

## JEOUNG SOO LEE

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### PERSONAL DATA

Associate Professor  
301 Rhodes Hall  
Department of Bioengineering  
College of Engineering, Computer, and Applied Sciences  
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

2019-present Adjunct faculty, University of South Carolina, Medical school, Columbia, SC  
2018-present Globex Faculty Fellow, Pecking University, College of Engineering, Beijing, China  
2018-Present Associate professor, Clemson University, Dept. of Bioengineering, Clemson, SC  
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

Society for Neurosciences : 2017 ~ 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**

Special Issue Editor in MDPI Bioengineering, Special Issue “Regeneration and Repair in the Central Nervous System”

[https://www.mdpi.com/journal/bioengineering/special\\_issues/central\\_nervous\\_system](https://www.mdpi.com/journal/bioengineering/special_issues/central_nervous_system)

Topic editor in MDPI Bioengineering, October 2020 ~present

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

#### Grant Reviewer:

- 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: NIH/UTEP BUILDing Scholars - Faculty- Student Mentoring Program (2017)

#### Journal Ad-hoc Reviewer:

- 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

- 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 1<sup>ST</sup> and 2<sup>ND</sup> 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 Nanocarrier for Combinatorial Therapy of Bioactive Molecules, Korean-American Women in Science and Engineering (KWISE) 2019 meeting, Atlanta, GA (May 18, 2019)
2. Multi-functional Polymeric Nanocarrier for Combinatorial Therapy of Bioactive Molecules, College of Pharmacy, University of Georgia, Athens, GA (Feb 6, 2019)
3. Multi-functional nanocarrier for drug-loaded vascular suture, Universite Haute Alsace, Mulhouse, Alsace, France (Dec 19, 2018)
4. Multifunctional nanocarriers for combinatorial therapy of drug and therapeutic nucleic acids, 2018 SC Association of Neurological Surgeons Meeting, Charleston, SC (Dec 1, 2018)
5. Multi-functional Polymeric Micelle Nanocarriers for Central Nervous System Regeneration, School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore (June 24, 2018)
6. Combinatorial Therapy using Polymeric Micelle Nanocarrier for Axon Regeneration after CNS injury, SEBC 2018 Conference, Charlotte, NC (Mar 9-11, 2018)
7. Multifunctional nanotherapeutics for spinal cord injury repair, 2017 SC Association of Neurological Surgeons Meeting, Charleston, SC (Dec 1, 2017)
8. Combinatorial Therapy Using Polymeric Micelle Nanocarrier for CNS regeneration, Clemson-China International Symposium, Clemson (Apr 10, 2017)
9. Neuron-specific nanotherapeutics for axonal regeneration after spinal cord injury, South Carolina-Spinal Cord Injury research Fund Conference, MUSC, Charleston (Mar 10, 2017)
10. Cationic, amphiphilic polymeric micelle mediated RhoA siRNA knockdown promote axon regeneration after spinal cord injury, Storm Eye Institute, MUSC, SC (Jan 19, 2017)
11. Multi-functional polymeric micelle nanocarrier for CNS regeneration, Biomaterials Day 2016, Georgia Tech, Atlanta, GA (Oct 14, 2016)
12. Polymeric Micelle Nanocarriers for Combinatorial Therapy of Bioactive Molecules, School of Pharmacy, UW Medison, WI (Oct 20, 2016)
13. Engineered target-specific Nanocarrier for Combinatorial Therapy of Bioactive Molecules, Department of Chemistry, UNCC (Sep 20, 2015)

14. 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)
15. 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)
16. Jeoung Soo Lee, Multifunctional Polymeric Micelle Nanocarrier for Combinatorial Therapy, Clemson University-Japan International Symposium, Clemson, SC (Apr 2015)

#### MANUSCRIPT SUBMITTED AND IN PREPARATION

1. Zhen Liao, Jun Gao, Min Kyeong Khang, Megan Detloff, Ken Webb, and **Jeoung Soo Lee**. Intrathecally administered Rolipram loaded PgP (Rm-PgP) 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 PgP nanoparticle reduces secondary injury in a rat moderate contusion SCI model. Manuscript in preparation for Journal of Neurotrauma.
3. Jun Gao, Min Kyeong Khang, Zhen Liao, Megan Detloff, Ken Webb, and **Jeoung Soo Lee**. Rolipram loaded PgP nanoparticle reduces secondary injury and enhances motor function in a rat moderate contusion SCI model. Manuscript in preparation for Bioengineering.
4. 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 Bioengineering.
5. 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 improves motor and cognitive function in a rat moderate controlled cortical impact (CCI) TBI model. Manuscript in preparation for Journal of Neurotrauma.
6. 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. Manuscript in preparation for International Journal of Molecular Sciences.

#### PEER REVIEWED PUBLICATIONS

- 1) 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, Accepted on Aug 1, 2022 in Advanced Functional Materials
- 2) 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.
- 3) 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.
- 4) 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
  - 5) 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.
  - 6) Jeong DU, Bae S, Macks C, Whitaker J, Lynn M, Webb K, Lee JS. 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.
  - 7) 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.
  - 8) 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
  - 9) So-Jung Gwak and **Jeoung Soo Lee**, Suicide gene therapy by amphiphilic copolymer nanocarrier for spinal cord tumor., *Nanomaterials* **2019**, 9(4), 573
  - 10) 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
  - 11) Jayesh Betala, **Jeoung Soo Lee**, Eugene M. Langan III, and Martine LaBerge, Effect of 17- $\beta$  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
  - 12) 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
  - 13) 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
  - 14) 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
  - 15) 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
  - 16) 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

- 17) 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,
- 18) 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
- 19) 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
- 20) 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
- 21) 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, PMCID:PMC3348439
- 22) 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
- 23) 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
- 24) 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
- 25) **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
- 26) **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
- 27) **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
- 28) 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
- 29) **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
- 30) 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
- 31) 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
- 32) **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)
  - 33) 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)
  - 34) **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)
  - 35) **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. *J. Pharm. Sci.*, **90** (11), 1787-1794 (2001)
  - 36) 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)
  - 37) **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)
  - 38) **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)
  - 39) 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).
  - 40) 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).
  - 41) 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)
  - 42) 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).
  - 43) 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).
  - 44) 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)
  - 45) 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)
  - 46) **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)
  - 47) 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)
  - 48) 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)

49) 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)

50) **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.

## PEER REVIEWED INVITED REVIEWS

1) Breanne Hourigan, **Jeoung Soo Lee**, and Angela Alexander Bryant, Vectors for Glioblastoma Gene Therapy: Viral & Non-Viral Delivery Strategies, *Nanomaterials* **2019**, *9*(1), 105

2) Chritian 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) 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
- 2) 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
- 3) 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
- 4) 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
- 5) 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
- 6) 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



- 7) 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
- 8) 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
- 9) 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
- 10) Angela A. Alexander-Bryant and **Jeoung Soo Lee**, Nanotherapeutics for combinatorial drug and gene therapy in treating glioblastoma multiforme, BMES 2016 annual meeting
- 11) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and **Jeoung Soo Lee**, 6<sup>th</sup> Biennial NIH (National Institutes of Health), NISBRE (National IDeA Symposium of Biomedical Research Excellence), Washington D.C., 2016
- 12) Christian Macks, So Jung Gwak, and **Jeoung Soo Lee**, 10<sup>th</sup> World Biomaterials Congress 2016, Montreal, Canada
- 13) Christian Macks, So Jung Gwak, and **Jeoung Soo Lee**, Biomaterials Day 2015
- 14) 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
- 15) 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) 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
- 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, 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
- 3) 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, SLC, UT
- 4) 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, SLC, UT
- 5) 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.
- 6) 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.
  - 7) 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
  - 8) 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
  - 9) 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
  - 10) 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*
  - 11) 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*
  - 12) 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*
  - 13) Christian Macks, Daun Jeong, Michael Lynn, Mark Kindy, and Jeoung Soo Lee, RhoA siRNA local delivery by pgp nanocarrier reduces secondary injury after traumatic brain injury, Society for Neuroscience 2019 meeting, Chicago, IL, 2019
  - 14) 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
  - 15) 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
  - 16) Christian Macks, DaUn Jeong, Michael Lynn, and Jeoung Soo Lee, Rm-loaded polymeric micelle reduces secondary injury in a rat TBI model, Society for Biomaterials, Seattle, Washington, Apr 2019
  - 17) Kitaek Kim, Justin Halman, Christian Macks, Kirill Afonin, and Jeoung Soo Lee, Blood compatibility and biodistribution of various therapeutic nucleic acid (TNA) polyplexes, Society for Biomaterials, Seattle, Washington, Apr 2019
  - 18) Joshua Woo, Kitaek Kim, Christian Macks, and Jeoung Soo Lee, Characterization of Long-term stability of PgP/pGFP Polyplexes with Varying Cryoprotectants, Society for Biomaterials, Seattle, Washington, Apr 2019
  - 19) Andrew DeMaria, Jeoung Soo Lee, and Ken Webb. "N-oxalylglycine-conjugated hyaluronic acid stimulates angiogenic gene expression, Society for Biomaterials, Seattle, WA (2019).
  - 20) Christian Macks, DaUn Jeong, Michael Lynn, and Jeoung Soo Lee, Rolipram and RhoA siRNA local delivery by nanocarrier reduces inflammatory response and apoptosis after traumatic brain injury, Wallace R. Roy Functional Radiology Symposium, Mar 2019

- 21) Claire E. Jones, Chelsea D. Pernic, Jeoung Soo Lee, and Teresa A. Murray, Nanoparticle Delivery of Therapeutics to Treat Traumatic Brain Injury, Wallace R. Roy Functional Radiology Symposium, Mar 2019
- 22) So-Jung Gwak, Christian Macks, Michael Lynn, Mark Kindy, Ken Webb, and Jeoung Soo Lee, Rolipram and RhoA siRNA local delivery by nanocarrier reduces secondary injury and enhances axon regeneration in a rat compression injury model, Wallace R. Roy Functional Radiology Symposium, Mar 2019
- 23) So-Jung Gwak, Christia Macks, Jin Yu, Hong Zhu, Michael Lynn, Ken Webb, Mark Kindy, and Jeoung Soo Lee, Combinatorial Treatment of Rolipram and RhoA siRNA delivered by PgP nanoparticle Increases Function recovery in a Rat Contusion Spinal Cord Injury, in Society for Neuroscience 2018 meeting, San Diego, CA, Oct 2018
- 24) 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 Society for Biomaterials 2018 meeting, Atlanta, GA, Apr 2018
- 25) Andrew DeMaria, Jeoung Soo Lee, and Ken Webb. "Development on N-oxalyglycine-conjugated hyaluronic acid for therapeutic angiogenesis", Society for Biomaterials, Atlanta, GA, Apr 2018
- 26) 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
- 27) 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
- 28) 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
- 29) 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*
- 30) 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
- 31) 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
- 32) 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
- 33) Daun Jeong, Sooneon Bae, Christian Macks, Joseph Whitaker, Michael Lynn, Ken Webb, and Jeoung Soo Lee, Dexamethasone-PEG hydrogel reduces secondary injury and promote motor function after TBI, Society for Neuroscience 2017 meeting, Washington, DC, Nov, 2017
- 34) Christian Macks, So-Jung Gwak, Michael Lynn, and Jeoung Soo Lee<sup>1</sup>, Rolipram-loaded polymeric nanoparticle reduces secondary injury after rat compression spinal cord injury, Society for Neuroscience 2017 meeting, Washington, DC, Nov 2017
- 35) 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
- 36) 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
  - 37) 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
  - 38) Da Un Jeong, Sooneon Bae, Christian Macks, Joseph Whitaker, Michael Lynn, Ken Webb, and Jeoung Soo Lee, Anti-inflammatory Effects of PEG-bis-AA/HA-DXM hydrogel in Rat Traumatic Brain Injury, SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
  - 39) Jayesh Betala, Sooneon Bae, jeoung Soo Lee, Eugene Langan, and Martine LaBerge, Dual Drug-loaded Polymeric Micelle nanoparticle Inhibits Smooth Muscle Cell Proliferation, SFB 2017 annual meeting, Minneapolis, MI, Apr 2017
  - 40) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and Jeoung Soo Lee, RhoA Knockdown by PgP/RhoA siRNA Nanoparticle Increases Axon Growth after rat spinal cord injury, Accepted as poster in Society for Neuroscience (SFN) 2016 annual meeting
  - 41) 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
  - 42) 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
  - 43) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, Mark Kindy and Jeoung Soo Lee, Cationic Polymeric Micelle as a RhoA siRNA Carrier for Axonal Regeneration in rat compression SCI model, Military Health System Research Symposium (MHSRS), 2016, Orlando, FL
  - 44) Christian Macks, So-Jung Gwak, Ken Webb, Michael Lynn, and Jeoung Soo Lee, Combinatorial Therapy of Rolipram and pNGF for Traumatic Brain Injury, Military Health System Research Symposium (MHSRS), 2016, Orlando, FL
  - 45) 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
  - 46) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, Mark Kindy, and Jeoung Soo Lee, Polymeric Micelle as therapeutic siRNA carrier for Axonal Regeneration in spinal cord injury, 10<sup>th</sup> World Biomaterials Congress 2016, Montreal, Canada
  - 47) Christian Macks, So Jung Gwak, Michael Lynn, and Jeoung Soo Lee, Combinatorial Therapy of Rolipram and pNGF for Traumatic Brain Injury, submitted in 6th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC (2016)
  - 48) So-Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, and Jeoung Soo Lee, Polymeric Micelle as a RhoA siRNA Carrier for Axonal Regeneration in rat SCI model, 6th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC (2016)
  - 49) Christian Macks, So Jung Gwak, Michael Lynn, and Jeoung Soo Lee, Effect of rolipram-loaded polymeric micelle nanoparticle on cAMP level in rat compression SCI

- model, 6th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC (2016)
- 50) Christian Macks, So Jung Gwak, Michael Lynn, and Jeoung Soo Lee, Combinatorial therapy of pNGF and rolipram for traumatic brain injury, 6th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC (2016)
  - 51) So- Jung Gwak, Christian Macks, Ken Webb, Michael Lynn, Mark Kindy, and Jeoung Soo Lee, Polymeric Micelle as a RhoA siRNA Carrier for Axonal Regeneration in rat SCI model, SE Regional IDeA Meeting 2015, Mississippi.
  - 52) 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.
  - 53) 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.
  - 54) Graham Temples and Jeoung Soo Lee , Folate-functionalized Polymeric Micelle for Combinatorial Therapy to Overcome Drug Resistant Breast Cancer, SE Regional IDeA Meeting 2015 , Mississippi.
  - 55) Jayesh Betala, Sooneon Bae, JeoungSoo Lee, Eugene Langan, Martine LaBerge, Smooth Muscle Cell Proliferation Inhibition Using Drug-Loaded Polymeric Micelles, BMES annual meeting, Tampa, FL 2015
  - 56) Graham Temples, Jeoung Soo Lee, Folate-functionalized Polymeric Micelle for Combinatorial Therapy to Overcome Drug Resistant Breast Cancer, Society for Biomaterials annual meeting, Charlotte, NC, 2015
  - 57) Michael DiBalsi<sup>1</sup>, Sooneon Bae<sup>1</sup>, Guzeliya Korneva<sup>1</sup>, Konstantin G. Kornev<sup>2</sup>, and Jeoung Soo Lee<sup>1</sup>, Heparin-eluting Vascular Suture for Preventing Thrombosis and Stenosis, Society for Biomaterials annual meeting, Charlotte, NC, 2015
  - 58) So-Jung Gwak, Ben Green, Christian Macks, and Jeoung Soo Lee Polymeric Micelle as a Nucleic Acid Carrier for Axonal Regeneration in CNS, Society for Biomaterials annual meeting, Charlotte, NC, 2015
  - 59) Christian Macks, So Jung Gwak, Guzeliya Korneva, and Jeoung Soo Lee, Combinatorial Therapy of Rolipram and pNGF for Traumatic Brain Injury, Society for Biomaterials 2015 annual meeting, Charlotte, NC, 2015
  - 60) Ben Green, So-Jung Gwak, Graham Temples, and Jeoung Soo Lee, Polymeric micelle as a drug and gene delivery carrier for brain tumor, Society for Biomaterials 2015 annual meeting, Charlotte, NC, 2015
  - 61) Soon Eon Bae, Jeoung Soo Lee, Jeremy L Barth, and Ken Webb, Vibratory stimulation for anti-fibrotic therapy” Society for Biomaterials, Charlotte, NC, 2015
  - 62) So-Jung Gwak, Justin Nice, Ben Green, Christian Macks, and Jeoung Soo Lee, Polymeric Micelle as a Drug and Gene Delivery Carrier for Spinal Cord Tumor, BMES 2014 annual meeting, San Antonio, TX, 2014
  - 63) Jayesh Betala, JeoungSoo Lee , Eugene Langan, Martine LaBerge, Effects Of Short-term Exposure of Estrogen On Smooth Muscle Cells Proliferation, BMES 2014 annual meeting, San Antonio, TX, 2014
  - 64) Michael DiBalsi, Sooneon Bae, Guzeliya Korneva<sup>1</sup>, Konstantin G. Kornev<sup>2</sup>, 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
- 65) Graham Temples, Justin Nice, and Jeoung Soo Lee, Folate-mediated polymeric micelle delivery system for Drug Resistant Cancer, 5th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC, 2014
  - 66) So-Jung Gwak, Justin Nice, Ben Green, Christian Macks, and Jeoung Soo Lee, Polymeric micelle as a drug and gene delivery carrier for spinal cord tumor, 5th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC, 2014
  - 67) Justin Nice, So Jung Gwak, Ken Webb, and Jeoung Soo Lee, Polymeric micelle as a combinatorial delivery system for central nervous system regeneration, 5th Biennial NIH, NCRR National IDeA Symposium of Biomedical Research Excellence (NISBRE), Washington DC, 2014
  - 68) Graham Temples, Justin Nice, Ben Green, and Jeoung Soo Lee, Multi-functional Polymeric Micelle Delivery System for Drug Resistant Cancer Treatment, Society for Biomaterials annual meeting, Denver, CO (2014)
  - 69) Justin Nice, Graham Temples, Ken Webb, and Jeoung Soo Lee, Polymeric Micelle Delivery System for Neural Regeneration, Society for Biomaterials annual meeting, Denver, CO (2014)
  - 70) Michael DiBalsi, Sooneon Bae, Guzeliya Korneva, Konstantin G. Kornev, and Jeoung Soo Lee, Heparin-immobilized Electrospun Nanofibers for Vascular Sutures, Society for Biomaterials annual meeting, Denver, CO (2014)
  - 71) Sooneon Bae, Ho-Joon Lee, Jeoung Soo Lee, Ken Webb, Osteogenic Differentiation of Encapsulated Mesenchymal Stem Cells in Dexamethasone-Functionalized Semi-IPN Hydrogels, Society for Biomaterials annual meeting, Denver, CO (2014)
  - 72) 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)
  - 73) 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)
  - 74) Graham Temples, Ben Green, Justin Nice, and Jeoung Soo Lee, Multi-functional Polymeric Micelle Delivery System for Drug Resistant Cancer Treatment, Biomaterials Day, Clemson, SC (2013)
  - 75) Justin Nice, Graham Temples, Ken Webb, and Jeoung Soo Lee, Polymeric Micelle Delivery System for Neural Regeneration, Biomaterials, Clemson, SC (2013)
  - 76) Michael DiBalsi<sup>1</sup>, Sooneon Bae<sup>1</sup>, Guzeliya Korneva<sup>1</sup>, Konstantin G. Kornev<sup>2</sup>, and Jeoung Soo Lee, Characterization of Heparin-immobilized Electrospun Nanofibers, Biomaterials Day, Clemson, SC (2013)
  - 77) 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).
  - 78) 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).
  - 79) J. Zhang, A. Walker, J. S. Lee, K. Webb. Tetronic® T904 increases transfection efficiency of polyplex nonviral vectors. Biomedical Engineering Society Annual Meeting, Atlanta, GA (2012).

- 80) HoJoon Lee, Atanu Sen, **Jeoung Soo Lee**, and Ken Webb, Effect of network composition on cellular remodeling of PEG diacrylate / hyaluronic acid semi-IPNs. Biomedical Engineering Society Annual Meeting, Atlanta, GA (2012).
- 81) Soon Eon Bae, **Jeoung Soo Lee**, Jeremy Barth, and Ken Webb. The effect of Variable Vibratory Stimulation on Fibroblast Matrix –related Gene Expression. Biomedical Engineering Society Annual Meeting, Atlanta, GA (2012).
- 82) **Jeoung Soo Lee**, Wayne Reeder, Don Mackay, Kangmin Lee, Lesly Temesvari, Yunjin Jung, and Young Mi Kim. Novel Colon-specific Bi-functional Polymeric Prodrugs for the Treatment of Amebiasis. American Association of Pharmaceutical Scientists 25th Annual Meeting and Exposition, Washington, DC (2011).
- 83) J. Zhang, A. Sen, E. Cho, **J. S. Lee**, and K. Webb. “Biosynthetic hydrogels for gene delivery.” Southeastern Regional IdEA Meeting, New Orleans, LA (2011).
- 84) A. Sen, R. C. Cribb, **J. S. Lee**, and K. Webb. “Covalent immobilization and bioactivity of fibronectin in Tetronic hydrogels.” Southeastern Regional IdEA Meeting, New Orleans, LA (2011).
- 85) Jeremy Zhang, Ken Webb, and **Jeoung Soo Lee**. Neuron-specific Polymeric Micelle as a siRNA Delivery Carrier for CNS. Society for Biomaterials Annual Meeting, Florida, OL (2011).
- 86) Jeremy Zhang, Atanu Sen, Eunhee Cho, **Jeoung Soo Lee**, and Ken Webb. Nonviral Vector Delivery from T904/Fibrinogen Hydrogels. Society for Biomaterials Annual Meeting, Florida, OL (2011).
- 87) Atanu Sen, Rebecca C. Cribb, **Jeoung Soo Lee**, Ken Webb. Bulk and Surface Covalent Immobilization of Molecules on Hydrogel Formed by Micheal –type Addition. Society for Biomaterials Annual Meeting, Florida, OL (2011).
- 88) Ho-Joon Lee, Eunhee Cho, Carlyn Sander, Derick Burgin, Elizabeth Steele, Atanu Sen, **Jeoung Soo Lee**, Ken Webb. Fabrication and Characterization of Synthetic Hydrogel Fibers. Society for Biomaterials Annual Meeting, Florida, OL (2011).
- 89) Brad Winn, Vipul Taneja, Alexey Vertegel, Eugene M. Langan III, **Jeoung Soo Lee**, Martine LaBerge. Influence of Topography of Endovascular Stent Material on Smooth Muscle Cell Response. Society for Biomaterials Annual Meeting, Florida, OL (2011).
- 90) **Jeoung Soo Lee**, Jeremy Zhang, and Ken Webb. Neuron-specific Polymeric micelle nanotherapeutics for CNS regeneration. Society for Biomaterials Annual Meeting, Seattle, WA (2010).
- 91) Eunhee Cho, Jiro Nagatomi, **Jeoung Soo Lee**, and Ken Webb. Bioactive bladder tissue adhesive. Society for Biomaterials, San Antonio, TX (2009).
- 92) **Jeoung Soo Lee**, Rebecca C. Cribb, Eunhee Cho, Jaishanchar Kutty, and Ken Webb. Synthesis and Characterization of di-Functional PEG-based Crosslinkers for L1 Immobilization. Society for Biomaterials Annual Meeting, Chicago (2007)
- 93) J. K. Kutty, E. H. Cho, J. S. Lee, and K. Webb. Polyethylene glycol diacrylate / hyaluronic acid semi-IPNs support increased cell spreading and proliferation. ” Transactions of the 32<sup>nd</sup> Annual Meeting of the Society for Biomaterials, page 652 (2007).
- 94) Rebecca C. Cribb, **Jeoung Soo Lee**, and Ken. Webb. Cloning and expression of bioactive recombinant L1 neural cell adhesion molecule. Regenerate World Congress on Tissue Engineering and Regenerative Medicine, Pittsburgh, PA (2006).
- 95) **Jeoung Soo Lee**, Dina M. Basalyga, Agneta Simionescu, Dan T. Simionescu, and Narendra R. Vyavahare, Osteogenic and Matrix Remodeling Gene Expression Associated with Elastin Calcification. Society for Biomaterial Annal Meeting, Memphis, May (2005)
- 96) Kedar Datar, **Jeoung Soo Lee**, Naren. Vyavahare, and Ken Webb, Controlled release hydrogel coatings on deep groove polymer fibers for spinal cord regeneration. Society for Biomaterials, Memphis, TN (2005).

- 97) **Jeoung Soo Lee**, and Sung Wan Kim. Biodegradable Mixed Polymeric Micelles as A Carrier for Targeting Genes into Hepatocytes. *The American Society of Gene Therapy's 5<sup>th</sup> Annual Meeting*, Boston, June (2002)
- 98) **Jeoung Soo Lee**, and Sung Wan Kim. Synthesis and Characterization of Biodegradable Mixed Polymeric Micelle for Gene Delivery. *Twenty ninth Annual meeting of the Controlled Release Society*, Seoul Korea, July (2002)
- 99) **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*, Salt Lake City, February (2001)
- 100) **Jeoung Soo Lee**, Yun Jin Jung, Minju Doh, and Young Mi Kim, Synthesis and Properties of *N*-Nicotinyl-2-(5-Fluorouracil-1-yl)-D,L-Glycine Esters to Improve Rectal Absorption of 5-Fluorouracil. *American Association of Pharmaceutical Scientists*, Indianapolis, October (2000)
- 101) **Jeoung Soo Lee**, SeungHo Choi, and SungWan Kim. Screening of Various Complexes to Improve Oral Absorption of Ceftriaxone, the Third Generation Cephalosporin. *American Association of Pharmaceutical Scientists*, Indianapolis, October (2000)
- 102) **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)
- 103) **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)
- 104) **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. *American Association of Pharmaceutical Scientists*, New Orleans, November (1999)
- 105) **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*-Nicotinylglycyl-2-(5-Fluorouracil-1-yl)-D,L-Glycine. *American Association of Pharmaceutical Scientists*, New Orleans, November (1999)
- 106) 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-Aminosalicylic Acid. *American Association of Pharmaceutical Scientists*, New Orleans, November (1999)
- 107) **Jeoung Soo Lee**, Ju Hyun Noh and Young Mi Kim, Synthesis and Properties of *N*-Nicotinyl-2-(5-Fluorouracil-1-yl)-D,L-Glycine Esters. *The Spring Convention of The Pharmaceutical Society of Korea*, Pusan, April (1999)
- 108) 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-Aminosalicylic Acid: 5-Aminosalicyl-Aspartic Acid and 5-Aminosalicyl-Glutamic Acid. *American Association of Pharmaceutical Scientists*, San Francisco, November (1998)
- 109) 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-Aminosalicylic Acid: 5-Aminosalicyl-Glycine. *American Association of Pharmaceutical Scientists*, San Francisco, November (1998)
- 110) **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*-Nicotinyl-2-(5-Fluorouracil-1-yl)-D,L-Glycine. *The Spring Convention of The*



- Pharmaceutics Society of Korea, Pusan, April (1998)*
- 111)** Hak Hynu Kim, Yun Jin Jung, **Jeoung Soo Lee**, Ju Heun Noh, and Young Mi Kim, Development of colon-specific prodrug of 5-Aminosalicylic Acid: Synthesis and properties of 5-Aminosalicyl-aurine. *The Spring Convention of The Pharmaceutical Society of Korea, Pusan, April (1998)*
- 112)** **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 47<sup>th</sup> Annual Convention of The Pharmaceutical Society of Korea, Soowon, October (1998)*
- 113)** Hak Hyun Kim, Yun Jin Jung, **Jeoung Soo Lee** and Young Mi Kim, Development of Colon-specific Prodrugs of 5-Aminosalicylic Acid: Synthesis and Properties of 5-Aminosalicyl-L-Cysteine. *The 47<sup>th</sup> Annual Convention of The Pharmaceutical Society of Korea, Soowon, October (1998)*
- 114)** **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)*
- 115)** 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)*
- 116)** 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 46<sup>th</sup> annual Convention of The Pharmaceutical Society of Korea, Seoul, November (1997)*
- 117)** 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 45<sup>th</sup> Annual Convention of The Pharmaceutical Society of Korea, Seoul, October (1996)*
- 118)** Neung Jin Ha, Yun Taek Kim, **Jeoung Soo Lee**, and Young Mi Kim, Formation and Antimicrobial Activities of Cotton Xanthate-Metal-Homosulfamine Complex. *The 45<sup>th</sup> Annual Convention of The Pharmaceutical Society of Korea, Seoul, October (1996)*
- 119)** **Jeoung Soo Lee**, Yun Jin Jung, Neung Jin Ha, and Young Mi Kim, Development of Cotton Derivatives with Antimicrobial Action. *The 42<sup>nd</sup> Annual Convention of The Pharmaceutical Society of Korea, Seoul, October (1994)*

## PATENTS

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

6. AU 267011 B2 Compositions and methods to improve the oral absorption of antimicrobial agents  
Seung Ho Choi, Jeoung Soo Lee, and Dennis Keith
7. EP 2263654 A1 Compositions and methods to improve the oral absorption of antimicrobial agents  
Seung Ho Choi, Jeoung Soo Lee, and Dennis Keith

## **SPONSORED RESEARCH**

### **External Sponsored Research:**

#### **Ongoing Research Support**

- 1. Pilot project** **08/15/2022~08/14/2023**  
Establishment of feline SCI model and new MR imaging capabilities for assessment of therapeutic efficacy  
Agency: SC-BioCRAFT, Clemson/NIGMS  
Role: PI
- 2. BX000347-11** **01/15/2022~01/14/2026**  
"Cerebral arteriole structure/function in diabetic ischemic brain injury"  
Agency: Veterans Administration  
Role: Collaborator (PI: Dr. Adviy Ergul, MUSC)
- 3. 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)
- 4. R01 NS111037-01** **2/1/2019~1/31/2023**  
"Neuron-specific Nanotherapeutics for Spinal Cord Injury Repair"  
Agency: NIH/NINDS R01  
Role: PI  
\$1,311,562  
Period: 2/1/ 2019~1/31/2023
- 5. 1R21** 1R21NS114723-01A1 **9/1/2020~8/31/2023**  
"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)  
\$ 122,000 (\$375,000)
- 6. 1R21** 1R21NS118224-01 **9/1/2020~8/31/2023**  
"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)

**7. N/A**

“Polymeric micelle nanoparticle for combinatorial therapy to overcome drug resistant breast cancer”

Agency: Clemson Research Foundation  
Role: PI  
\$24,000  
Period: 3/2017-2/2022

**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. SC-SCIRF 2017 B-01**

“Multifunctional nanotherapeutics for SCI repair”

Agency: South Carolina-Spinal Cord Injury Research Fund  
Role: PI  
\$69,000  
Period:4/1/2018-9/30/2020

**3. P20GM103444**

“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)  
Period: 7/1/2014-6/30/2019

**4. “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

**5. “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

**6. “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

**7. “Vibratory Mechanotransduction”**

Agency: NIH/NIBIB (1R21 EB009489)  
Role: Co-I (K. Webb PI)  
\$27,881(\$411,663)  
Period: 04/2009-9/2012

**8. “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

**9. “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

**10. “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

**11. “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

**POSTDOC ADVISING/MENTORING**

- 1) **Claire Jones, PhD** (6,15, 2021~ present), Point-of-Injury Application of Hydrogel Embedded Drugs for Severe Traumatic Brain Injury
- 2) **Fuying Ma, MD** (1.4, 2021~5,26,2022), Neuron-specific Nanotherapeutics for Spinal Cord Injury Repair

- 3) **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
- 4) **Min Kyung Khang, PhD** (9,2019~12, 2020), Neuron-specific Nanotherapeutics for Spinal Cord Injury Repair  
Current position: Postdoc in NIH
- 5) **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
- 6) **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.
- 7) **Angela A Bryant, PhD** (8, 2015- 7, 2017), “Nanotherapeutics for combinatorial drug and gene therapy in treating glioblastoma”  
Current position: Assistant professor, Bioengineering, Clemson University  
Current position: Assistant Professor, Bioengineering Department, Clemson University
- 8) **So Jung Gwak, PhD**, (10, 2013 – 2, 2017), “Neuron-specific Nanotherapeutics for Axonal Regeneration after Spinal Cord Injury”  
Current position: Assistant Professor, College of Engineering, WonGwang University, Korea
- 9) **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, “Neuron-specific polymeric micelle nanotheraputics for neural regeneration after spinal cord injury”, PhD Advisor, Expected graduation date: May 2024.

### PhD students advised/mentored

- 2) Andrew DeMaria, “Therapeutic angiogenesis via cell-mediated release of small molecules from hydrogels”. PhD co-Advisor, Graduated on August 2021.
- 3) 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.
- 4) Jayesh Betala, “Gender Specific Therapy for Optimized Angioplasty Outcome”, Co-advisor, (2012-2017), PhD, Graduated on Dec 2017  
Current position:
- 5) 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 , Purilogics LLC

6) 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

7) Jerermy Zhang, "Target-specific polymeric micelle nanoparticles for CNS regeneration"  
PhD Co-Advisor (2009-2013), PhD, Graduated on 8/2013  
Current position: Director of data sciences, Gilead Sciences

#### MS students advising/mentoring

- 1) Sahil
- 2) Bradley Eliotte (8,15,2021~ present), Dexamethasone loaded Hydrogel for Severe Traumatic Brain Injury

#### 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**

- 1) Krista Henrie, Combination Therapy of Rolipram and Minocycline for Arresting Secondary Injury Cascade After Traumatic Brain Injury, (8, 2021~ present)
- 2) Zack Johnson, Doxorubicine and SiRNA combinatorial therapy by PgP nanocarrier for drug-resistant breast cancer (4, 2021~ present)
- 3) Elizabeth Dods
- 4) Andrew Wood

## **UNDERGRADUATE STUDENT ADVISED/MENTORED**

- 5) Travis Horvath, "Combinatorial therapy of Sirolimus and Heparin by a cationic amphiphilic copolymer for inhibiting restenosis" (8/2020~ 12/2021) BIOE4910, Undergraduate Research Advisor)
- 6) Bradely Elliotte, "Anti-inflammatory drug loaded Hydrogel for Severe Traumatic Brain Injury" (3/2021 ~present)
- 7) Sam Insignare, "Combinatorial therapy of Sirolimus and Heparin by a cationic amphiphilic copolymer for inhibiting restenosis" (8/2017, BIOE4910, Undergraduate Research Advisor)
- 8) Andrew Rfkin,
- 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)
- 10) Joseph Whitaker, Neural cell adhesion molecule, L1 functionalized polymeric micelle for nucleic acid carrier for CNS regeneration (8/2016~ present, BIOE H4910, Honors Undergraduate Research Advisor)
- 11) Noah Cecil, "Gene and stem cell therapy for the Alzheimer's disease" (8/2015~present, BIOE 4910, Undergraduate Research Advisor)
- 12) Amy Duvall, "Cationic, amphiphilic polymeric micelle mediated Nepilysine gene delivery for Alzheimer Diseases" (2016~, BIOL H4910, Honors Undergraduate Research Advisor)
- 13) Danielle Gill, "Gene and stem cell therapy for the Alzheimer's disease" (8/2015~5/2016, BIOE H4910, Honors Undergraduate Research Advisor)
- 14) Arica Jordan Gregory, "Gene therapy for the Alzheimer's disease" (8/2015~5/2016, BIOE 4910, Undergraduate Research Advisor)
- 15) Timothy Harmon, "Bi-functional polymeric prodrug for Amoebiasis" (8/2015~5/2016, BIOE H4910, Honors Undergraduate Research Advisor)

- 16) Breanne Hourigan, "Doxorubicin-loaded polymeric nanotherapeutics for the treatment of drug resistant breast cancer" (8/2014~5/2016, BIOE 4910 Undergraduate Research Advisor)
- 17) Erica Beal, "Paclitaxel loaded eletrospun fiber for vascular suture" (2014-2016, BIOE 491 Undergraduate Research Adviser)
- 18) Christian Macks, "Therapeutic effect of polymeric micelle nanotherapeutics for the spinal cord tumor in vivo" (2014, BIOE 491 Undergraduate Research Adviser)
- 19) Mike DiBalsi, "Drug-loaded biodegradable eletrospun fiber for suture" (2013, BIOE491 Undergraduate Research Adviser)
- 20) Medha Vyavahare, "Effect of various amphiphilic polymer on transfection efficiency of PEI/pGFP complexes" (2012, BIOE491H, Departmental Honors Research Adviser)
- 21) Leonard Cochrane, "Targeted Multi-Functional Nanotherapeutics for Combinatorial Therapy of Drug Resistant Cancer" (2012, BIOE491H, Departmental Honors Research Adviser)
- 22) 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)
- 23) Javier Ayala, "Evaluation of the released metronidazole from Galactose-Dextran-Metronidazole prodrug after oral administration in rat" (2012, BIOE491, Departmental Research Adviser)
- 24) Thomas Z. Reed, "Evaluation of the ability of Galactose-Dextran prodrug to block adhesion of ameba to host cells." (2011, BIOE491, Departmental Research Adviser)
- 25) Courtney Taylor, "Development of antibacterial drug-coated biodegradable PLA suture" (2009, BIOE491H, Departmental Honors Research Adviser)
- 26) Wayne Reeder, "Functionalized Mixed Pluronic® Polymeric Micelle Nanoparticles as a Nucleic acid Delivery Carrier for Central Nervous System" (2008, NASA-REU Program)
- 27) Sharon Owino, "Development of polymeric micelle as a nucleic acid carrier to regenerate CNS" (2007, NIH-NSF Bioengineering and Bioinformatics Summer Internship)
- 28) Mike Caldwell, "Designing a siRNA delivery system activated by cellular proteolytic acitivity" (2006, BIOE491, Departmental Research Adviser)
- 29) 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~present:	Search committee for Director of Research Development
2012~ present	Chair/Member, Departmental Bylaws 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~presnt	Chair of Undergraduate departmental honors committee
2018~present	Member, Undergraduate Program Committee