficiency and Cell Cytotoxicity of PgP/pGFP Polyplexes in Rat Glioma (C6) Cells, BMES 2018 Annual Meeting, Atlanta, GA, 2018
- 41)** Brittany Rodriguez, Adam Samuta, Omar Abdeladl, Andrea Arreola, Jorge Rodriguez, Konstantin Kornev, Guzeliya Korneva, Jeoung Soo Lee, Device That Creates Core-shell Yarns For Biomedical Applications, *COURI Symposium Abstracts, Fall 2018, UTEP, TX, 2018*
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- 43)** Angela A. Alexander-Bryant, Breanne Hourigan, Michael Lynn, and **Jeoung Soo Lee**, Nanotherapeutics for combination drug and gene therapy in treating glioblastoma multiforme, SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
- 44)** So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and **Jeoung Soo Lee**, Cationic Polymeric Micelle as a drug and siRNA Carrier for Axonal Regeneration after rat compression SCI, Institute of Biological Engineering 2017 annual meeting, Salt Lake City, UT, Mar 31, 2017
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- 47)** Da Un Jeong, Sooneon Bae, Christian Macks, Joseph Whitaker, Michael Lynn, Ken Webb, and Jeoung Soo Lee, PEG based HA-Dexamethasone hydrogel reduces inflammatory response and apoptosis after injury in a rat controlled cortical impact TBI model, Military Health System Research Symposium (MHSRS), Orlando, FL, Aug 2017
- 48)** Christian Macks, So-Jung Gwak, Da Un Jeong, Michael Lynn, Ken Webb, and Jeoung Soo Lee, Combinatorial Therapy of Rolipram and RhoA siRNA for Traumatic Brain Injury Repair, Military Health System Research Symposium (MHSRS), Orlando, FL, Aug 2017
- 49)** So-Jung Gwak, Christian Macks, Da Un Jeong, Michael Lynn, Ken Webb, and Jeoung Soo Lee, Cationic amphiphilic polymeric micelle as therapeutic siRhoA carrier for Axonal Regeneration in spinal cord injury, SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
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- 53)** Christian Macks, So-Jung Gwak, Michael Lynn, and Jeoung Soo Lee, The effect of rolipram-loaded polymeric micelle nanoparticle on cAMP level in hypoxia condition and in rat SCI model, Biomaterials Symposium in Rutgers Biomaterials Center, 2016
- 54)** So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and Jeoung Soo Lee, Cationic amphiphilic copolymer as a RhoA siRNA carrier for axonal regeneration in rat spinal cord injury, Biomaterials Symposium in Rutgers Biomaterials Center, 2016
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- 57)** Angela A. Alexander-Bryant and Jeoung Soo Lee, Nanotherapeutics for combinatorial drug and gene therapy in treating glioblastoma multiforme, BMES 2016 annual meeting, Minneapolis, MI
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- 64)** So-Jung Gwak, Justin Nice, Christian Macks, and Jeoung Soo Lee, Polymeric Micelle for pTK and GCV delivery to Spinal Cord Tumor, SE Regional IDeA Meeting 2015, Mississippi.
- 65)** Michael DiBalsi, Sooneon Bae, Guzeliya Korneva, Konstantin G. Kornev, and Jeoung Soo Lee, Heparin-eluting Vascular Suture for Preventing Thrombosis and Stenosis, SE Regional IDeA Meeting 2015, Mississippi.

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- 76)** Michael DiBalsi, Sooneon Bae, Guzeliya Korneva¹, Konstantin G. Kornev², and Jeoung Soo Lee, Heparin-immobilized Electrospun Nanofibers for Vascular Sutures, 5th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC, 2014
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- 84)** Atanu Sen, Thuy Le, Ho-Joon Lee, Kathryn Stevens, Jeoung Soo Lee, Ken Webb, Fiber-based microcarriers for enhanced proliferation of hydrogel-encapsulated cells, Society for Biomaterials annual meeting, Denver, CO (2014)
- 85)** Ho Joon Lee, Sooneon Bae, Jeoung Soo Lee, Ken Webb Osteogenic differentiation of hMSC in PEG diacrylate/hyaluronic acid semi-IPNs, Society for Biomaterials annual meeting, Denver, CO (2014)
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- 87)** Justin Nice, Graham Temples, Ken Webb, and Jeoung Soo Lee, Polymeric Micelle Delivery System for Neural Regeneration, Biomaterials, Clemson, SC (2013)
- 88)** Michael DiBalsi¹, Sooneon Bae¹, Guzeliya Korneva¹, Konstantin G.Kornev², and Jeoung Soo Lee, Characterization of Heparin-immobilized Electrospun Nanofibers, Biomaterials Day, Clemson, SC (2013)
- 89)** Jeoung Soo Lee, Wayne Reeder, Jessica Lau, Thomas Reed, and Lesly Temesvari. Effect of Colon-specific Prodrugs on the amoeba-host cell interaction. BMES 2012 Annual meeting, Atlanta, GA (2012).
- 90)** Jeremy Zhang, Atanu Sen, Eunhee Cho, Jeoung Soo Lee, and Ken Webb. Hybrid T904/Fibrinogen Hydrogels for sustained non-viral gene delivery. Biomedical Engineering Society Annual Meeting, Atlanta, GA (2012).
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- 114)** **Jeoung Soo Lee**, Yun Jin Jung, Minju Doh, and Young Mi Kim, Synthesis and Properties of Dextran-Nalidixic acid Ester as a Colon-specific Prodrug of Nalidixic acid. *American Association*

of *Pharmaceutical Scientists*, Indianapolis, October (2000)

115)Jeoung Soo Lee, SungWan Kim, D.J. Hoban, and SeungHo Choi, Pharmacokinetic study of Complexes to Improve Oral Absorption of Third Generation Cephalosporins. *The Interscience Conference on Antimicrobial Agents and Chemotherapy*, Toronto, September (2000)

116)Jeoung Soo Lee,Yun Jin Jung, Hak Hyun Kim, and Young Mi Kim, Development of a Colon-specific Prodrug of 5-Fluorouracil: Synthesis and Properties of *N*-Nicotiny-2-(5-Fluorouracil-1-yl)-D,L-Glycine. *American Association of Pharmaceutical Scientists*, New Orleans, November (1999)

117)Jeoung Soo Lee,Yun Jin Jung, Hak Hyun Kim, and Young Mi Kim, Development of a Colon-specific Prodrug of 5-Fluorouracil: Synthesis and Properties of *N*-Nicotinyglycyl-2-(5-Fluorouracil-1-yl)-D,L-Glycine. *American Association of Pharmaceutical Scientists*, New Orleans, November (1999)

118)Yun Jin Jung, Hak Hyun Kim, **Jeoung Soo Lee** and Young Mi Kim, Synthesis and in vitro/in vivo Evaluation of *N,N*-Bis(5-Aminosalicyl)-L-Cystine as a Colon-specific Prodrug of 5-Aminosalicyclic Acid. *American Association of Pharmaceutical Scientists*, New Orlece, November (1999)

119)Jeoung Soo Lee, Ju Hyun Noh and Young Mi Kim, Synthesis and Properties of *N*-Nicotiny-2-(5-Fluorouracil-1-yl)-D,L-Glycine Esters. *The Spring Convention of The Pharmaceutical Society of Korea*, Pusan, April (1999)

120)Yun Jin Jung, Hak Hyun Kim, **Jeoung Soo Lee** and Young Mi Kim, Synthesis and in vitro/in vivo Evaluation of 5-Aminosalicyl-Amino Acid as a Potential Colon-specific Prodrug of 5-Aminosalicyclic Acid: 5-Aminosalicyl-Aspartic Acid and 5-Aminosalicyl-Glutamic Acid. *American Association of Pharmaceutical Scientists*, San Francisco, November (1998)

121)Yun Jin Jung, Hak Hyun Kim, **Jeoung Soo Lee** and Young Mi Kim, Synthesis and in vitro/in vivo Evaluation of 5-Aminosalicyl-Amino Acid as a Potential Colon-specific Prodrug of 5-Aminosalicyclic Acid: 5-Aminosalicyl-Glycine. *American Association of Pharmaceutical Scientists*, San Francisco, November (1998)

122)Jeoung Soo Lee, Yun Jin Jung, Hak Hyun Kim, Young Mi Kim, and Suk Kyu Han Development of Colon-specific Prodrugs of 5-Fluorouracil: Synthesis and Properties of *N*-Nicotiny-2-(5-Fluorouracil-1-yl)-D,L-Glycine. *The Spring Convention of The Pharmaceutics Society of Korea*, Pusan, April (1998)

123)Hak Hynu Kim. Yun Jin Jung, **Jeoung Soo Lee**, Ju Heun Noh, and Young Mi Kim, Development of colon-specific prodrug of 5-Aminosalicyclic Acid: Synthesis and properties of 5-Aminosalicyl-aurine. *The Spring Convention of The Pharmaceutical Society of Korea*, Pusan, April (1998)

124)Jeoung Soo Lee, Yun Jin Jung, Hak Hynu Kim, and Young Mi Kim, Development of Colon-specific Prodrugs of 5-Fluorouracil: Synthesis and Properties of *N*-Acyl-2-(5-Fluorouracil-1-yl)- D,L-Glycine. *The 47th Annual Convention of The Pharmaceutical Society of Korea*, Soowon, October (1998)

125)Hak Hyun Kim, Yun Jin Jung, **Jeoung Soo Lee** and Young Mi Kim, Development of Colon-specific Prodrugs of 5-Aminosalicyclic Acid: Synthesis and Properties of 5-Aminosalicyl-L-Cysteine. *The 47th Annual Convention of The Pharmaceutical Society of Korea*, Soowon, October (1998)

126)Jeoung Soo Lee, Yun Jin Jung, Soo Hee Moon, Youn Taek Kim, and Young Mi Kim, Formation and Antimicrobial Activities of Cotton Xanthate-Cu(II)-Metronidazole Complex. *The Spring Convention of The Pharmaceutical Society of Korea*, Daegu, April (1997)

127)Yun Jin Jung, **Jeoung Soo Lee**, Hak Hyun Kim. Young Mi Kim and Suk Kyu Han, Development of Colon-specific Prodrugs: Synthesis and Properties of Dextran-5-(4-Ethoxy carbonylphenylazo) Salicylic Acid Ester. *The Spring Convention of The Pharmaceutical Society of Korea*, Daegu, April (1997)

128)Yun Jin Jung, **Jeoung Soo Lee**, Hak Hyun Kim. Young Mi Kim and Suk Kyu Han,

Synthesis and Properties of Colon-specific 5-Aminosalicylic Acid Prodrugs Utilizing Amino Acid as Carriers. *The 46th annual Convention of The Pharmaceutical Society of Korea*, Seoul, November (1997)

129)Yun Jin Jung, **Jeoung Soo Lee**, Young Mi Kim, and Suk Kyu Han, Prodrugs of Colon-specific 5-Aminosalicylic Acid: Synthesis and Properties of Dextran-5-(4-Ethoxycarbonyl - phenylazo) Salicylic Acid Ester. *The 45th Annual Convention of The Pharmaceutical Society of Korea*, Seoul, October (1996)

130)Neung Jin Ha, Yun Taek Kim, **Jeoung Soo Lee**, and Young Mi Kim, Formation and Antimicrobial Activities of Cotton Xanthate-Metal-Homosulfamine Complex. *The 45th Annual Convention of The Pharmaceutical Society of Korea*, Seoul, October (1996)

131)**Jeoung Soo Lee**, Yun Jin Jung, Neung Jin Ha, and Young Mi Kim, Development of Cotton Derivatives with Antimicrobial Action. *The 42nd Annual Convention of The Pharmaceutical Society of Korea*, Seoul, October (1994)

PATENTS

1. US 10,232,050 B1 Multi-functional particle and methods of using the same
Jeoung Soo Lee
2. US 11,633,355 B2 Multi-functional particle and methods of using the same
Jeoung Soo Lee
3. EP 2211727 B1 Cyanoacrylate tissue adhesives
Jeoung Soo Lee, Charles Kenneth Webb, Robert Zimmerman,
and Rafael Ruiz
4. US 8613952 Cyanoacrylate tissue adhesives
Jeoung Soo Lee, Charles Kenneth Webb, Robert Zimmerman, and Rafael
Ruiz
5. US 6248360 Complexes to improve oral absorption of poorly absorbable antibiotics
Seung Ho Choi and Jeoung Soo Lee
Licensed by Cubist Pharmaceuticals
6. US 7527807 Compositions and methods for increasing the oral absorption of antimicrobials.
Seung Ho Choi, Jeoung Soo Lee, and Dennis Keith
Licensed by Cubist Pharmaceuticals
7. AU 267011 B2 Compositions and methods to improve the oral absorption of
antimicrobial agents
Seung Ho Choi, Jeoung Soo Lee, and Dennis Keith
Licensed by Cubist Pharmaceuticals
8. EP 2263654 A1 Compositions and methods to improve the oral absorption of
antimicrobial agents
Seung Ho Choi, Jeoung Soo Lee, and Dennis Keith
Licensed by Cubist Pharmaceuticals

SPONSORED RESEARCH

External Sponsored Research:

Pending

1. NIH STTR Phase I

“Rolipram Loaded Nanotherapeutics for Spinal Cord Injury”

Agency: NIH/NINDS
Role : PI

Ongoing Research Support

- 1. SCIRF-IIR** **7/15/2023~ 7/14/2025**
“Evaluation of toxicity and therapeutic treatment window of rolipram-loaded PgP for SCI”
Agency: South Carolina- Spinal Cord Injury Research Fund
Role: PI
- 2. NIH R01** **11/15/2023~11/14/2028**
“Regulation of SCI-induced pain by macrophages and exercise”
Agency: NIH/NINDS
Role: Co-I (PI: Megan Detloff, Drexel University)
- 3. Pilot Grant** **08/15/2023--8/14/2025**
“Macrophage-targeted nanotherapeutic to reduce SCI Pain”
Agency: Craig H Neilson Foundation
Role: Co-I (PI: Megan Detloff, Drexel University)
- 4. USAMRMC H_002_2020** **8/15/2020~8/14/2024**
“Point-of-Injury Application of Hydrogel Embedded Drugs for Severe Traumatic Brain Injury”
Agency: U.S. Army Medical Research and Materiel Command
Role: co-PI (PI: Dr. Deborah Shear in Walter Reed Army Institute of Research)
\$ 792,714 (\$2,400,000)
- 5. NIH R01 NS111037-01** **2/1/2019~1/31/2024**
"Neuron-specific Nanotherapeutics for Spinal Cord Injury Repair"
Agency: NIH/NINDS R01
Role: PI
\$1,311,562
- 6. USAMRMC** **9/25/2023~ 9/24/2025**
“A Novel Strategy to Prevent Central Auditory Disorders After Blast Exposure”
Agency: DoD
Role co-PI (Dr. JuneHee Kime, University of Michigan)
- 7. NIH 1R21 1R21NS114723-01A1** **9/1/2020~8/31/2024**
“Preclinical Evaluation of Combination Therapy of Rolipram and Minocycline for Arresting Secondary Injury Cascade After Traumatic Brain Injury”
Agency: NIH/NINDS
Role: Co-investigator (PI: Dr. Murray, Louisiana Tech University)
- 8. NIH 1R21 1R21NS118224-01** **9/1/2020~8/31/2024**
“Microglial RGS10 as a therapeutic target for Lewy body diseases”
Agency: NIH/NINDS
Role: Co-investigator (PI: Dr. Jae-Kyung Lee, UGA)
\$148,625 (\$429,350)

9. BX000347-11

01/15/2022~01/14/2026

“Cerebral arteriole structure/function in diabetic ischemic brain injury”

Agency: Veterans Administration

Role: Collaborator (PI: Dr. Adviyeh Ergul, MUSC)

Completed Research Support

1. 5 R01 GM120487-01

9/15/2018~9/14/2021

“Characterization of various multifunctional nucleic acid nanoparticles and understanding their immunotoxicity”

Agency: NIH/NCI R01

Role: Co-PI (Dr. Afonin, PI, UNC)

\$ 394,999 (\$1,482,345)

2. Pilot project

08/15/2022~06/30/2024

“Establishment of feline SCI model and new MR imaging capabilities for assessment of therapeutic efficacy”

Agency: SC-BioCRAFT, Clemson/NIGMS

Role: PI

3. N/A

08/15/2022~ 10/31/2024

“Therapeutic effect of Neural progenitor cells in experimental spinal cord injury”

Agency: PreCerv, Inc

Role: PI

4. SC-SCIRF 2017 B-01

4/1/2018-9/30/2020

“Multifunctional nanotherapeutics for SCI repair”

Agency: South Carolina-Spinal Cord Injury Research Fund

Role: PI

\$69,000

5. P20GM103444

7/1/2014-6/30/2019

“Target-specific Polymeric Micelle/ siRNA Complex Nanotherapeutics for Traumatic Brain Injury”

Agency : NIH/ NIGMS COBRE Phase II,

Role : Target Project Principal Investigator (PI, Vyavahare)

\$514,000 (\$11,000,000)

6. “Neuron-specific nanotherapeutics for axonal regeneration after spinal cord injury”

Agency: SC-SCIRF (South Carolina-Spinal Cord Injury research Fund)

Role: PI

\$39,000

Period: 1/2014-12/2016

7. “Target-specific Polymeric Micelle/ siRNA Complex Nanotherapeutics for Traumatic Brain Injury” Agency : NIH/ COBRE, SCBioMat Target Project

Role : Principal Investigator

\$100,000

Period: 7/2013-6/2014

8. “Target-specific Polymeric Micelle/ siRNA Complex Nanotherapeutics for Traumatic Brain Injury”

Agency : NIH/ COBRE, SCBioMat Pilot Project

Role : Principal Investigator

\$50,000

Period: 8/2012-6/2013

9. “Vibratory Mechanotransduction”

Agency: NIH/NIBIB (1R21 EB009489)

Role: Co-I (K. Webb PI)

\$27,881(\$411,663)

Period: 04/2009-9/2012

10. “Development of scar-inhibiting compliant tissue adhesive”

Agency: NIH/NIBIB (1R21 EB008785)

Role:co-Investigator (J. Nagatomi PI)

\$39,278 (\$392,775)

Period: 01/2010-2/2013

11. “A novel colon-specific bi-functional amebicidal therapeutic: Gal-Dextran-MM”

Agency: NIH/NIAID R03 (1R03 A1076869)

Role: Principal Investigator

\$152,000

Period: 7/2009-6/2012

12. “Drug Delivery from Cyanoacrylate Tissue Adhesives”

Role: co-Investigator (K. Webb PI)

Agency: Spartan Medical Products

\$70,000 (\$35,000)

Period: 2/2007-12/07

13. “Cyanoacrylates as Internal Adhesives.”

Role: Co-investigator (K.Webb PI)

Agency: Spartan Medical Products

Period: 9/05-12/06

Other Sponsored Research:

“Target-specific polymeric nanoparticle delivery system for nucleic acid therapeutics”

Role: Principal investigator

Agency: Clemson University Research Investment Fund Program

Period: 3/2007-2/2008

RESEARCH FACULTY AND POSTDOC ADVISING/MENTORING

- 1) **Susana Cerqueira, PhD** (11, 15, 2022 ~Apr 30, 2024), Research Assistant Professor, Therapeutic effect of Neural progenitor cells in experimental spinal cord injury
- 2) **Claire Jones, PhD** (6,15, 2021~ 6,14,2023), Postdoc,

- Point-of-Injury Application of Hydrogel Embedded Drugs for Severe Traumatic Brain Injury
- 3) **Fuying Ma, MD** (1.4, 2021~5,26,2022), Postdoc
Neuron-specific Nanotherapeutics for Spinal Cord Injury Repair
 - 4) **Jun Gao, MD, PhD** (8, 2019~7,2020), visiting scholar,
Neuron-specific Nanotherapeutics for Spinal Cord Injury repair,
Current position: Chief Neurosurgeon, Department of Neurosurgery,
Peking Union Medical College Hospital
 - 5) **Min Kyung Khang, PhD** (9,2019~12, 2020), Neuron-specific Nanotherapeutics for
Spinal Cord Injury Repair
Current position: Postdoc in NIH
 - 6) **Ki Taek Kim, PhD** (2, 2018~1, 2019), “Nanotherapeutics for combinatorial drug and
gene therapy in treating glioblastoma”,
Current position: Assistant Professor, College of Pharmacy, Mokpo University, Korea
 - 7) **Richard Pace, PhD**, (2, 2017- 8, 2017), “Multi-functional polymeric micelle nanoparticle as a
co-delivery of anticancer drug and nucleic acid for drug resistant breast cancer”
Current position : Owner and Principal Scientist, Parimer Inc.
 - 8) **Angela A Bryant, PhD** (8, 2015- 7, 2017), “Nanotherapeutics for combinatorial drug and
gene therapy in treating glioblastoma”
Current position: Associate professor, Bioengineering, Clemson University
 - 9) **So Jung Gwak, PhD**, (10, 2013 – 2, 2017), “Neuron-specific Nanotherapeutics for
Axonal Regeneration after Spinal Cord Injury”
Current position: Associate Professor, College of Engineering, WonGwang University, Korea
 - 10) **Da Un Jeong, PhD** (11, 2015-2, 2017), “Neuron-specific Nanotherapeutics for Axonal
Regeneration after Traumatic Brain Injury”
Current position: Research Assitant Professor, Ehwa Women’s University, Korea

GRADUATE STUDENT ADVISING /MENTORING

PhD students advising/mentoring

- 1) Zhen Liao (08/2019~ present), “Neuron-specific polymeric micelle nanotheraputics for neural regeneration after spinal cord injury”, PhD Advisor, Expected graduation date: December 2024.
- 2) Bradley Elliott (08/2021~present), Dexamethasone loaded Hydrogel for Severe Traumatic Brain Injury, PhD Advisor, Expected graduation date: May 2026.
- 3) Alex Vandenberg (08/2023~present), “Combinatorial therapy of Rolipram and siRNA against RhoA delivered by PgP for SCI repair”, PhD Advisor, Expected graduation date: May 2028.

PhD students advised/mentored

- 4) Andrew DeMaria, “Therapeutic angiogenesis via cell-mediated release of small molecules from hydrogels”. PhD co-Advisor, Graduated on August 2021.
- 5) Christian Macks, “Neuron-specific polymeric micelle nanotheraputics for neural regeneration after traumatic brain injury”, PhD Advisor, Graduated on August 2020.
Current position: Research fellow, Elastin Inc.
- 6) Jayesh Betala, “Gender Specific Therapy for Optimized Angioplasty Outcome”, Co-advisor, (2012-2017), PhD, Graduated on Dec 2017
Current position:

7) Graham Temples, “Multi-functional polymeric micelle nanoparticle as a co-delivery of anticancer drug and nucleic acid for drug resistant breast cancer, PhD, Advisor, Graduated on Dec 2017

Current position: Senior scientist , Purilogs LLC

8) Sooneon Bae, “The effect of Variable Vibratory Stimulation on Fibroblast Matrix –related Gene Expression” PhD, Co-Advisor (2011-2017), PhD, Graduated on May 2017

Current position: Senior scientist, Philips

9) Jerermy Zhang, “Target-specific polymeric micelle nanoparticles for CNS regeneration” PhD Co-Adviser (2009-2013), PhD, Graduated on 8/2013

Current position: Director of data sciences, Gilead Sciences

MS students advising/mentoring

1) Namratha Appaji (8, 2022~ present), Toxicity of Rm-PgP nanoparticle

2) Jacob Wanthal (5, 2024~present), Loading efficiency of various drugs in PgP nanoparticle

MS students advised/mentored

1) James Welsh, Synergistic effect of paclitaxel and heparin loaded eletrospun fiber for vascular suture (2017-2018), MS advisor

Current position: Patient Care Technician, Medical University of South Carolina

2) David Oglesby, Polymeric micelle nanocarrier as a DXR and SiRNA co-delivery for drug-resistant breast cancer (2017-2018), MS advisor

Current position: Technical Solutions Engineer, EPIC

3) Breanne Hourigan, Synergistic effect of co-delivery of TMZ and siMGMT on Glioblastoma, BS/MS Advisor (2015-2017)

Current position: Physician Assistant Student, North Greenville University

4) Erica Beal, Drug-eluting Suture for Preventing Thrombosis and Stenosis, BS/MS Advisor (2015-2017)

Current position: Account Manager, Poly-Med Inc.

5) Michael DeBalsi, “Drug-eluting Vascular Suture for Preventing Thrombosis and Stenosis”, MS Adviser (2014-2016) Graduated on May 2016

Current position: Senior Clinical Specialist, ClearPoint neuro. Inc.

6) Justin Nice, “Neuron-specific polymeric micelle nanotherapeutics for neural regeneration after traumatic brain injury”, MS, graduated on 5/2014

Current position: Scientist, Capricor Therapeutics. Inc.

7) Wayne Reeder, “Novel Colon-specific Bi-functional Polymeric Prodrugs for the Treatment of Amebiasis” (2010-2012), MS, Graduated on 8/2012

Current position: Project Implementation Manager, Hitachi Healthcare Americas

8) Benjamin Green, “Multi-functional nanotherapeutics for the treatment of brain tumor”. MS Adviser (2013-2015)

Current position: Private Business

UNDERGRADUATE STUDENT ADVISING/MENTORING

UNDERGRADUATE STUDENT ADVISED/MENTORED

- 1) Abigail Newton, Loading efficiency of various drugs in PgP nanoparticle, (Aug 2023~ May 2024)
- 2) Elizabeth Dods, Effect of lyoprotectant on knockdown efficiency of PgP/SiRhoA (Aug 2022~ May 2024)
- 3) Krista Henrie, Combination Therapy of Rolipram and Minocycline for Arresting Secondary Injury Cascade After Traumatic Brain Injury, (8, 2021~12, 2022)
- 4) Zack Johnson, Doxorubicine and SiRNA combinatorial therapy by PgP nanocarrier for drug-resistant breast cancer (4, 2021~ 5, 2022)
- 5) Andrew Wood, Temozolomide and SiMGMT combinatorial therapy by PgP nanocarrier for Glioblastoma (4, 2021~ 5, 2022)
- 6) Travis Horvath, "Combinatorial therapy of Sirolimus and Heparin by a cationic amphiphilic copolymer for inhibiting restenosis" (8/2020~ 12/2021) BIOE4910, Undergraduate Research Advisor)
- 7) Bradely Elliotte, "Anti-inflammatory drug loaded Hydrogel for Severe Traumatic Brain Injury" (3/2021 ~present)
- 8) Sam Insignare, "Combinatorial therapy of Sirolimus and Heparin by a cationic amphiphilic copolymer for inhibiting restenosis" (8/2017, BIOE4910, Undergraduate Research Advisor)
- 9) Hayden Pagendarm, "Characterization of L1 conjugated polymeric nanoparticles for neuron-specific delivery carrier" (1/2019~ 5/2020, BIOE4910, Undergraduate research advisor)
- 10) Nicole Meilinger, "Synergistic effect of heparin and paclitaxel loaded eletrospan fiber for vascular suture" (8/2017~ 5/2020, BIOE 4910, Undergraduate Research Advisor)
- 11) Gabby Choe
- 12) Adam Samuta, "Device That Creates Core-shell Yarns For Biomedical Applications" (8/2018 present, BIOE 4910, Undergraduate Research Advisor)
- 13) Devin Broyles, Development of Heparin and paclitaxel loaded eletrospan fiber for vascular suture vy co-axial electrospin" (8/2017~ present, BIOE 4910, Undergraduate Research Advisor)
- 14) Elizabeth Lee, Fiber Optic Microheater for cancer therapy, (8/2018~ present, BIOE 4910, Undergraduate Research Advisor)
- 15) Joseph Whitaker, Neural cell adhesion molecule, L1 functionalized polymeric micelle for nucleic acid carrier for CNS regeneration (8/2016~ 5/2018, BIOE H4910, Honors Undergraduate Research Advisor)
- 16) Noah Cecil, "Gene and stem cell therapy for the Alzheimer's disease" (8/2015~5/2018, BIOE 4910, Undergraduate Research Advisor)
- 17) Amy Duvall, "Cationic, amphiphilic polymeric micelle mediated Neprilysine gene delivery for Alzheimer Diseases" (2016~2018, BIOL H4910, Honors Undergraduate Research Advisor)
- 18) Danielle Gill, "Gene and stem cell therapy for the Alzheimer's disease" (8/2015~5/2016, BIOE H4910, Honors Undergraduate Research Advisor)
- 19) Arica Jordan Gregory, "Gene therapy for the Alzheimer's disease" (8/2015~5/2016, BIOE 4910, Undergraduate Research Advisor)
- 20) Timothy Harmon, "Bi-functional polymeric prodrug for Amoebiasis" (8/2015~5/2016, BIOE H4910, Honors Undergraduate Research Advisor)
- 21) Breanne Hourigan, "Doxorubicin-loaded polymeric nanotherapeutics for the treatment of drug resistant breast cancer" (8/2014~5/2016, BIOE 4910 Undergraduate Research Advisor)

- 22) Erica Beal, "Paclitaxel loaded eletrospun fiber for vascular suture" (2014-2016, BIOE 491 Undergraduate Research Adviser)
- 23) Christian Macks, "Therapeutic effect of polymeric micelle nanotherapeutics for the spinal cord tumor in vivo" (2014, BIOE 491 Undergraduate Research Adviser)
- 24) Mike DiBalsi, "Drug-loaded biodegradable eletrospun fiber for suture" (2013, BIOE491 Undergraduate Research Adviser)
- 25) Medha Vyavahare, Effect of various amphiphilic polymer on transfection efficiency of PEI/pGFP complexes" (2012, BIOE491H, Departmental Honors Research Adviser)
- 26) Leonard Cochrane, "Targeted Multi-Functional Nanotherapeutics for Combinatorial Therapy of Drug Resistant Cancer" (2012, BIOE491H, Departmental Honors Research Adviser)
- 27) Jessica Lau, "Evaluation of the ability of Galactose-Dextran-Metronidazole prodrug to block adhesion of ameba to host cells." (2012, BIOE491H, Departmental Honors Research Adviser)
- 28) Javier Ayala, Evaluation of the released metronidazole from Galactose-Dextran-Metronidazole prodrug after oral administration in rat (2012, BIOE491, Departmental Research Adviser)
- 29) Thomas Z. Reed, ""Evaluation of the ability of Galactose-Dextran prodrug to block adhesion of ameba to host cells." (2011, BIOE491, Departmental Research Adviser)
- 30) Courtney Taylor, "Development of antibacterial drug-coated biodegradable PLA suture" (2009, BIOE491H, Departmental Honors Research Adviser)
- 31) Wayne Reeder, "Functionalized Mixed Pluronic® Polymeric Micelle Nanoparticles as a Nucleic acid Delivery Carrier for Central Nervous System" (2008, NASA-REU Program)
- 32) Sharon Owino, "Development of polymeric micelle as a nucleic acid carrier to regenerate CNS" (2007, NIH-NSF Bioengineering and Bioinformatics Summer Internship)
- 33) Mike Caldwell, "Designing a siRNA delivery system activated by cellular proteolytic acitivity" (2006, BIOE491, Departmental Research Adviser)
- 34) Mark Ziats, "Effect of MMP-2, MMP-9, and CBFA-1 gene silencing on elastin calcification" (2005, NIH-NSF Bioengineering and Bioinformatics Summer Internship)

UNDERGRADUATE ACADEMIC ADVISING:

2012~ present Serving as the advisor for ~24 undergraduate majors in the Bioengineering per year.

HIGH SCHOOL STUDENTS

- 1) Arjun Gramopadhye : Riverside High School, Greenville, SC (6/2021~ 5/2022)
- 2) Joseph Lee: Eastside High school, Greenville, SC (6/2021~ 5/2022)
- 3) Jay Bhatia: Riverside High School, Greenville, SC (6/2018~3/2020)
- 4) Joshua Woo: Riverside High School, Greenville, SC (5/2017~8/2018)
- 5) Noah Cecil : J.L. Mann High School, Greenville, SC (5/2014~8/2017)
- 6) Izabelle : Riverside High School, Greenville, SC
- 7) Sebastian : J.L. Mann High School, Greenville, SC

TEACHING

Courses taught at Clemson University:

BioE 8240	Cellular and Molecular Analysis in Tissue Engineering (2012~present)
BioE 8240L	Cellular and Molecular Analysis Lab (2012~present)
BIOE 8410	Drug Delivery (2012~2015)
BIOE 4490	Drug Delivery (2013~2017)
BIOE 4490/6490	Drug Delivery (2018~ present)

BIOE 4510	Creative Inquiry (2012~2015)
BIOE 9910	Doctoral Dissertation Research (2012~present)
BIOE 8910	Master's Thesis Research (2007~present)
BioE 4910	Mentored Research in Bioengineering (2007~present)
BIOE 4910H	Departmental Honors mentored Research in Bioengineering (2007~present)

Courses taught at Pecking University, Beijing, China:

- Drug and Gene Delivery in Biomedicine (2018 and 2019)
- The Tissue Engineer's Toolkit: Design and Evaluation of Regenerative Therapies (2019)

Courses taught in Korea:

- Pharmacology (Jinju University)
- General Chemistry (Catholic University of Pusan)
- General Physics (Catholic University of Pusan)

Laboratory courses taught in College of Pharmacy, Pusan National University:

- Organic Pharmaceutical Manufacturing Chemistry
- Inorganic Pharmaceutical Chemistry
- Pharmaceutical Quantitative Analysis

COMMITTEES AND SERVICES IN DEPARTMENT OF BIOENGINEERING

2022~2023	Search committee for Director of Research Development
2012~ present	Chair/Member, Departmental Bylaws Committee
2013~present	Graduate Biomaterials Track committee
2013~ present	Member, CUBEInC Strategic Team
2014~2016	Member, Graduate Committee
2015~2017	Page Morton Hunter Distinguished Departmental seminar organizer
2017~2018	Undergraduate departmental honors committee
2018~2020	Chair of Undergraduate departmental honors committee
2018~2022	Member, Undergraduate Program Committee