Curriculum Vitae

Forrest M. Kievit, Ph.D.

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Section 1 Education and Employment History

Section 1.1 Education History

University of Washington, Postdoctoral, Neurological Surgery, January 2013
University of Washington, Ph.D., Materials Science & Engineering, August 2011.
University of Washington, B.S., Bioengineering, June 2007.

Section 1.2 Employment History

- *Assistant Professor*, University of Nebraska-Lincoln, Department of Biological Systems Engineering (August 2016 – present)
- *Principal Investigator*, Seattle Children's Research Institute, Center for Integrative Brain Research (January 2016 – August 2016)
- *Assistant Professor*, University of Washington, Department of Neurological Surgery (January 2016 – August 2016)
- *Research Assistant Professor*, University of Washington, Department of Neurological Surgery (January 2013 – January 2016)
- *Postdoctoral Research Associate*, University of Washington, Department of Neurological Surgery (August 2011 – January 2013)
- *Graduate Research Assistant*, University of Washington, Department of Materials Science and Engineering (June 2007 – August 2011)
- *Undergraduate Research Assistant*, University of Washington, Department of Bioengineering (September 2005 – June 2007)

Section 2 Research Accomplishments

Section 2.1 Publication Record

The following subscripts are used to indicate trainee co-authors
0: Undergraduate student under my supervision
1: Masters student under my supervision
2: Ph.D. student under my supervision
3: Postdoctoral scholars under my supervision

Section 2.1.1 Peer Reviewed Journal Publications in print

1. Miller HA;$_1$ Magsam AW;$_0$ Tarudji AW;$_2$ Romanova S; Weber L; Gee CC;$_0$ Madsen GL; Bronich TK; **Kievit FM**. Evaluating differential nanoparticle accumulation and retention kinetics in a mouse model of traumatic brain injury via K_{trans} mapping with MRI. Scientific Reports 2019, 9, 1-14. (90%)
2. Bony BA;$_3$ **Kievit FM**. A role for nanoparticles in treating traumatic brain injury. Pharmaceutics 2019, 11, 473. (100%)
3. Stephen ZR; Chiarelli PA; Revia RA; Wang K; **Kievit F**; Dayringer C; Jeon M; Ellenbogen R; Zhang M. Time-resolved MRI assessment of convection-

enhanced delivery by targeted and nontargeted nanoparticles in a human glioblastoma mouse model. Cancer Research 2019, 79, 4776-86. (10%)

4. Yoo D; Magsam AW;0 Kelly AM; Stayton PS; **Kievit FM***; Convertine AJ*. Core crosslinked nanoparticles reduce neuroinflammation and improve outcome in a mouse model of traumatic brain injury. ACS Nano 2017, 11, 8600-11. *co-senior authors (50%)
5. **Kievit FM**; Wang K; Ozawa T; Tarudji AW;0 Silber JR; Holland EC; Ellenbogen RG; Zhang M. Nanoparticle-mediated knockdown of DNA repair sensitizes cells to radiotherapy and extends survival in a genetic mouse model of glioblastoma. Nanomedicine: NBM 2017, 13, 2131-9. (50%)
6. P. A. Chiarelli, R. A. Revia, Z. R. Stephen, K. Wang, M. Jeon, V. Nelson, **F. M. Kievit**, J. Sham, R. G. Ellenbogen, H. P. Kiem, M. Zhang. Nanoparticle Biokinetics in Mice and Nonhuman Primates. ACS Nano 2017, 11, 9514-24. (10%)
7. Xu J;0 Ypma M; Chiarelli PA; Park J; Ellenbogen RG; Stayton PS; Mourad PD; Lee D; Convertine AJ;* **Kievit FM***. Theranostic oxygen reactive polymers for treatment of traumatic brain injury. Advanced Functional Materials 2016, 26, 4124-33. *co-senior authors (50%)
8. Wang K;2 **Kievit FM**; Zhang M. Nanoparticles for cancer gene therapy: Recent advances, challenges, and strategies. Pharmacological Research 2016, 114, 56-66. (25%)
9. Wang K;2 **Kievit FM**; Erickson AE; Silber JR; Ellenbogen RG; Zhang M. Culture on 3D chitosan-hyaluronic acid scaffolds enhances stem cell marker expression and drug resistance in human glioblastoma cancer stem cells. Advanced Healthcare Materials 2016, 5, 3173-81. (30%)
10. **Kievit FM**; Ellenbogen RG; Zhang M. Pharmaceutical cancer nanotechnology: Shortening hurtles to clinical translation. Journal of Pharmaceutical Research and Clinical Practice 2016, 6. (85%)
11. **Kievit F**; Wang K;2 Erickson AE; Lan Levengood SK; Ellenbogen RG; Zhang M. Modeling the tumor microenvironment using chitosan-alginate scaffolds to control the stem-like state of glioblastoma cells. Biomaterials Science 2016, 4, 610-3. (50%)
12. Florczyk SJ;* **Kievit FM**;* Wang K;2 Erickson AE; Ellenbogen RG; Zhang M. 3D porous chitosan–alginate scaffolds promote proliferation and enrichment of cancer stem-like cells. Journal of Materials Chemistry B 2016, 4, 6326-34. *co-first authors (35%)
13. Wang K;2 **Kievit FM**; Sham JG; Jeon M; Stephen ZR; Bakthavatsalam A; Park JO; Zhang M. Iron-oxide-based nanovector for tumor targeted siRNA delivery in an orthotopic hepatocellular carcinoma xenograft mouse model. Small 2015, 12, 477-87. (20%)
14. Wang K;2 **Kievit FM**; Jeon M; Silber JR; Ellenbogen RG; Zhang M. Nanoparticle-mediated target delivery of trail as gene therapy for glioblastoma. Advanced Healthcare Materials 2015, 4, 2719-26. (35%)
15. Wang K;2 **Kievit FM**; Florczyk SJ; Stephen ZR; Zhang M. 3D porous chitosan–alginate scaffolds as an in vitro model for evaluating nanoparticle-mediated

tumor targeting and gene delivery to prostate cancer. Biomacromolecules 2015, 16, 3362-72. (35%)

16. Mu Q; **Kievit FM**; Kant RJ; Lin G; Jeon M; Zhang M. Anti-her2/neu peptide-conjugated iron oxide nanoparticles for targeted delivery of paclitaxel to breast cancer cells. Nanoscale 2015, 7, 18010-4. (15%)
17. **Kievit FM**; Stephen ZR; Wang K;2 Dayringer CJ;0 Sham JG; Ellenbogen RG; Silber JR; Zhang M. Nanoparticle mediated silencing of DNA repair sensitizes pediatric brain tumor cells to γ-irradiation. Molecular Oncology 2015, 9, 1071-80. (60%)
18. Fang C; Wang K;2 Stephen ZR; Mu Q; **Kievit FM**; Chiu DT; Press OW; Zhang M. Temozolomide nanoparticles for targeted glioblastoma therapy. ACS Applied Materials & Interfaces 2015, 7, 6674-82. (5%)
19. Chiarelli PA; **Kievit FM**; Zhang M; Ellenbogen RG. Bionanotechnology and the future of glioma. Surgical Neurology International 2015, 6, S45. (33%)
20. Tsao C-T; **Kievit FM**; Wang K;2 Erickson AE; Ellenbogen RG; Zhang M. Chitosan-based thermoreversible hydrogel as an in vitro tumor microenvironment for testing breast cancer therapies. Molecular Pharmaceutics 2014, 11, 2134-42. (25%)
21. Tsao C-T; **Kievit FM**; Ravanpay A; Erickson AE; Jensen MC; Ellenbogen RG; Zhang M. Thermoreversible poly (ethylene glycol)-g-chitosan hydrogel as a therapeutic t lymphocyte depot for localized glioblastoma immunotherapy. Biomacromolecules 2014, 15, 2656-62. (20%)
22. Stephen ZR; **Kievit FM**; Veiseh O; Chiarelli PA; Fang C; Wang K;2 Hatzinger SJ; Ellenbogen RG; Silber JR; Zhang M. Redox-responsive magnetic nanoparticle for targeted convection-enhanced delivery of o 6-benzylguanine to brain tumors. ACS Nano 2014, 8, 10383-95. (25%)
23. Sham JG; **Kievit FM**; Grierson JR; Miyaoka RS; Yeh MM; Zhang M; Yeung RS; Minoshima S; Park JO. Glypican-3–targeted 89Zr PET imaging of hepatocellular carcinoma. Journal of Nuclear Medicine 2014, 55, 799-804. (33%)
24. Sham JG; **Kievit FM**; Grierson JR; Chiarelli PA; Miyaoka RS; Zhang M; Yeung RS; Minoshima S; Park JO. Glypican-3–targeting f (Ab′) 2 for 89Zr PET of hepatocellular carcinoma. Journal of Nuclear Medicine 2014, 55, 2032-7. (33%)
25. Phan-Lai V; **Kievit FM**; Florczyk SJ; Wang K;2 Disis M; Zhang M. CCL21 and IFNγ recruit and activate tumor specific T cells in 3D scaffold model of breast cancer. Anti-Cancer Agents in Medicinal Chemistry (Formerly Current Medicinal Chemistry-Anti-Cancer Agents) 2014, 14, 204-10. (30%)
26. **Kievit FM**;* Florczyk SJ;* Leung MC; Wang K;2 Wu JD; Silber JR; Ellenbogen RG; Lee JS; Zhang M. Proliferation and enrichment of CD133+ glioblastoma cancer stem cells on 3D chitosan-alginate scaffolds. Biomaterials 2014, 35, 9137-43. *co-first authors. (40%)
27. Wang T; **Kievit FM**; Veiseh O; Arami H; Stephen ZR; Fang C; Liu Y; Ellenbogen RG; Zhang M. Targeted cell uptake of a non-internalizing antibody through conjugation to iron oxide nanoparticles in primary central nervous system lymphoma. World Neurosurgery 2013, 80, 134-41. (35%)

28. Veiseh O; **Kievit FM**; Liu V; Fang C; Stephen ZR; Ellenbogen RG; Zhang M. In vivo safety evaluation of polyarginine coated magnetic nanovectors. Molecular Pharmaceutics 2013, 10, 4099-106. (30%)
29. Phan-Lai V; Florczyk SJ; **Kievit FM**; Wang K;[2] Gad E; Disis ML; Zhang M. Three-dimensional scaffolds to evaluate tumor associated fibroblast-mediated suppression of breast tumor specific T cells. Biomacromolecules 2013, 14, 1330-7. (10%)
30. **Kievit FM**; Cooper A; Jana S; Leung MC; Wang K;[2] Edmondson D; Wood D; Lee JS; Ellenbogen RG; Zhang M. Aligned chitosan-polycaprolactone polyblend nanofibers promote the migration of glioblastoma cells. Advanced Healthcare Materials 2013, 2, 1651-9. (70%)
31. Florczyk SJ; Wang K;[2] Jana S; Wood DL; Sytsma SK; Sham JG; **Kievit FM**; Zhang M. Porous chitosan-hyaluronic acid scaffolds as a mimic of glioblastoma microenvironment ECM. Biomaterials 2013, 34, 10143-50. (10%)
32. **Kievit FM**; Stephen ZR; Veiseh O; Arami H; Wang T; Lai VP; Park JO; Ellenbogen RG; Disis ML; Zhang M. Targeting of primary breast cancers and metastases in a transgenic mouse model using rationally designed multifunctional SPIONS. ACS Nano 2012, 6, 2591-601. (60%)
33. Florczyk SJ; Liu G; **Kievit FM**; Lewis AM; Wu JD; Zhang M. 3D porous chitosan–alginate scaffolds: A new matrix for studying prostate cancer cell–lymphocyte interactions in vitro. Advanced Healthcare Materials 2012, 1, 590-9. (25%)
34. Fang C; **Kievit FM**; Veiseh O; Stephen ZR; Wang T; Lee D; Ellenbogen RG; Zhang M. Fabrication of magnetic nanoparticles with controllable drug loading and release through a simple assembly approach. Journal of Controlled Release 2012, 162, 233-41. (33%)
35. Fang C; **Kievit FM**; Cho Y-C; Mok H; Press OW; Zhang M. Effect of cationic side-chains on intracellular delivery and cytotoxicity of pH sensitive polymer–doxorubicin nanocarriers. Nanoscale 2012, 4, 7012-20. (33%)
36. Veiseh O; **Kievit FM**; Mok H; Ayesh J; Clark C; Fang C; Leung M; Arami H; Park JO; Zhang M. Cell transcytosing poly-arginine coated magnetic nanovector for safe and effective siRNA delivery. Biomaterials 2011, 32, 5717-25. (33%)
37. Veiseh O; **Kievit FM**; Ellenbogen RG; Zhang M. Cancer cell invasion: Treatment and monitoring opportunities in nanomedicine. Advanced Drug Delivery Reviews 2011, 63, 582-96. (40%)
38. Stephen ZR; **Kievit FM**; Zhang M. Magnetite nanoparticles for medical MR imaging. Materials Today 2011, 14, 330-8. (30%)
39. Park JO; Stephen Z; Sun C; Veiseh O; **Kievit FM**; Fang C; Leung M; Mok H; Zhang M. Glypican-3 targeting of liver cancer cells using multifunctional nanoparticles. Molecular Imaging 2011, 10, 69. (5%)
40. **Kievit FM**; Zhang M. Cancer nanotheranostics: Improving imaging and therapy by targeted delivery across biological barriers. Advanced Materials 2011, 23. (85%)

41. **Kievit FM**; Zhang M. Surface engineering of iron oxide nanoparticles for targeted cancer therapy. Accounts of Chemical Research 2011, 44, 853-62. (85%)
42. **Kievit FM**; Wang FY; Fang C; Mok H; Wang K; Silber JR; Ellenbogen RG; Zhang M. Doxorubicin loaded iron oxide nanoparticles overcome multidrug resistance in cancer in vitro. Journal of Controlled Release 2011, 152, 76-83. (60%)
43. Cooper A; Bhattarai N; **Kievit FM**; Rossol M; Zhang M. Electrospinning of chitosan derivative nanofibers with structural stability in an aqueous environment. Physical Chemistry Chemical Physics 2011, 13, 9969-72. (5%)
44. Veiseh O; **Kievit FM**; Fang C; Mu N; Jana S; Leung MC; Mok H; Ellenbogen RG; Park JO; Zhang M. Chlorotoxin bound magnetic nanovector tailored for cancer cell targeting, imaging, and siRNA delivery. Biomaterials 2010, 31, 8032-42. (33%)
45. Sun C; Du K; Fang C; Bhattarai N; Veiseh O; **Kievit F**; Stephen Z; Lee D; Ellenbogen RG; Ratner B. PEG-mediated synthesis of highly dispersive multifunctional superparamagnetic nanoparticles: Their physicochemical properties and function in vivo. ACS Nano 2010, 4, 2402-10. (5%)
46. Mok H; Veiseh O; Fang C; **Kievit FM**; Wang FY; Park JO; Zhang M. pH-sensitive siRNA nanovector for targeted gene silencing and cytotoxic effect in cancer cells. Molecular Pharmaceutics 2010, 7, 1930-9. (15%)
47. Leung M; **Kievit FM**; Florczyk SJ; Veiseh O; Wu J; Park JO; Zhang M. Chitosan-alginate scaffold culture system for hepatocellular carcinoma increases malignancy and drug resistance. Pharmaceutical Research 2010, 27, 1939-48. (30%)
48. **Kievit FM**; Veiseh O; Fang C; Bhattarai N; Lee D; Ellenbogen RG; Zhang M. Chlorotoxin labeled magnetic nanovectors for targeted gene delivery to glioma. ACS Nano 2010, 4, 4587-94. (50%)
49. **Kievit FM**; Florczyk SJ; Leung MC; Veiseh O; Park JO; Disis ML; Zhang M. Chitosan–alginate 3D scaffolds as a mimic of the glioma tumor microenvironment. Biomaterials 2010, 31, 5903-10. (50%)
50. Fang C; Veiseh O; **Kievit F**; Bhattarai N; Wang F; Stephen Z; Li C; Lee D; Ellenbogen RG; Zhang M. Functionalization of iron oxide magnetic nanoparticles with targeting ligands: Their physicochemical properties and in vivo behavior. Nanomedicine 2010, 5, 1357-69. (10%)
51. Veiseh O; Sun C; Fang C; Bhattarai N; Gunn J; **Kievit F**; Du K; Pullar B; Lee D; Ellenbogen RG; Olson J; Zhang M. Specific targeting of brain tumors with an optical/magnetic resonance imaging nanoprobe across the blood-brain barrier. Cancer Research 2009, 69, 6200-7. (5%)
52. Veiseh O; **Kievit FM**; Gunn JW; Ratner BD; Zhang M. A ligand-mediated nanovector for targeted gene delivery and transfection in cancer cells. Biomaterials 2009, 30, 649-57. (30%)
53. Veiseh O; Gunn JW; **Kievit FM**; Sun C; Fang C; Lee JS; Zhang M. Inhibition of tumor-cell invasion with chlorotoxin-bound superparamagnetic nanoparticles. Small 2009, 5, 256-64. (10%)

54. **Kievit FM**; Veiseh O; Bhattarai N; Fang C; Gunn JW; Lee D; Ellenbogen RG; Olson JM; Zhang M. PEI–PEG–chitosan-copolymer-coated iron oxide nanoparticles for safe gene delivery: Synthesis, complexation, and transfection. Advanced Functional Materials 2009, 19, 2244-51. (50%)

Section 2.1.2 Peer Reviewed Journal Publications accepted for publication with or without revision

Not applicable

Section 2.1.3 Peer Reviewed Journal Publications submitted for review but not yet accepted or accepted with "re-review required" or equivalent

1. Wang K; **Kievit FM**; Chiarelli PA; Stephen ZR; Silber JR; Ellenbogen RG; Zhang M. Nanoparticle-mediated siRNA delivery for safe and effective brain tumor treatment. Submitted and resubmitted since 4/2016. (35%)

Section 2.1.4 Books and Book Chapters

1. Tarudji AW,[2] **Kievit FM**. Active targeting and transport. In: Nanoparticles for Biomedical Applications, Chung EJ, Leon L, Rinaldi C, editors. Elsevier, 2020, 19-36.
2. Phan-Lai, V., Cecil, D., Holt, G., Herendeen, D., **Kievit, F.**, Zhang, M. and Disis, M.L. Epitope-based vaccines for cancer. In: Cancer Vaccines, 2nd ed., Bot, A., Obrocea, M., and Marincola, F., editors. New York: Informa Healthcare, 2011, 140-149.

Section 2.1.5 Conference Proceedings: Peer reviewed abstract and/or peer reviewed paper

1. **Kievit F**, Gee C,[0] Tarudji A,[2] Miller H,[1] Magsam A,[0] Romereim S,[3] Convertine A. Antioxidant nanoparticles reduce the bilateral spread of secondary damage following controlled cortical impact in mice. Journal of Neurotrauma, 36, A83-A83 (2019).
2. **Kievit F**, Romereim S[3], Magsam A[0], Tarudji A[2], Convertine A. Multifunctional nanoparticles for imaging and treating TBI. Journal of Neurotrauma, 35, A196-A197 (2018).
3. **Kievit F**, Wang K[2], Ozawa T, Tarudji A, Silber J, Holland E, Ellenbogen R, Zhang M. EXTH-05 Nanoparticle-mediated inhibition of DNA repair increases survival in a genetic after radiotherapy. Neuro-oncology, 16, vi60 (2016).
4. **Kievit F**, Wang K[2], Dayringer C, Silber J, Ellenbogen R, Zhang M. TR-04 Nanoparticle siRNA delivery vehicles inhibit DNA repair and sensitize pediatric brain tumor cells to radiation therapy. Neuro-oncology, 17, iii37 (2015).

5. Wang K2, Florczyk S, **Kievit F**, Zhang M. ME-20 culture of human GBM cells on ECM-mimicking chitosan-hyaluronic acid scaffolds increases malignancy and drug resistance. Neuro-oncology, 16, v124 (2014).
6. **Kievit F**, Stephen Z, Wang K2, Dayringer C, Ellenbogen R, Silber J, Zhang M. NT-16 Nanoparticle-mediated delivery of anti-Ape1 siRNA sensitizes pediatric brain tumor cells to radiation therapy by inhibiting DNA repair. Neuro-oncology, 16, v162 (2014).
7. Sham JG, **Kievit F**, Grierson J, Miyaoka R, Zhang M, Minoshima S, Park J. Glypican-3 Targeted 89zirconium-pet Imaging of Hepatocellular Carcinoma. The Official Journal of The International Hepato Pancreato Biliary Association, 16, 165 (2014).
8. Sham JG, **Kievit F**, Grierson J, Miyaoka R, Yeh M, Zhang M, Yeung R, Minoshima S, Park J. Novel Antibody-targeted Zirconium-89 PET Imaging of Hepatocellular Carcinoma. Annals of Surgical Oncology, S21 (2014).
9. Stephen Z, Veiseh O, **Kievit F**, Fang C, Leung M, Ellenbogen R, Silber J, Zhang M. Chlorotoxin modified magnetic nanoparticle for specific targeting of brain tumors and delivery of O6-benzylguanine. Neuro-oncology, 15, 59 (2013).
10. **Kievit F**, Stephen Z, Wang K, Kolstoe D, Silber J, Ellenbogen R, Zhang M. Nanovehicle-mediated delivery of anti-Ape1 siRNA sensitizes pediatric brain tumor cells to the DNA damaging effects of radiation therapy. Neuro-oncology, 15, 48 (2013).
11. **Kievit F**, Stephen Z, Wang K2, Silber J, Ellenbogen R, Zhang M. 0035. Gene therapy nanovehicle for overcoming radiation resistance in pediatric brain tumors. Neuro-oncology, 15, 8 (2013).
12. Zhang M, **Kievit F**, Leung M, Florczyk S. 3D Natural Polymer-based Matrices for Cancer Research and Drug Screening. In Vitro Cellular & Developmental Biology-Animal 48, 15 (2012).
13. Zhang M, **Kievit F**. Surface engineering of iron oxide nanoparticles for targeted cancer therapy. Abstracts of Papers of the American Chemical Society 243 (2012).
14. **Kievit F**, Zhang M, Veiseh O, Bhattarai N, Fang C, Gunn J. COLL 478-Iron oxide nanoparticles for imaging and safe gene delivery. Abstracts of Papers of the American Chemical Society 238 (2009).
15. Zhang M, Veiseh O, Sun C, Gunn J, Fang C, Bhattarai N, **Kievit F**, Hansen S, Lee D, Ellenbogen RG, Olson J. COLL 5-Multifunctional nanoparticles for brain tumor diagnosis and treatment. Abstracts of Papers of the American Chemical Society 236 (2008).

Section 2.1.6 Conference Proceedings: Other than peer reviewed

Not applicable

Section 2.1.7 Conference Presentations

1. Hunter Miller[1], Alexander Magsam[0], Aria Tarudji[2], Badrul Alam Bony[3], **Forrest Kievit**. Comparison of Nanoparticle Accumulation Kinetics in Traumatic Brain Injury with DCE-MRI. 2019 Biomedical Engineering Society Meeting. Philadelphia, PA (October 2019).
2. Anna Jacobsen,[0] Ian Bargar,[1] **Forrest Kievit**. Using DNA repair inhibitors to sensitize brain cancer cells to radiation treatment. 2018 Summer Research Poster Session. Lincoln, NE (August 2019).
3. **Forrest Kievit**, Connor Gee,[0] Aria Tarudji,[2] Hunter Miller,[1] Alexander Magsam,[0] Sarah Romereim,[3] Anthony Convertine. Antioxidant nanoparticles reduce the bilateral spread of secondary damage following controlled cortical impact in mice. NeuroTrauma 2019, Pittsburgh, PA (June/July 2019).
4. Aria Tarudji,[2] Hunter Miller,[1] Alexander Magsam,[0] **Forrest Kievit**. Assessing accumulation mechanism of multifunctional nanoparticles in traumatic brain injury. 2019 UNL Spring Research Fair. Lincoln, NE (April 2019).
5. Alexander Magsam[0], Hunter Miller[1], Aria Tarudji[2], **Forrest Kievit**. Measuring accumulation kinetics of nanoparticles post traumatic brain injury using DCE-MRI. 2018 Biomedical Engineering Society Meeting. Atlanta, GA (October 2018).
6. Aria Tarudji[2], Alexander Magsam[0], **Forrest Kievit**. Assessing accumulation mechanism of multifunctional PLGA nanoparticles in traumatic brain injury. 2018 Biomedical Engineering Society Meeting. Atlanta, GA (October 2018).
7. **Forrest Kievit**, Sarah Romereim[3], Alexander Magsam[0], Aria Tarudji[2], Anthony Convertine. Multifunctional nanoparticles for imaging and treating TBI. NeuroTrauma 2018. Toronto, Canada (August 2018)
8. Rose Nelson[0], Megan Ruckman[0], **Forrest Kievit**. Using Synthetic Lethality to Sensitize Pediatric Brain Cancer Cells to the DNA Damaging Effects of Radiation Therapy. 2018 Summer Research Poster Session. Lincoln, NE (August 2018).
9. Emily Brooks[0], **Forrest Kievit**. Comparison of DNA repair pathway inhibitors in sensitizing brain cancer cells to the DNA damaging effects of radiotherapy. 2018 Summer Research Poster Session. Lincoln, NE (August 2018).
10. Aria Tarudji[2], Alexander Magsam[0], **Forrest Kievit**. Synthesizing Various Sizes of Multifunctional PLGA Nanoparticles to Image Nanoparticles Behavior in Traumatic Brain Injury. UNMC Regenerative Medicine 2018 Symposium. Omaha, NE (May 2018).
11. Ali Manske[0], Connor Gee[0], Sarah Romereim[3], **Forrest Kievit**. Nanoparticle Treatment to Improve Cognitive Function after Traumatic Brain Injury. 2018 UCARE Poster Session. Lincoln, NE (April 2018).

12. Aria Tarudji[2], Alexander Magsam[0], **Forrest Kievit**. Synthesizing Various Sizes of Multifunctional PLGA Nanoparticles to Image Nanoparticles Behavior in Traumatic Brain Injury. 2018 UNL Graduate Poster Session. Lincoln, NE (April 2018).
13. Ali Manske[0], Connor Gee[0], Sarah Romereim[3], **Forrest Kievit**. Nanoparticle Treatment to Improve Cognitive Function after Traumatic Brain Injury. 2018 Spring Research Fair at the State Capitol. Lincoln, NE (April 2018).
14. **Forrest Kievit.** Core crosslinked nanoparticles for treating TBI. 2017 AIChE Annual Meeting. Minneapolis, MN (November 2017).
15. Alexander Magsam[0], Christine Yoo, Patrick Stayton, Tony Convertine, **Forrest Kievit**. Magnetic resonance imaging of nanoparticle treatment of TBI. 2017 Biomedical Engineering Society Meeting. Phoenix, AZ (October 2017).
16. Aria Tarudji[3], Alexander Magsam[0], **Forrest Kievit**. Synthesizing various sizes of multifunctional PLGA nanoparticles for imaging TBI. 2017 Biomedical Engineering Society Meeting. Phoenix, AZ (October 2017).
17. **Forrest Kievit**. Nanoparticle-mediated inhibition of DNA repair increases survival in a genetic mouse model of glioblastoma after radiotherapy. 2017 Pediatric Research Symposium, Omaha Children's Hospital. Omaha, NE (May 2017).
18. **Forrest Kievit**, Kui Wang[2], Tatsuya Ozawa, Aria Tarudji[0], John Silber, Eric Holland, Richard Ellenbogen, Miqin Zhang. Nanoparticle-mediated inhibition of DNA repair increases survival in a genetic mouse model of glioblastoma after radiotherapy. 2016 World Federation of Neuro-Oncology Meeting. Scottsdale, AZ (November 2016).
19. **Forrest Kievit**, Peter Chiarelli, Patrick Stayton, Anthony Convertine, Pierre Mourad, Donghoon Lee. Theranostic Nanoparticles for Traumatic Brain Injury. 2016 AIChE Annual Meeting. San Francisco, CA (November 2016).
20. **Forrest Kievit**, Kui Wang[2], John Silber, Richard Ellenbogen, Miqin Zhang. Nanoparticle-Mediated Inhibition of DNA Repair Sensitizes Brain Tumors to Radiotherapy. 2016 AIChE Annual Meeting. San Francisco, CA (November 2016).
21. **Forrest Kievit**, Zachary Stephen, Kui Wang[2], Christopher Dayringer, John Silber, Richard Ellenbogen, Miqin Zhang. Nanoparticle-mediated delivery of anti-Ape1 siRNA sensitizes pediatric brain tumor cells to radiation therapy by inhibiting DNA repair. 2015 ABTA Patient and Family Conference. Chicago, IL (July 2015).
22. **Forrest Kievit**, Zachary Stephen, Kui Wang[2], Christopher Dayringer, John Silber, Richard Ellenbogen, Miqin Zhang. Nanoparticle-mediated delivery of anti-Ape1 siRNA sensitizes pediatric brain tumor cells to radiation therapy by inhibiting DNA repair. 2014 World Federation of Neuro-Oncology Meeting. Miami, FL (November 2014).

23. **Forrest Kievit**, Zachary Stephen, Kui Wang2, Christopher Dayringer, John Silber, Richard Ellenbogen, Miqin Zhang. Nanoparticle-mediated delivery of anti-Ape1 siRNA sensitizes pediatric brain tumor cells to radiation therapy by inhibiting DNA repair. 2014 American Brain Tumor Association Alumni Research Network Meeting. Chicago, IL (September 2014).
24. **Forrest Kievit**, Zachary Stephen, Kui Wang2, Douglas Kolstoe, John Silber, Richard Ellenbogen, Miqin Zhang. Nanovehicle mediated delivery of anti-Ape1 siRNA sensitizes pediatric brain tumor cells to the DNA damaging effects of radiation therapy. 2013 World Federation of Neuro-Oncology Meeting. San Francisco, CA (November 2013).
25. **Forrest Kievit**, Zachary Stephen, Kui Wang2, John Silber, Richard Ellenbogen, Miqin Zhang. Gene Therapy Nanovehicle for Overcoming Radiation Resistance in Pediatric Brain Tumors. Society for Neuro-Oncology 2013 Pediatric Neuro-Oncology Basic and Translational Research Conference. Fort Lauderdale, FL (May 2013).
26. **Forrest Kievit**, Omid Veiseh, Narayan Bhattarai, Jonathan Gunn, Chen Fang, Miqin Zhang. Iron oxide nanoparticles for imaging and safe gene delivery. 238th American Chemical Society National Meeting, Washington, DC (August 2009).
27. **Forrest Kievit**, Omid Veiseh, Jim Park, Miqin Zhang. Autumn 2008 Center for Nanotechnology Student Symposium, Seattle, WA (December 2008).
28. **Forrest Kievit**, Omid Veiseh, Joel Pritchard, Jim Olson, Miqin Zhang. University of Washington Undergraduate Bioengineering Department Poster Presentations, Seattle, WA (June 2007).
29. **Forrest Kievit**, Omid Veiseh, Joel Pritchard, Jim Olson, Miqin Zhang. University of Washington Undergraduate Research Symposium, Seattle, WA (May 2007).
30. **Forrest Kievit**, Omid Veiseh, Joel Pritchard, Jim Olson, Miqin Zhang. University of Washington Undergraduate Students in Research Program Final Presentations, Seattle, WA (February 2007).
31. **Forrest Kievit**, Omid Veiseh, Conroy Sun, Narayan Bhattarai, Kim Du, Miqin Zhang. University of Washington Undergraduate Students in Research Program Poster Presentations, Seattle, WA (June 2006).

Section 2.1.8 Invited Talks or Keynote Speeches

1. **Forrest Kievit**. Antioxidant Nanoparticles for Treating Traumatic Brain Injury. UNL Redox Biology Center Work-in-Progress Seminar Series, Lincoln, NE (November 2019).
2. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Traumatic Brain Injury. Omaha VA Seminar Series, Omaha, NE (October 2019).

3. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Neurological Disorders. Molecular Mechanisms of Disease Bioimaging Symposium, Lincoln, NE (September 2019).
4. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Neurological Disorders. CIBC Seminar Series, Lincoln, NE (March 2019).
5. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Traumatic Brain Injury. Nanomedicine Seminar Series, Omaha, NE (February 2019).
6. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Neurological Disorders. UNL VBMS Seminar Series, Lincoln, NE (October 2018).
7. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Neurological Disorders. UNL BSE Department Colloquium, Lincoln, NE (September 2018).
8. **Forrest Kievit**. Nanoparticles for Delivery to and Treatment of Neurological Disorders. UNMC Regenerative Medicine 2018 Symposium, Omaha, NE (May 2018).
9. **Forrest Kievit**. Nanoparticle-mediated delivery into the brain. Ohio State University Department of Biomedical Engineering Seminar, Columbus, OH (November 2017).
10. **Forrest Kievit**. Sensitizing pediatric brain tumors to radiotherapy through nanoparticle-mediated knockdown of DNA repair. UNMC Pediatric Cancer Research Group Seminar Series, Omaha, NE (April 2017).
11. **Forrest Kievit**. Nanoparticle-mediated delivery into the brain. University of Nebraska Biomedical Engineering Seminar Series, Lincoln, NE (February 2017).
12. **Forrest Kievit**. Nanoparticle-mediated delivery into the brain. Department of Regenerative Medicine Seminar Series, Omaha, NE (February 2017).
13. **Forrest Kievit**. Nanoparticle-mediated delivery into the brain. UNL BSEN 889 Seminar Series, Lincoln, NE (October 2016).
14. **Forrest Kievit**. Seattle Children's Research Institute, Center for Integrative Brain Research Seminar Series, Seattle, WA (January 2016).
15. **Forrest Kievit**. Vanderbilt Department of Pharmacology Seminar, Nashville, TN (December 2015).
16. **Forrest Kievit**. University of Washington Pathology Department Seminar, Seattle, WA (November 2015).
17. **Forrest Kievit**. University of Washington Materials Science and Engineering Department Seminar, Seattle, WA (April 2015).
18. **Forrest Kievit**. University of Washington Neurological Surgery Summer Student Research Seminar, Seattle, WA (June 2014).
19. **Forrest Kievit**. University of Washington Neurological Surgery Summer Student Research Seminar, Seattle, WA (July 2013).

20. **Forrest Kievit**, Richard Ellenbogen, Miqin Zhang. Annual Meeting for the T32 Nanotechnology/Cancer Training Program, Seattle, WA (December 2012).
21. **Forrest Kievit**, Richard Ellenbogen, Miqin Zhang. Annual Meeting for the T32 Nanotechnology/Cancer Training Program, Seattle, WA (September 2010).

Section 2.1.8 Other Publications

Not applicable.

Section 2.2 Grantsmanship Record

Section 2.2.1 Internally Funded Research Grants

1. "University of Nebraska Collaboration Initiative/System Science Seed Grant: Targeting APE1 and histone chaperone FACT complex in colon cancer," (June 2019 – May 2021)

   Sponsor: Nebraska Collaboration Initiative
   PI: R. Mahato (Kievit 20%)
   Sponsor Amount: $150,000

2. "University of Nebraska Collaboration Initiative/System Science Seed Grant: Targeting APE1 and histone chaperone FACT complex in medulloblastoma," (June 2018 – May 2020)

   Sponsor: Nebraska Collaboration Initiative
   PI: K. Bhakat (Kievit 20%)
   Sponsor Amount: $150,000

Section 2.2.2 Externally Funded Research Grants

1. "Nanoparticle-mediated reduction of oxidative stress for the treatment of traumatic brain injury" (July 2019 – June 2024)

   Sponsor: NIH/NINDS 1R01NS109488-01
   PI: F. Kievit (100%)
   Sponsor Amount: $2,216,406

2. "Nebraska Center for Nanomedicine – Nanoparticles as a theranostic for advanced atherosclerosis," (July 2019 – June 2020)

   Sponsor: NIH/NIGMS COBRE 4P20GM103480-09 subaward
   PI: R. Pedrigi (Kievit 50%)
   Sponsor Amount: $116,144

3. "Ultrasound as a Mechanotherapy for Endothelial Cell Dysfunction in Atherosclerosis," (April 2019 – November 2022)

   Sponsor: American Heart Association
   PI: R. Pedrigi (Kievit 5%)

Sponsor Amount: $136,763

4. "TCR transgenic models for dilated cardiomyopathy" (January 2019 – December 2020)

   Sponsor: NIH/NIAID 1R21AI142281-01
   PI: J. Reddy (Kievit 5%)
   Sponsor Amount: $153,888

5. "Nebraska Center for Nanomedicine – Nanoparticle-mediated treatment of traumatic brain injury," (September 2018 – April 2019)

   Sponsor: NIH/NIGMS COBRE 4P20GM103480-09 subaward
   PI: F. Kievit (100%)
   Sponsor Amount: $116,144

6. "Improving Pediatric Ependymoma Radiotherapy through Nanoparticle-Mediated Inhibition of DNA Repair," (February 2018 – January 2018)

   Sponsor: UNMC-Fred & Pamela Buffett Cancer Center
   PI: F. Kievit (100%)
   Sponsor Amount: $50,000

7. "Nebraska Center for Nanomedicine – Nanoparticle-mediated treatment of traumatic brain injury," (September 2017 – May 2018)

   Sponsor: NIH/NIGMS COBRE 4P20GM103480-09 subaward
   PI: F. Kievit (100%)
   Sponsor Amount: $183,125

8. "Nebraska Center for Nanomedicine – Nanoparticle-mediated treatment of traumatic brain injury," (February 2017 – May 2017)

   Sponsor: NIH/NIGMS COBRE 4P20GM103480-09 subaward
   PI: F. Kievit (100%)
   Sponsor Amount: $42,749

9. "Pediatric Brain Tumor Gene Therapy for Overcoming Radiation Resistance Using Nanotheranostic SPIONs," (June 2013 – May 2015)

   Sponsor: American Brain Tumor Association
   PI: F. Kievit (100%)
   Sponsor Amount: $100,000

Section 2.2.3 External Research Grants that have been submitted

1. "Nanoparticle mediated targeting of the APC/C in glioblastoma" (July 2020 – June 2022)

Sponsor: NIH/NCI
MPI: Monica Venere
MPI: Kievit (50%)
Requested Amount: $164,372
Date of Submission: 10/23/19

2. "Ultrasound as a mechanotherapy for endothelial cell dysfunction" (December 2019 – November 2022)

   Sponsor: NIH/NIBIB
   PI: Ryan Pedrigi
   Co-I: Kievit (5%)
   Requested Amount: $602,769
   Date of Submission: 10/23/19

3. "Autoimmunity in the Mediation of Infectious Myocarditis" (July 2019 – June 2024)

   Sponsor: NIH/NIAID
   PI: J. Reddy
   Co-I: Kievit (3%)
   Requested Amount: $1,789,220
   Date of Submission: 11/5/18

Section 2.2.4 External Research Grants Submitted but not Funded

1. "Efficient nanoparticles for siRNA delivery to and radiosensitization of brain cancer" (January 2019 – December 2023)

   Sponsor: NIH/NCI
   MPIs: F. Kievit (34%), T. Convertine (33%), K. Bhakat (33%)
   Requested Amount: $3,633,699
   Date of Submission: 6/5/18

2. "Nanoparticle-mediated reduction of oxidative stress for the treatment of traumatic brain injury" (October 2018 – September 2023)

   Sponsor: NIH/NINDS
   PI: F. Kievit (100%)
   Requested Amount: $2,568,526
   Date of Submission: 2/5/18

3. "Targeting STAT3 Signaling Pathway in Medulloblastoma" (December 2018 – November 2020)

   Sponsor: NIH/NCI
   PI: S. Ray

Co-I: F. Kievit (40%)
Requested Amount: $402,875
Date of Submission: 2/14/18

4. "Targeting APE1 and histone chaperone FACT complex in Medulloblastoma" (December 2018 – November 2020)

   Sponsor: NIH/NCI
   PI: K. Bhakat
   Co-I: F. Kievit (40%)
   Requested Amount: $402,875
   Date of Submission: 2/14/18

5. "Highly versatile nanoparticles for drug delivery into glioblastoma" (June 2018 – May 2020)

   Sponsor: American Brain Tumor Association
   MPIs: F. Kievit (50%), T. Convertine (50%)
   Requested Amount: $400,000
   Date of Submission: 1/10/18

6. "Multifucntional nanoparticle behavior in Alzheimer's Disease" (September 2017 – August 2022)

   Sponsor: NIH/NCI
   PI: F. Kievit (100%)
   Requested Amount: $300,000
   Date of Submission: 11/28/17

7. "Nanoparticle targeting strategies for neurodegenerative diseases" (September 2017 – August 2020)

   Sponsor: NIH/NIBIB
   PI: F. Kievit (100%)
   Requested Amount: $574,114
   Date of Submission: 11/15/17

8. "Nanoparticle-mediated siRNA delivery to inhibit DNA repair and sensitize pediatric ependymoma to radiotherapy" (September 2017 – August 2022)

   Sponsor: NIH/NCI
   PI: F. Kievit (100%)
   Requested Amount: $1,844,419
   Date of Submission: 3/6/17

9. "Nanoparticle targeting strategies for neurodegenerative diseases" (September 2017 – August 2020)

Sponsor: NIH/NIBIB
PI: F. Kievit (100%)
Requested Amount: $574,114
Date of Submission: 2/16/17

10. "Prevention of viral cardiomyopathy and insulitis by vaccination" (September 2017 – August 2021)

    Sponsor: NIH
    PI: J. Reddy
    Co-I: F. Kievit (2%)
    Requested Amount: $1,439,120
    Date of Submission: 2/3/17

11. "TCR transgenic mouse model to determine the mechanisms of dilated cardiomyopathy" (September 2017 – August 2019)

    Sponsor: NIH
    PI: J. Reddy
    Co-I: F. Kievit (5%)
    Requested Amount: $402,603
    Date of Submission: 2/13/17

12. "Nanoparticle siRNA Delivery Vehicles to Reverse Radiation Resistance in Pediatric Ependymoma" (March 2017-Feburary 2021)

    Sponsor: UNMC Great Plains IDeA CTR
    PI: F. Kievit (100%)
    Requested Amount: $508,756

13. "FIRST: Development of nanoparticle-based imaging agents to study blood-brain barrier structure and function in diseased brain" (April 2017-March 2018)

    Sponsor: NSF-EPSCoR
    PI: F. Kievit (100%)
    Requested Amount: $25,000

14. "Nanoparticle-mediated siRNA delivery to inhibit DNA repair and sensitize pediatric ependymoma to radiotherapy" (July 2016 – June 2021)

    Sponsor: NIH R01
    PI: F. Kievit (100%)
    Requested Amount: $1,949,866

15. "Nanoparticle-mediated treatment of traumatic brain injury" (July 2016 – June 2021)

    Sponsor: NIH R01

PI: F. Kievit (50%); MPI: A. Convertine (50%)
Requested Amount: $1,931,250

16. "Brain Armor: Nanoparticles for the Treatment of Traumatic Brain Injury" (September 2016 – August 2018)

    Sponsor: Arnold and Mabel Beckman Foundation
    PI: F. Kievit (100%)
    Requested Amount: $375,000

17. "A1 - Nanoparticle siRNA Delivery Vehicles to Reverse Radiation Resistance in Pediatric Ependymoma" (April 2016 – March 2018)

    Sponsor: NIH R21
    PI: F. Kievit (100%)
    Requested Amount: $443,395
    Impact score: 39; Percentile: 29

18. "Nanoparticle siRNA Delivery Vehicles for the Treatment of Pediatric Brian Tumors" (October 2015 – September 2019)

    Sponsor: Sontag Foundation
    PI: F. Kievit (100%)
    Requested Amount: $600,000

19. "Nanoparticles for Enhancing Radiation Sensitivity in Pediatric Ependymoma" (July 2015 – June 2018)

    Sponsor: St. Baldrick's Foundation
    PI: F. Kievit (100%)
    Requested Amount: $330,000

20. "Kievit, Forrest - Pediatric Brain Tumor Gene Therapy for Overcoming Radiation Resistance Using Nanotheranostic SPIONs" (July 2015 – June 2018)

    Sponsor: Burroughs Wellcome Fund CASI
    PI: F. Kievit (100%)
    Requested Amount: $500,000

21. "Nanoparticle siRNA Delivery Vehicles to Reverse Radiation Resistance in Pediatric Medulloblastoma" (March 2015 – March 2016)

    Sponsor: Pediatric Brain Tumor Foundation
    PI: F. Kievit (100%)
    Requested Amount: $100,000

22. "Nanoparticle siRNA Delivery Vehicles to Reverse Radiation Resistance in Pediatric Ependymoma" (April 2014 – March 2017)

Sponsor: NIH R21
PI: F. Kievit (100%)
Requested Amount: $447,438
Impact score: 31; Percentile: 18

23. "Childhood Brain Tumor Gene Therapy for Overcoming Radiation Resistance Using Nanotheranostic SPIONs" (August 2014 – July 2016)

    Sponsor: The Childhood Brain Tumor Foundation
    PI: F. Kievit (100%)
    Requested Amount: $50,000

24. "Imaging guided nanovector for brain tumor treatment" (December 2012 – November 2014)

    Sponsor: NIH R43
    PI: F. Kievit (60%); MPI: M. Zhang (40%)
    Requested Amount: $393,137

Section 2.3 Research Patents and Awards

Section 2.3.1 Patents

1. **Forrest Kievit**, Anthony Convertine, Richard Ellenbogen, Patrick Stayton, Pierre Mourad. 2015. Theranostic nanoparticles for treatment of traumatic brain injury. US Patent application 62/237,915 filed 10/6/2015.
2. Miqin Zhang, Richard Ellenbogen, **Forrest Kievit**, John Silber, Zachary Stephen, Omid Veiseh. 2014. Nanoparticle for targeting brain tumors and delivery of O6-benzylguanine. US Patent application 14/222443 filed 3/21/2014.
3. Miqin Zhang, Omid Veiseh, Chen Fang, **Forrest Kievit**. 2013. Polyarginine-coated magnetic nanovector and methods of use thereof. US Patent application 13/893,137 filed 5/13/2013.
4. Miqin Zhang, **Forrest Kievit**, Stephen Florczyk. 2012. Rapid enrichment of the cancer stem cell population using chitosan-alginate scaffolds. US Patent application 61/621,683 filed April 9, 2012.
5. Miqin Zhang, **Forrest Kievit**, Matthew Leung, Stephen Florczyk. Chitosan-alginate scaffold cell culture system and related methods. US Patent US9157908 B2.

Section 2.3.2 National and International Research Awards and Recognition

1. American Brain Tumor Association Alumni Research Network member (2013 – present)

Section 2.3.3 Regional and Local Research Awards and Recognition

1. UNL College of Engineering Excellence in Research (2019).

Section 2.4 Other Research Accomplishments

- May 2017 – Attend Stress Biology and Healthy Humans group meetings
- Mar. 2017 – Completed the RDFP
- Nov. 2016 – Invited to apply to the NSF-EPSCoR FIRST Award
- Oct. 2016 – Accepted into the Research Development Fellows Program
- Nov. 2015 – Invited to apply to the Beckman Young Investigator Program
- Feb. 2015 – Invited to apply to the St. Baldrick Foundation
- Nov. 2012 - Invited to apply to the Burroughs Wellcome Fund Career Awards at the Scientific Interface

Section 3 Teaching Accomplishments (other than classroom instruction)

Section 3.1 Postdoctoral Researchers

Section 3.1.1 Postdoctoral Researchers supervised

1. Sarah Romereim (2017-2018), 50% funding with Becky Wachs. Currently employed full time with Becky Wachs.
2. Sunil Kumar (October 2017 - October 2018), support 100%.

Section 3.1.2 Postdoctoral Researchers currently in progress

1. Badrul Alam Bony (2017 – present), support 100%.

Section 3.2 PhD Students

Section 3.2.1 PhD students supervised

1. Kui Wang (2015)

   Co-advised with Miqin Zhang

   Graduate Studies Funding Sources: Miqin Zhang's lab funding

   Currently employed at Casebia Therapeutics

Section 3.2.2 PhD students currently in progress

1. Aria Tarudji (Expected May 2021)

   Graduate Studies Funding Sources: Dr. Kievit's start-up account and grant support

2. Evan Curtis (Expected May 2021)

   Graduate Studies Funding Sources: Dr. Kievit's start-up account and grant support, TA support

Section 3.3 MS Students

Section 3.3.1 MS students (thesis option) supervised

Not applicable

Section 3.3.2 MS students (thesis option) currently in progress

1. Ian Bargar (Expected May 2021)

   Graduate Studies Funding Sources: Buffett Cancer Center Award, Nebraska Research Initiative funds

2. Hunter Miller (Expected May 2020)

   Graduate Studies Funding Sources: Dr. Kievit's start-up account and grant support, NSF GRFP awardee July 2019 – June 2022

Section 3.3.3 Total number of non-thesis option graduate students advised

Not applicable

Section 3.3.4 Total number of graduate student independent research projects supervised

4

Section 3.4 Undergraduate Students

Section 3.4.1 Undergraduate students supervised in independent research study

1. Rachael Stanek, UNL BSE (November 2019 – present)
2. Anna Jacobsen, University of Utah, UNL BME REU program (Jun 2019 – Aug 2019)
3. Megan Otte, UNL BSE (October 2018 – present)
4. Brandon McDonald, UNL BSE (May 2018 – present)
5. Rose Nelson, UNL BIO (Jan 2017 – present)
6. Megan Ruckman, UNL BSE (Sept 2016 – present)
7. Connor Gee, UNL BSE (Aug 2016 – present)
8. Alex Magsam, UNL BSE (Aug 2016 – May 2019)
9. Emily Brooks, Southern Utah University, UNL BME REU program (Jun 2018 – Aug 2018)
10. Hunter Miller, UNL BSE (Aug 2017 – Aug 2018)
11. Ali Manske, UNL BSE (Aug 2016 – May 2018)
12. Jonah Blase, UNL BSE (Sept 2016 – Jan 2018)
13. Wesley Wang, UW Neuroscience (Aug 2016 – Jan 2017)
14. Anthea Phuong, UW Neuroscience (Jul 2015 – Jan 2017)
15. Aria Tarudji, UW Biochemistry (Jul 2015 – Aug 2016)
16. Jasmon Pranoto, UW Biochemistry (Oct 2015 – Jul 2016)
17. Melanie Coyne, UW Biology (Sept 2014 – Jun 2015)
18. Julia Xu, UW Materials Science & Engineering (Apr 2014 – Jul 2016)
19. Mengying Zhang, UW Materials Science & Engineering (Jan 2014 – Jun 2015)

20. Chris Dayringer, UW Materials Science & Engineering (Jul 2011 – Aug 2016)
21. Emma Rose, UW Bioengineering (Jan 2013 – Jan 2014)

Section 3.4.2 Average number of undergraduate students advised per year

Ten undergraduate advisees, on average

Section 3.5 Teaching Awards and Recognition

Section 3.5.1 International and National Teaching Awards and Recognition

Not applicable

Section 3.5.2 Regional, Local and University Teaching Awards and Recognition

Not applicable

Section 3.6 Other Teaching Accomplishments

Section 3.6.1

Peer Review of Teaching Portfolio

Course Portfolio for Assessing Student Learning Surrounding Biological Examples in BSEN244: Thermodynamics of Biological Systems

Senior Design

1. 2017 BSEN 480 faculty manager, University of Nebraska-Lincoln
2. 2016 BSEN 480 faculty manager, University of Nebraska-Lincoln

Courses Taught

1. BSEN 244 – Thermodynamics of Biological systems
    a. Spring 2018, 2019, 2020
    b. Instructor scores: 2018 (3.3/4.0), 2019 (3.5/4.0)
2. BSEN 414/814 – Medical Imaging
    a. Fall 2017, 2018, 2019
    b. Instructor scores: 2017 (3.6/4.0), 2018 (3.6/4.0)
3. BSEN 989 – Seminar II, fellowship proposal development
    a. Spring 2017, 2018, 2019, 2020
    b. Instructor scores: 2017 (3.3/4.0), 2018 (3.5/4.0), 2019 (3.7/4.0)

Section 3.6.2 Participation on Other Student Thesis/Research Committees

Ph.D. Students:

1. Amy Mantz: Advisor – A. Pannier
2. Mohammed Alwatban (Defended Dec 2018): Advisor – G. Bashford
3. Jennifer Williams: Advisor – T. Anderson (Entomology)

4. Wendy Huynh: Advisor – Rick Bevans (Psychology)
5. David Lillyman: Advisor – Rebecca Wachs

Master's of Science (MS) Students:

1. Andrew Haman (April 2017): Advisor – A. Pannier
2. Ben Hage (December 2017): Advisor – G. Bashford

Section 3.6.3 Professional Development on Teaching

1. 2018/2019 Peer Review of Teaching Program
2. 2018 CIPA Brown bags
3. Participated in COPUS observation
4. 2017 CIPA Brown bags (Jan 18, Apr 7, Sep 20, Nov 28)
5. 2017 Spring Teaching and Learning Symposium Keynote (Mar 3, 2017)
6. CoE new faculty discussion on teaching (Jan 26, 2017)
7. CoE New Faculty Discussion on Teaching (Oct 10, 2016)
8. Fall 2016 Teaching & Learning Symposium (Oct 7, 2016)
9. Excellence in Teaching Workshop (September 23, 2016)

Section 4 Service Accomplishments

Section 4.1 Professional Service

Section 4.1.1 Journal Editorships

Not applicable

Section 4.1.2 Journals for which you review papers

- ACS Nano
- Advanced Functional Materials
- Biomaterials
- Journal of Controlled Release
- Theranostics
- Advanced Healthcare Materials
- ACS Biomaterials Science & Engineering
- Biomacromolecules
- Nanoscale
- PLoS One
- Nanomedicine: Nanotechnology, Biology, and Medicine
- Materials Science & Engineering C

- Small
- Langmuir
- Drug Discovery Today
- Acta Biomaterialia
- Colloids and Surfaces B: Biointerfaces
- Neuroscience
- Nanomedicine: Future Medicine
- Molecules
- Journal of Biomedical Nanotechnology
- Advances in Colloid and Interface Science
- Expert Opinion on Drug Delivery
- BBA – General Subjects
- Therapeutic Delivery
- Journal of Environmental Management
- Applied Biochemistry and Biotechnology

Section 4.1.3 Leadership Positions in International and National Organizations

1. Co-chair, Biomaterials for Drug Delivery session (2019 AIChE Annual meeting)
2. Co-chair, Drug Delivering Biomaterials session (2018 BMES Annual meeting)
3. Co-chair, Drug Delivery session (2018 AIChE Annual meeting)
4. Co-chair, Nucleic Acid Delivery session (2018 AIChE Annual meeting)
5. Co-chair, Drug Delivering Biomaterials session (2017 BMES Annual meeting)
6. Co-chair, Modeling of Biomaterials session (2017 AIChE Annual meeting)
7. Co-chair, Nucleic Acid Delivery session (2017 AIChE Annual meeting)

Section 4.1.4 Leadership Positions in Regional and Local Organizations

Not applicable

Section 4.1.5 Memberships in Professional Organizations

- National Neurotrauma Society (NNS) (2019 – present)
- Society for Neuroscience (SfN) (2017 – present)
- Biomedical Engineering Society (BMES) (2017 – present)
- American Institution of Chemical Engineers (AIChE) (2016 – present)
- Society for Neuro-Oncology (SNO) (2013 – present)

Section 4.1.6 National and International Service Awards

Not applicable

Section 4.1.7 Regional and Local Service Awards

Not applicable

Section 4.1.8 Research Review panels and dates of service

1. Buffett Cancer Center pilot project review panel
   February 26, 2018

2. Alzheimer's Association, Ad Hoc Reviewer
   January 10, 2018

3. NIH, Ad Hoc Reviewer, Biomaterials, Delivery, and Nanotechnology Study Section, ZRG1 BST-R (10).
   November 14, 2017 - November 15, 2017

4. Health Research Board (Ireland), Ad Hoc Reviewer
   March 20, 2017

Section 4.2 University Service

Section 4.2.1 Leadership positions on university wide committees

Not applicable

Section 4.2.2 Membership positions on university wide committees

1. Member, UNL IACUC (2016 – present)

Section 4.3 College Service

Section 4.3.1 Leadership positions on college wide committees

Not applicable

Section 4.3.2 Membership positions on college wide committees

1. Member, Search committee for business center (Jan 2018)

Section 4.3 Unit Service

Section 4.3.1 Leadership positions on unit committees

1. Co-chair, BSE Department Research Committee (October 2019 – present)

Section 4.3.2 Membership positions on unit committees

1. Member, BSE Department Graduate Committee (October 2019 – present)
2. Member, BSE Department Computer Committee (Aug 2017 – September 2019)
3. Member, BSE Department Space & Facilities Committee (Aug 2016 – September 2019)
4. Member, BSE Department Website Committee (Aug 2016 – Aug 2017)
5. Member, BSE Department Scholarship Committee (Aug 2016 – Aug 2017)

Section 4.5 Other Service Accomplishments

1. E-Day Judge (Nov 2019)
2. Distinguished Scholars Day visit (October 2019)
3. Career development panel at AARN meeting (September 2019)
4. Big Red Summer Camp magnetic nanoparticles for MRI activity (June 2019)
5. REU outreach magnetic nanoparticles for MRI activity (June 2019)
6. Biomedical Research Awareness Day (BRAD) booth (April 2019)
7. E-Day Judge (Nov 2018)
8. BME Blast! – BME activity training for after school programs (July 2018)
9. Reviewer: Graduate travel awards program applications (April 2018)
10. Flipper: Faculty flip for eWeek (Feb 2018)
11. Judge: Edible Car poster contest; Lincoln, NE (Dec 2017)
12. Distinguished Scholars Day – Mock Lecture (Sep 2017)
13. Bright Lights – Breaking bones activity (Jul 2017)
14. Big Red Summer Camp – Breaking bones activity (Jun 2017)
15. Judge: Graduate Student Poster Competition (Apr 2017)
16. Flipper: Faculty flip for eWeek (Feb 2017)
17. Judge: Edible Car poster contest; Lincoln, NE (Dec 2016)
18. Newport High School Nanotechnology class lab tour; Seattle, WA (Apr 2016)
19. Newport High School Nanotechnology class lab tour; Seattle, WA (Apr 2015)
20. Newport High School Nanotechnology class lab tour; Seattle, WA (May 2014)
21. Officer, Educational Outreach, University of Washington Nanotechnology and Nanoscience Student Association (NANSA) (2009 – 2010)