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EDUCATION

Ph.D. in Chemical Engineering, University of Colorado, December 1994.
B.S. in Chemical Engineering (with Highest Distinction), Purdue University, May 1992.

PROFESSIONAL EXPERIENCE

Howard Hughes Medical Institute Investigator. Sept. 2005 to present
Distinguished Professor. Chemical and Biological Engineering, University of Colorado, Boulder, Jan. 2008 to present
Tisone Professor. Chemical and Biological Engineering, University of Colorado, Boulder, Sept. 2003 to present
Associate Faculty Director. Colorado Initiative in Molecular Biotechnology, University of Colorado, Boulder, Nov. 2003 to present
Professor (by courtesy). Craniofacial Biology, School of Dentistry, University of Colorado Health Sciences Center, Denver, Sept. 2005 to present
Professor (by courtesy). Chemistry and Biochemistry, University of Colorado, Boulder, Mar. 2004 to present
Professor (by courtesy). Molecular, Cellular and Developmental Biology, University of Colorado, Boulder, Mar. 2004 to present
Professor. Chemical Engineering, University of Colorado, Boulder. Aug. 2002 to Aug. 2003
Patten Associate Professor. Chemical Engineering, University of Colorado, Boulder. Aug. 1999 to July 2002
Howard Hughes Medical Institute Assistant Investigator. Aug. 2000 to Aug. 2005
Associate Professor. Surgery, University of Colorado Health Sciences Center, Denver. Aug. 2000 to present
Patten Assistant Professor. Chemical Engineering, University of Colorado, Boulder. Sept. 1998 to July 1999
Assistant Professor. Chemical Engineering, University of Colorado, Boulder. Aug. 1996 to Aug. 1998
Research Fellow. Dr. Robert Langer, mentor. MIT, Cambridge, MA. Sept. 1995 to July 1996
Research Associate. Dr. Nicholas Peppas, mentor. Purdue University, West Lafayette, IN. May 1995 to Aug. 1995
Visiting Researcher. Dr. Christian Decker, collaborator. Laboratoire de Photochimie des Polymeres, Ecole Nationale Superieure de Chimie, Mulhouse, France. July 1994

HONORS AND AWARDS

2012 Mid-Career Research Award, Materials Research Society
2012 Kewaunee Lecture, Duke University
2012 Colorado Women's Hall of Fame Inductee
2012 Distinguished Engineering Alumni Award, Purdue University
2012 University of Colorado's Technology Transfer Office Pinnacle Award
2012 Outstanding Chemical Engineering Alumni Award, School of Chemical Engineering, Purdue University
2011 Basore Distinguished Lecture, Auburn University
2011 Distinguished Research Lecturer, University of Colorado
2010 Wohl Lecture, University of Delaware

2010	Leading Edge Lecture, University of Toronto
2010	Eminent Scholar Lecture, Medical University of South Carolina
2010	Pearson Lecture, University of California at Santa Barbara
2010	Lumpkin Memorial Lecture, University of Maryland Baltimore County
2010	Distinguished Lecture, University of Pittsburgh, McGowan Institute for Regenerative Medicine
2009	Elected to the Institute of Medicine of the National Academies
2009	Professional Progress Award, American Institute of Chemical Engineers
2009	Elected to the National Academy of Engineering
2009	Materials Research Society, Fellow
2008	Chemical Engineering Distinguished Lecturer Series, University of Utah
2008	Named as one of the 'Brilliant 10' Scientists, *Popular Science*
2008	Ashland Distinguished Lecture Series, University of Kentucky
2008	Named one of the "One Hundred Chemical Engineers of the Modern Era", AIChE
2008	Distinguished Engineering Alumni Award, Research and Teaching, University of Colorado
2008	Zane Staebler Memorial Lecture in Transplant Biology, UCLA
2008	Clemson Award for Basic Research, Society for Biomaterials
2008	Lindsay Lecture Series Distinguished Speaker, Texas A&M University
2007	Britton Chance Distinguished Lecture, University of Pennsylvania
2007	McCabe Lecture, North Carolina State University
2006	American Association for the Advancement of Science, Fellow
2005	Elizabeth Gee Award, University of Colorado
2005	Bayer Distinguished Lectureship, University of Southern Mississippi
2005	Alan S. Michaels Distinguished Lecture in Medical and Biological Engineering, MIT
2004	Alan T. Waterman Award, National Science Foundation
2004	Research Award, College of Engineering and Applied Science
2004	Boulder Faculty Assembly Excellence in Research, Scholarly and Creative Work Award
2004	Kalpana Chawla Outstanding Recent Alumni Award, University of Colorado
2003	Allan P. Colburn Award, American Institute of Chemical Engineers
2003	Curtis W. McGraw Award, American Society for Engineering Education
2002	Hutchinson Teaching Award, College of Engineering and Applied Science
2001	American Institute for Medical and Biological Engineering, Fellow
2001	Outstanding Young Investigator Award, Materials Research Society
2000-pres	Investigator, Howard Hughes Medical Institute
2000	Camille Dreyfus Teacher-Scholar Award, Dreyfus Foundation
2000	Outstanding Graduate Advising Award, University of Colorado Graduate School
2000	Teaching Excellence Award, Boulder Faculty Assembly
1999	Selected to the Technology Review 100
1999	Dow Outstanding New Faculty Award, American Society for Engineering Education
1998-2003	FIRST Award, National Institutes of Health
1998-2002	CAREER Award, National Science Foundation
1998-2001	DuPont Young Professor Grant
1998-2000	3M Faculty Award
1998	John and Mercedes Peebles Teaching Innovation Award, College of Engineering
1998	Margaret Willard Award, University Women's Club
1997-1998	Outstanding Graduate Teacher Award, Department of Chemical Engineering
1997-2002	David and Lucile Packard Fellowship for Science and Engineering
1997	Junior Faculty Development Award, University of Colorado
1996-2001	Camille and Henry Dreyfus New Faculty Award
1996	Unilever Award, Best PhD Thesis in Polymer Research, American Chemical Society
1995-1996	NIH National Research Service Award Individual Postdoctoral Fellowship

EDITORIAL BOARDS

2012-pres. *MRS Communications*, Editorial Advisory Board
2011-pres. *Progress in Material Science*, Associate Editor
2011-pres. *Acta Materialia*, Governor-at-large
2011-pres. *Biomedical Materials*, Editorial Board
2010-pres. *Biomacromolecules*, Associate Editor
2010-pres. *Biotechnology & Bioengineering,* Associate Editor
2010-pres. *Journal of Heart Valve Disease*, Editorial Board
2007-pres. *Journal of Biomedical Materials Research — Part A*, Editorial Board
2005-2009 *Biomacromolecules*, Editorial Advisory Board
2005-2009 *Chemical Engineering Education*, Publications Board
2004-2010 *Science,* Board of Reviewing Editors
2004-pres. *Acta Biomaterialia*, Editorial Board
2002-2009 *Biotechnology & Bioengineering,* Editorial Board

PUBLICATIONS

242. C.M Kirschner and **K.S. Anseth**, "*In situ* control of cell substrate microtopographies using photolabile hydrogels," *Small*, in review.

241. A.M. Kloxin, K.J.R. Lewis, C.A. DeForest, G. Seedorf, M.W. Tibbitt, V. Balasubramaniam and **K.S. Anseth**, "Responsive culture platform to examine the influence of microenvironment geometry on cell function," *Integrative Biology*, in review.

240. M.W. Tibbitt, A.M. Kloxin, L.A. Sawicki and **K.S. Anseth**, "Step-growth and chain-growth PEG hydrogels," *Macromolecules*, submitted.

239. C.M. Kirschner and **K.S. Anseth**, "Hydrogels in healthcare: From static to dynamic material microenvironments," *Acta Materialia*, in press.

238. D.D. McKinnon, M. Peljto, A.M. Kloxin and **K.S. Anseth**, "Synthetic hydrogel platform for three-dimensional culture of ES motor neurons," in review.

237. M.W. Tibbitt, A.M. Kloxin and **K.S. Anseth**, "Modeling photodegradation in optically thick polymer networks for the predictable control of network evolution," *Macromolecules*, in review.

236. Q. Guo, X. Wang, M.W. Tibbitt, **K.S. Anseth**, D. J. Montell and J.H. Elisseeff, "Light activated cell migration in synthetic extracellular matrices," *Biomaterials*, in press.

235. M.A. Azagarsamy, N. Gandavarapu and **K.S. Anseth**, "Poly(ethylene glycol) (PEG) hydrogels using bio-orthogonal, click reactions to create versatile cell culture scaffolds," *Materials Matters*, 7 (3), 35-38 (2012).

234. J.D. McCall, J.E. Luoma and **K.S. Anseth**, "Covalently tethered TGFβ in PEG hydrogels promotes chondrogenic differentiation of encapsulated human mesenchymal stem cells," *Drug Delivery and Translational Research,* in press.

233. J.L. Ruan, N.L Tulloch, V. Muskheli, E.E. Genova, P.D. Mariner, **K.S. Anseth** and C.E. Murry, "An improved cryosection method for PEG hydrogels used in tissue engineering," *Tissue Engineering, Part C*, in review.

232. J.D. McCall and **K.S. Anseth**, "Thiol-ene photopolymerizations provide a facile method to encapsulate proteins and maintain their bioactivity," *Biomacromolecules*, in press.

231. J.R. Popp, J.J. Roberts, D.V. Gallagher, **K.S. Anseth**, S.J. Bryant and T.P. Quinn, "An instrumented bioreactor for mechanical stimulation and real-time, nondestructive evalution of engineered cartilage tissue," *Journal of Medical Devices — Transactions of the ASME*, 6, 021006 (7 pages) (2012).

230. K.C. Koehler, D.L. Alge, **K.S. Anseth** and C.N. Bowman, "Development of a maleimide amino acid for use as a tool in peptide modification," in review.

229. C. Yang, P.D. Mariner, J.N Nahreini and **K.S. Anseth**, "Cell-mediated delivery of glucocorticoids from thiol-ene hydrogels," *Journal of Controlled Release*, in press.

228. P.D. Mariner, J.M. Wudel, D.E. Miller, E.E. Genova, S.O. Streubel and **K.S. Anseth**, "Synthetic hydrogel scaffold is an effective delivery vehicle for delivery of rhBMP-2 (InFUSE) to critical-sized calvaria bone defects in rats," *Journal of Orthopaedic Research*, in press.

227. H. Wang, S.M. Haeger, A.M. Kloxin, L.A. Leinwand and **K.S. Anseth**, "Redirecting valvular myofibroblasts into dormant fibroblasts through light-mediated reduction in substrate modulus," *PLoS ONE*, 7, Article Number e39969 (2012).

226. N. Gandavarapu, P.D. Mariner, M.P. Schwartz and **K.S. Anseth**, "Differential adsorption of serum proteins to phosphate-functionalized surfaces promotes osteogenic differentiation of hMSCs," in press.

225. M.A. Azagarsamy, D.L. Alge, S.J. Radhakrishman, M.W. Tibbitt and **K.S. Anseth**, "Photocontrolled nanoparticles for intracellular on-demand release of proteins," *Biomacromolecules*, in press.

224. C.A. DeForest and **K.S. Anseth**, "Advances in bioactive hydrogels to probe and direct cell fate," A*nnual Review of Chemical and Biomolecular Engineering*, Volume 3, in press 2012. PMID: 22524507

223. M.W. Tibbitt, B.W. Han, A.M. Kloxin and **K.S. Anseth**, "Synthesis and application of photodegradable microparticles for spatiotemporal control of protein delivery," *Journal of Biomedical Materials Research*, 100A, 1647-54 (2012).

222. S.T. Gould, N.J. Darling and **K.S. Anseth**, "Small peptide functionalized thiol-ene hydrogels as culture substrates for understanding valvular interstitial cell activation and *de novo* tissue deposition," *Acta Biomaterialia*, in press.

221. A.B. Bernard, C. Lin and **K.S. Anseth**, "A microwell cell culture platform for the aggregation of pancreatic β-cells," *Tissue Engineering Part C*, *18*, 583-92 (2012).

220. P.S. Hume, J. He, K. Haskins and **K.S. Anseth**, "Strategies to reduce dendritic cell activation through functional biomaterial design," *Biomaterials*, *33*, 3615-25 (2012).

219. B.J. Adzima, C.J. Kloxin, C.A. DeForest, **K.S. Anseth** and C.N. Bowman, "Photofixation lithography in Diels-Alder networks," submitted.

218. E.S. Witze, S. Houel, M.P. Schwartz, M.K. Morphew, L. Reid, D.B. Sacks, **K.S. Anseth** and N.G. Ahn, "Wnt5a Directs Polarized Calcium Gradients by Recruiting Cortical Endoplasmic Reticulum to the Cell Trailing Edge," *Developmental Cell*, in press.

217. C.A. DeForest and **K.S. Anseth**, "Photoreversible patterning of biomolecules within click-based hydrogels," *Angewandte Chemie*, *51*, 1816-19 (2012).

216. B.D. Fairbanks, S.P. Singh, C.N. Bowman and **K.S. Anseth**, "Photodegradable, photoadaptable hydrogels via radical-mediated disulfide fragmentation reaction," *Macromolecules, 44*, 2444-50 (2011).

215. B.J. Berron, L.M. Johnson, X. Ba, J.D. McCall, N.J. Alvey, **K.S. Anseth** and C.N. Bowman, "Glucose oxidase-mediated polymerization as a platform for dual-mode signal amplification and biodetection," *Biotechnology and Bioengineering*, *108*, 1521-28 (2011).

214. C.A. DeForest and **K.S. Anseth**, "Cytocompatible click-based hydrogels with dynamically-tunable properties through orthogonal photoconjugation and photocleavage reactions," *Nature Chemistry*, 3, 925-31 (2011).

213. A. Papadopoulos, D.A. Bichara, X. Zhao, I. Shinichi, M.A. Randolph, **K.S. Anseth** and M.J. Yaremchuk, "Injectable and photopolymerizable tissue-engineering auricular cartilage using

poly(ethylene glycol) dimethacrylate copolymer hydrogels," *Tissue Engineering, 17*, 161-69 (2011).

212. P.S. Hume, K. Fuerst, C.N. Bowman and **K.S. Anseth**, "Functionalized PEG hydrogels through reactive dip-coating for the formation of immunoactive barriers," *Biomaterials*, 32, 6204-12 (2011).

211. S.B. Anderson, C. Lin, D.V. Kuntzler and **K.S. Anseth**, "The performance of human mesenchymal stem cells encapsulated in cell-degradable polymer-peptide hydrogels," *Biomaterials*, 32, 3564-74 (2011).

210. P.S. Hume, C. Lin and **K.S. Anseth**, "Polymerizable superoxide dismutase mimetic protects cells encapsulated in PEG hydrogels from reactive oxygen species-mediated damage," *Journal of Biomedical Materials Research*, *99A*, 29-37 (2011).

209. J.D. McCall, C. Lin and **K.S. Anseth**, "Affinity peptides protect transforming growth factor beta during encapsulation in poly(ethylene glycol) hydrogels," *Biomacromolecules*, 12, 1051 (2011).

208. C. Lin and **K.S. Anseth**, "Cell-cell communication mimicry with PEG hydrogels for enhancing β−cell function," *Proceedings of the National Academy of Sciences*, 108, 6380-85 (2011).

207. P.D. Mariner, E. Johannesen and **K.S. Anseth**, "Manipulation of miRNA activity in hMSCs accelerates osteogenic differentiation of hMSCs in engineered 3D scaffolds," *Journal of Tissue Engineering and Regenerative Medicine*, 6, 314-24 (2012).

206. B.J. Adzima, Y. Tao, C.J. Kloxin, C.A. DeForest, **K.S. Anseth** and C.N. Bowman, "Spatial and Temporal Control of Alkyne—Azide Reaction: Photoinitiated Click Reactions for Synthesis, Polymerization, and Modification," *Nature Chemistry*, *3*, 256-59 (2011).

205. S. Pedrón, C. Peinado, P. Bosch, J.A. Benton and **K.S. Anseth,** "Microfluidic approaches for the fabrication of gradient crosslinked networks based on PEG and hyperbranched polymers for manipulation of cell interactions," *Journal of Biomedical Materials Research*, *96A,* 196-203 (2011).

204. R.K. Sivamani, M.P. Schwartz, **K.S. Anseth** and R.R. Isseroff, "Keratinocytes proximity and contact play a significant role in determining mesenchymal stem cell fate in human tissue," *FASEB Journal*, 25, 122-31 (2011).

203. E. A Sims, C.A. DeForest and **K.S. Anseth**, "A mild, large-scale synthesis of 1,3-cyclooctanedione: Expanding access to difluorinated cyclooctyne for click chemistry," *Tetrahedron Letters, 52*, 1871-73 (2011).

202. A.A. Aimetti, K.R. Feaver and **K.S. Anseth**, "Synthesis of cyclic, multivalent Arg-Gly-Asp using sequential thiol-ene/thiol-yne photoreactions," *Chemical Communications*, *46*, 5781-83 (2010).

201. J.O. Blanchette, S.J. Langer, S. Sahai, P.S. Topiwala, L.A. Leinwand and **K.S. Anseth**, "Use of integrin-linked kinase to extend function of encapsulated pancreatic tissue," *Biomedical Materials, 5*, 061001 (2010).

200. M.W. Tibbitt, A.M. Kloxin, K.U. Dyamenahalli and **K.S. Anseth**, "Controlled two-photon erosion of PEG hydrogels to study and manipulate subcellular interactions with soft materials, *Soft Matter, 6*, 5100-08 (2010).

199. A.M. Kloxin, M.W. Tibbitt and **K.S. Anseth**, "Synthesis of photodegradable hydrogels as dynamically tunable materials for 2D and 3D cell culture," *Nature Protocols*, 5, 1-21 (2010).

198. C.A. DeForest, E.A. Sims and **K.S. Anseth**, "Peptide-functionalized click hydrogels with independently tunable mechanics and chemical functionality for 3D cell culture," *Chemistry of Materials*, 22, 4783-90 (2010).

197. B.D. Fairbanks, E.A. Sims, **K.S. Anseth** and C.N. Bowman, "Reactions rates and mechanisms for radical, photoinitiated addition of thiols to alkynes and implications for thiol-yne photopolymerizations and click reactions," *Macromolecules*, *43*, 4113-19 (2010).

196. A. Terella, P. Mariner, N. Brown, **K. Anseth** and S.O. Streubel, "Repair of a calvarial defect with biofactor and stem cell-embedded poly(ethylene glycol) scaffolds," *Archives of Facial Plastic Surgery, 12*, 166-71 (2010).

195. S. Pedrón, A. Kasko, C. Peinado and **K.S. Anseth,** "Effect of heparin oligomer chain length on the activation of valvular interstitial cells," *Biomacromolecules, 11*, 1692-95 (2010).

194. L.M. Johnson, C.A. DeForest, A. Pendurti, **K.S. Anseth** and C.N. Bowman, "Formation of three-dimensional hydrogel multilayers using enzyme-mediated redox chain initiation," *Applied Materials and Interfaces*, 2, 1963-72 (2010).

193. S. Pedrón, C. Peinado, P. Bosch and **K.S. Anseth**, Synthesis and characterization of degradable bioconjugated hydrogels with hyperbranched multifunctional crosslinkers," *Acta Biomaterialia, 6,* 4189-98 (2010).

192. A.A. Aimetti, R.K. Shoemaker, C. Lin and **K.S. Anseth**, "On-resin peptide macrocyclization using thiol-ene click chemistry," *Chemical Communications*, 26, 4061-63 (2010).

191. A.M. Kloxin, C.J. Kloxin, C.N. Bowman and **K.S. Anseth**, "Mechanical properties of cellularly responsive hydrogels and their experimental determination," *Advanced Materials*, *22*, 3340-43 (2010).

190. P.S. Hume and **K.S. Anseth**, "Inducing local T cell apoptosis with anti-Fas-functionalized polymeric coatings fabricated via surface-initiated photopolymerizations," *Biomaterials*, 31, 3166-74 (2010).

189. C. Lin, P.D. Boyer, A.A. Aimetti and **K.S. Anseth**, "Regulating MCP-1 Diffusion in Affinity Hydrogels for Enhancing Immuno-isolation," *Journal of Controlled Release*, 142, 384-91 (2010).

188. A.M. Koxin, J.A. Benton and **K.S. Anseth**, "Photodegradable hydrogels as dynamic substrates for probing the influence of elasticity on cell phenotypes," *Biomaterials*, *31*, 1-8 (2010).

187. M.P. Schwartz, R.E. Rogers, B.D. Fairbanks, R. Rangarajan, M.H. Zaman and **K.S. Anseth**, "A synthetic strategy for mimicking the extracellular matrix provides new insight about *in vivo* tumor cell migration," *Integrative Biology*, *2*, 32-40 (2010).

186. M.C. Lawson, K.B. Hoth, C.A. DeForest, C.N. Bowman and **K.S. Anseth**, "Inhibition of *S. epidermidi* biofilms using polymerizable vancomycin derivatives," *Clinical Orthopaedics and Related Research*, 468, 2081-89 (2010).

185. M.C. Lawson, R. Shoemaker, K.B. Hoth, C.N. Bowman and **K.S. Anseth**, "Polymerizable Vancomycin derivatives for bactericidal biomaterial surface modification: Structure-function evaluation," *Biomacromolecules*, *10*, 2221-34 (2009).

184. C. Lin, A.T. Metters and **K.S. Anseth**, "Functional PEG-peptide hydrogels to modulate local inflammation induced by the pro-inflammatory cytokine TNFα," *Biomaterials*, *30*, 4907-14 (2009).

183. J.A. Benton, B.D. Fairbanks and **K.S. Anseth**, "Characterization of Valvular Interstitial Cell Function in Three Dimensional Matrix Metalloproteinase Degradable PEG Hydrogels," *Biomaterials*, 30, 6593-6603 (2009).

182. A.A. Aimetti, A.J. Machen and **K.S. Anseth**, "Poly(ethylene glycol) hydrogels formed by thiol-ene photopolymerization for enzyme-responsive protein delivery," *Biomaterials*, 30, 6048-54 (2009).

181. B.D. Fairbanks, M.P. Schwartz, A.E. Halevi, C.R. Nuttelman, C.N. Bowman and **K.S. Anseth**, "A versatile synthetic extracellular matrix mimic through thiol-ene photopolymerization," *Advanced Materials*, *21*, 5005-10 (2009).

180. J.A. Benton, H.B. Kern, P.D. Mariner, L.A. Leinwand and **K.S. Anseth**, "Statins inhibit calcific nodule formation to valvular intersitial cells by inhibiting alpha smooth muscle actin expression," *Aterioscleroses, Thrombosis and Vascular Biology, 29*, 1950-57 (2009).

179. L.M Johnson, B.D. Fairbanks, **K.S. Anseth** and C.N. Bowman, "Enzyme-Mediated Redox Initiation for Hydrogel Generation and Cellular Encapsulation," *Biomacromolecules*, 10, 3114-21 (2009).

178. B.D. Fairbanks, M.P. Schwartz, C.N. Bowman and **K.S. Anseth**, "Photoinitiated polymerization of PEG-diacrylate with lithium phenyl-2,4,6-trimethylbenzoylphosphinate: polymerization rate and cytocompatibility," *Biomaterials*, 30, 6702-07 (2009).

177. A.M Kloxin, M.W. Tibbitt, A.M Kasko, J.A. Fairbairn and **K.S. Anseth**, "Tunable hydrogels for external manipulation of cellular microenvironments through controlled photodegradation," *Advanced Materials, 21*, 1-6 (2009).

176. M.W. Tibbitt and **K.S. Anseth**, "Hydrogels as extracellular matrix mimics for 3D cell culture," *Biotechnology & Bioengineering*, *103*, 655-63 (2009).

175. C. Lin and **K.S. Anseth**, "Glucagon-like peptide-1 functionalized PEG hydrogels promote survival and function of encapsulated pancreatic β-cells," *Biomacromolecules*, *10,* 2460-67 (2009).

174. C.A. DeForest, B.D. Polizzotti and **K.S. Anseth**, "Sequential click reactions for synthesizing and patterning 3D cell microenvironments," *Nature Materials*, *8*, 659-64 (2009).

173. A.A. Aimetti, M.W. Tibbitt and **K.S. Anseth**, "Human neutrophil elastase responsive delivery from poly(ethylene glycol) hydrogels," *Biomacromolecules*, *10,* 1484-89 (2009).

172. H.S. Simms, C.N. Bowman and **K.S. Anseth**, "Evaluating the effect of flow on polymer formation when photografting from microfluidic channel surfaces," *Lab on a Chip*, in review.

171. A.M. Kloxin, A.M. Kasko, C.N. Salinas and **K.S. Anseth,** " Photolabile hydrogels for dynamic tuning of physical and chemical properties," *Science*, *324,* 59-63 (2009).

170. C. Lin and **K.S. Anseth**, "Controlling affinity binding in photopolymerized poly(ethylene glycol) hydrogels," *Advanced Functional Materials*, *19*, 2325-31 (2009).

169. C. Lin and **K.S. Anseth**, "PEG hydrogels for the controlled release of biomolecules in regenerative medicine," *Pharmaceutical Research*, *26,* 631-43 (2009).

168. J.A. Benton, C.A. DeForest, V. Vivekanandan and **K.S. Anseth**, "Photocrosslinking of gelatin macromers to synthesize porous hydrogels that promote valvular interstitial cell function," *Tissue Engineering*, 15, 3221-30 (2009).

167. B.D. Fairbanks, T.F. Scott, C.J. Kloxin, **K.S. Anseth** and C.N. Bowman, "Thiol-yne photopolymerizations: Novel mechanism, kinetics and step growth formation of highly crosslinked networks," *Macromolecules, 42,* 211-17 (2009).

166. C.N. Salinas and **K.S. Anseth**, "Mesenchymal stem cells for craniofacial tissue regeneration: Designing hydrogel delivery vehicles," *Journal of Dental Research*, *8*, 681-92 (2009).

165. D.K. Hwang, J. Oakey, M. Toner, J. Arthur, **K. Anseth**, S. Lee, A. Zeiger, K. Van Vliet and P. Doyle, "Stop-flow lithography for the production of shape-evolving degradable microgel particles," *Journal of the American Chemical Society*, *131*, 4499-4504 (2009).

164. M.A. Rice, K.R. Waters and **K.S. Anseth**, "Ultrasound Monitoring of Cartilaginous Matrix Evolution in Degradable PEG Hydrogels," *Acta Biomaterialia*, *5*, 152-61 (2009).

163. L.M. Weber, C.G. Lopez and **K.S. Anseth**, "The effects of PEG hydrogel crosslinking density on protein diffusion and encapsulated islet survival and function," *Journal of Biomedical Materials Research*, *90A,* 720-29 (2009).

162. C.N. Salinas and **K.S. Anseth**, "Decorin moieties tethered into PEG networks induce chondrogenesis of human mesenchymal stem cells," *Journal of Biomedical Materials Research*, *90A*, 456-64 (2009).

161. L.M. Weber and **K.S. Anseth**, "Functional islet-derived cell aggregates formed by islet dissociation and controlled re-aggregation," *Biomaterials*, in press.

160. V.S. Khire, A.M. Kloxin, C.C. Clouch, **K.S. Anseth** and C.N. Bowman, "Synthesis, characterization and cleavage of linear polymers attached to silica nanoparticles formed using thiol-acrylate conjugate addition reactions," *Journal of Polymer Science A: Polymer Chemistry*, *46,* 6896-906 (2008).

159. J.A. Benton, H.B. Kern and **K.S. Anseth**, "Substrate properties influence calcification in valvular interstitial cell cultures," *Journal of Heart Valve Disease*, *17*, 689-99 (2008).

158. C.Y. Cheung, S.J. McCartney and **K.S. Anseth**, "Synthesis of polymerizable superoxide dismutase mimetics to reduce reactive oxygen species damage in transplanted biomedical devices," *Advanced Functional Materials, 18*, 3119-26 (2008).

157. D.S.W. Benoit, M.J Schwartz, A.R. Durney and **K.S. Anseth**, "Small molecule functional groups for the controlled differentiation of human mesenchymal stem cells encapsulated in poly(ethylene glycol) hydrogels," *Nature Materials, 7,* 816 - 823 (2008).

156. M.C. Cushing, J-T. Liao, E.A. Sims and **K.S. Anseth**, "Fibroblast growth factor represses Smad-mediated myofibroblast activation in valvular interstitial cells," *FASEB Journal, 22*, 1769-77 (2008).

155. L.M. Weber, K.N. Hayda and **K.S. Anseth**, "Cell-matrix interactions improve β-cell survival and insulin secretion in three-dimensional culture," *Tissue Engineering*, *14*, 1959-68 (2008).

154. D.N. Shah, S.M. Recktenwall-Work, and **K.S. Anseth**, "Bioactive Hydrogels that Influence Valvular Interstitial Cells by Altering their Secretion of Extracellular Matrix Molecules," *Biomaterials*, *29,* 2060-72 (2008).

153. C.N. Salinas and **K.S. Anseth**, "The enhancement of chondrogenic differentiation of human mesenchymal stem cells by enzymatically regulated RGD functionalities," *Biomaterials, 29*, 2370-77 (2008).

152. C.N. Salinas and **K.S. Anseth**, "Mixed Mode Thiol-Acrylate Photopolymerizations for the Synthesis of PEG-peptide Hydrogels," *Macromolecules*, *41*, 6019-26 (2008).

151. A.M. Kloxin and **K.S. Anseth**, "Protein gels on the move," *Nature*, *454*, 705-6, 2008 (invited *News & Views*).

150. B.D. Polizzotti, B.D. Fairbanks and **K.S. Anseth**, "Three-dimensional Biochemical Patterning of Click-based PEG Peptide Hydrogels," *Biomacromolecules*, *9*, 1084-7 (2008).

149. L.M. Weber, K. Haskins and **K.S. Anseth**, "Hydrogel encapsulation environments functionalized with extracellular matrix interactions increase pancreatic islet insulin secretion," *Matrix Biology*, *27*, 667-73 (2008).

148. H.S. Simms, C.N. Bowman and **K.S. Anseth**, "Using Living Radical Polymerization to Enable Facile Incorporation of Materials in Microfluidic Cell Culture Devices," *Biomaterials, 29,* 2228-36 (2008).

147. C.R. Nuttelman, M.A. Rice, A.E. Rydholm, D.N. Shah and **K.S. Anseth**, "Macromolecular monomers for the synthesis of hydrogel niches and their application in cell encapsulation and tissue engineering," *Progress in Polymer Science, 33*, 167-79 (2008).

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10. A. Kasko, K.S. Anseth, "Photodegradable Groups for Tunable Polymeric Materials," University of Colorado Invention Disclosure, CU File 1389B, filed March 2005.

9. C.R. Nuttelman, K.S. Anseth, "Improving Viability of hMSCs," University of Colorado Invention Disclosure, filed August 2004.

8. K.S. Anseth, C.N. Bowman, R.P. Sebra, K.S. Masters, "System and Method for Biological Assays," U.S. Patent Application 20080268551.

7. T. Haraldsson, B. Hutchison, C. Bowman, K. Anseth, "Fabrication of 3D Photopolymeric Devices," U.S. Patent Application 20060066006. Technology Licensed to Optical Associates Incorporated.

6. C. Bowman, K. Anseth, B. Hacioglu, C. Nuttelman, "Degradable Thiol-ene Polymers," U.S. Pat. No. 7,288,608. Technology licensed to Mosaic Biosciences.

5. K. Anseth, C. Connon, J. Owens and T. Randolph, "Preparation and Use of Photopolymerized Microparticles," U.S. Pat. No. 6,403,672, June 11, 2002.

4. J.H. Elisseeff, K.S. Anseth, D. Sims, and R. Langer, "Semi-Interpenetrating or Interpenetrating Polymer Networks for Drug Delivery and Tissue Engineering," U.S. Pat. No. 6,224,893, May 1, 2001. Technology Licensed to Advanced Tissue Sciences, Smith and Nephew, and Cartilix.

3. K.S. Anseth, V.R. Shastri, and R. Langer, "Photocurable, Biodegradable Systems for Orthopaedic and Dental Applications," U.S. Pat. No. 5,902,599, May 11, 1999. Technology Licensed to Abbott and Bioplant.

2. C.N. Bowman, K.S. Anseth, A.R. Kannurpatti and M.D. Goodner, "Method and Material for Use With Dental Composites for Improving Conversion of Monomers to Polymers and Reducing Volume Shrinkage," U.S. Pat. No. 5,730,601, March 24, 1998.

1. K.S. Anseth and T.A. Koch, E.I. Du Pont de Nemours and Company, Wilmington, DE. "Process for the Conversion of N_2O," U.S. Pat. No. 5,314,673, May 24, 1994.

INVITED LECTURES

199. "Synthetic hydrogels as dynamically tunable stem cell culture niches," International Society for Stem Cell Research, Yokohama, Japan, June 2012.

198. "Goodbye flat biology: Hydrogel cell culture niches," Duke University, Durham, NC, April 2012.

197. "Dynamic Cell Niches through Bioorthogonal Photochemical Reactions," Materials Research

Society, San Francisco, CA, April 2012.

196. "Hydrogels as synthetic excellular niches," Department of Cell and Developmental Biology, Vanderbilt, Nashville, TN, January 2012.

195. "Thiol-ene click gels as in situ forming, cellularly-degradable biomaterials," TERMIS, Houston, TX, December 2011.

195. "Goodbye flat biology," School of Chemical Engineering, Purdue University Centennial Lecture, West Lafayette, IN, November 2011.

194. "User programmable hydrogel niches for stem cell culture," Days of Molecular Medicine, Hong Kong, November 2011.

193. "Dynamically tunable hydrogels for 3D cell culture," Cells, Development and Cancer seminar series, Anschutz Medical Campus, Denver, CO, September 2011.

192. "Dynamically tunable hydrogel niches for 3D cell culture: Multifunctional click-based networks with spatiotemporally regulated properties," 24th European Conference on Biomaterials, Dublin, Ireland, September 2011.

191. "Stem cell biology in four dimensions," Gordon Research Conference on Biomaterials and Tissue Engineering, Plymouth, NH, August 2011.

190. "Expansion and differentiation of hMSC," Gordon Conference on Bones and Teeth, Les Diableret, Switzerland, June 2011.

189. "Multifunctional click-based networks with dually-tunable properties through orthogonal photocoupling and photodegradation reactions," Hangzhou International Polymer Forum," Hangzhou, China, May 2011.

188. "Programmable hydrogel niches for MSC culture: Biology in four dimensions," Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, May 2011.

187. "Programmable niches for stem cell expansion and differentiation," 6th Annual Wisconsin Stem Cell Symposium, Madison, WI, April 2011

186. "How do cells feel?" Materials Research Society Spring Meeting, San Francisco, CA, April 2011.

185. "Dynamically tunable materials to study and direct cell function," University of Houston, Houston, TX, April 2011.

184. "Photoresponsive hydrogels to study and manipulate cell-materials interactions," Australasian Polymer Symposium, Coffs Harbour, Australia, February 2011.

183. "Advances in photopolymer networks for biological applications," European Society for Photopolymer Science, Mulhouse, France, December 2010.

182. "Dynamically tunable materials to study and direct cell function," University of Minnesota, Minneapolis, MN, November 2010.

181. "Biology in four dimensions: Dynamic hydrogel niches for tissue regeneration," Professional Progress Award Lecture, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.

180. "Dynamic surfaces to study and manipulate cell function," Interfacial Phenomena Plenary Lecture, American Institute of Chemical Engineers National Meeting, Salt Lake City, UT, November 2010.

179. "Engineering cell niches in a couple of clicks," University of Toronto, Toronto, Canada, November 2010.

178. "Versatile synthetic extracellular matrix mimics via thiol-ene photopolymerization," MACRO, Glasgow, Scotland, July 2010.

177. "Thiol-ene click gels as 3D models of tumors and tumor cell invasion," Koch Institute, Boston,

MA, June 2010.

176. "Studying and directing hMSC differentiation with dynamically tunable materials," Society for Biological Engineering's 2nd Stem Cell Conference, Boston, MA, May 2010.

175. "Engineering Tissue Regeneration," Graduate Student Symposium, Biomedical Engineering, Carnegie Mellon University, April 2010.

174. "Thiol-ene Hydrogels as Synthetic ECM Mimics," University of Michigan, Ann Arbor, MI, March 2010.

173. "Dynamic Cellular Niches and Their Application in 3D VIC Culture," California Institute of Technology, Pasadena, CA, February 2010.

172. "Chondrogenic hMSC Niches," University of Pittsburgh, McGowan Regenerative Medicine Institute, Pittsburgh, PA, January 2010.

171. "Cellular Control in a Couple of Clicks," University of Texas, Austin, TX, January 2010.

170. "Cellular Control in a Couple of Clicks," Iowa State University, Ames, IA, January 2010.

169. "Dynamic 3-D Cell Culture Platforms Based on Sequential Click Reactions," 13th Pacific Polymer Conference, Cairns, Australia, December 2009.

168. "Advances in Dynamic Hydrogel Niches to Promote Tissue Regeneration," American Institute of Chemical Engineers Annual Meeting, Nashville, TN, November 2009.

167. "Future Directions in Regenerative Medicine: Personalized Healing," American Society for Human Genetics, Honolulu, HA, October 2009.

166. "Tailoring biomaterial niches via click reactions for tissue regeneration," American Chemical Society Fall Meeting, Washington DC, August 2009.

165. "Photodegradable hydrogels: Dynamic scaffolds to manipulate cell function," American Chemical Society Fall Meeting, Washington DC, August 2009.

164. "Synthetic Matrices Based on Sequential Click Reaction for Directing Cell Function," European Polymer Federation, Graz, Austria, July 2009.

163. "Dynamic Hydrogel Niche to Manipulate Progenitor Cells," Department of Materials Science & Engineering, Stanford University, Palo Alto, CA May 2009.

162. "Dynamic Surfaces that Modulate Cell Functions," Australian Colloid and Interface Symposium, Adelaide, February 2009.

161. "Engineering Hydrogels for Tissue Regeneration," University of Utah, Salt Lake City, UT, November 2008.

160. "Biomaterial Niches that Direct MSC Differentiation for Craniofacial Applications," International Conference on Frontiers of Dental and Craniofacial Research, Beijing, China, October 2008.

159. "Engineering Hydrogel Niches to Promote Tissue Regeneration," University of Kentucky, Lexington, KY, October 2008.

158. "Engineering Osteogenic Gel Niches to Enhance Bone Regeneration," American Society for Bone and Mineral Research, 30th Annual Meeting, Montreal, Canada, September 2008.

157. "Gel Chemistries that Regulate Valvular Interstitial Cells and their Myofibroblast Properties," Signal Transduction by Engineering Extracellular Matrices, Gordon Research Conference, July 2008.

156. "Photolabile Gels for Dynamic Control of Cellular Niches," Ohio State University, Columbus, OH, May 2008.

155. "Dynamically Tunable Gels for Tissue Regeneration," University of Washington, Seattle, WAMay

2008.

154. "Swell Gels: Materials Based Regulation of Cell Function," Cornell, April 2008.

153. "Gel Niches that Promote Heart Valve Regeneration," University of California at Los Angeles, February 2008.

152. "Hydrogel niches for 3D culture of valvular interstitial cells: An interdisciplinary approach to regenerate dynamic heart valves," Keystone Conference on Cardiac Hypertrophy, Copper Mountain, CO, January 2008.

151. "Photografting Antibodies for Rapid Antigen Detection in Biologically Complex Fluids," AIChE Meeting, Salt Lake City, UT, November 2007.

150. "Biomaterial Niches that Direct Stem Cell Function," University of Pennsylvania, Philadelphia, PA, October 2007.

149. "Current Trends in Regenerative Medicine," Mead-Johnson Clinical Scholars Program, Portland, OR, September 2007.

148. "Photopolymer Gel Chemistries to Control Mesenchymal Stem Cell Function," ACS/AIChE Regional Meeting, Denver, CO, August 2007.

147. "Photolabile Gel Niches for Guided Mesenchymal Stem Cell Differentiation," Georgia Institute of Technology, Atlanta, GA, August 2007.

146. "Polymers in Biology, Bioengineering, and Medicine," Polymer Division Workshop, National Science Foundation, Washington DC, August 2007.

145. "Thiol-ene polymerizations for the synthesis of PEG-peptide gels: Novel Synthetic Extracellular Matrix Analogs," Gordon Research Conference, Mount Holyoke, MA, July 2007.

144. "Hydrogels as Synthetic Extracellular Niches for 3D Cell Culture," National Institute of Standards and Technology, Gaithersburg, MD, May 2007.

143. "Tissue Engineering of a TMJ Disc," Research Summit of the American Association of Oral and Maxillofacial Surgeons, International Association of Oral and Maxillofacial Surgeons, and the Oral and Maxillofacial Surgery Foundation, Chicago, IL, May 2007.

142. "Hydrogel Niches Designed to Promote Tissue Regeneration," North Carolina State University, Raleigh, NC, April 2007.

141. "Photoinitiated Polymerizations for the Synthesis of Hydrogel Niches for Cell Encapsulation and Tissue Engineering," Materials Research Society, San Francisco, CA, April 2007.

140. "Goodbye Flat Biology: Hydrogel Niches for 3D Cell Culture," Rocky Mountain Bioengineering Symposium, Denver, CO, April 2007.

139. "Designer Materials for 3D Cell Culture and Tissue Engineering," Materials Research Society Meeting, Boston, MA, November 2006.

138. "Passive versus Promoting Stem Cell Niches," BioX Symposium, Stanford University, Palo Alto, CA, November 2006.

137. "Engineering Hydrogel Niches as Cell Carriers," BioX Symposium, Stanford University, Palo Alto, CA, November, 2006.

136. "Biomaterial Niches that Promote Tissue Regeneration," Ratcliffe Institute, Harvard University, Cambridge, MA, October 2006.

135. "Gel Niches Synthesized from Multifunctional Macromolecular Monomers," Department of Chemical Engineering, University of Texas at Austin, TX, September 2006.

134. "Engineering gel niches to promote cell survival and tissue regeneration," International Society for Oxygen Transport to Tissues, Louisville, KY, August 2006.

133. "Cartilage Regeneration: Fact and Fiction," Musculoskeletal Biology & Bioengineering Gordon Research Conference, Andover, NH, July 2006.

132. "Gel Niches for the Regeneration of Dental Tissues," International Association for Dental Research, Brisbane, Australia, June 2006.

131. "Biomaterial Carriers that Promote Mesenchymal Stem Cell Function for Craniofacial Tissue Regeneration," TMJ Annual Meeting, Broomfield, CO, May 2006.

130 "Polymer Chemistry Approaches to Manipulate Tissue Regeneration," Department of Polymer Science, University of Akron, February 2006.

129. "Hydrogel Niches Designed to Promote Tissue Regeneration," Australasian Biomaterials and Polymer Society Joint Meeting, Rotorua, New Zealand, February 2006.

128. "Bioactive Matrices for 3D Islet Culture," National Jewish Medical and Research Center, Denver, January 2006.

127. "Nanotechnology in Tissue Engineering," American Institute of Chemical Engineers National Meeting, Cincinnati, November 2005.

126. "Hydrogel Niches for 3D Cell Culture and Tissue Regeneration," Department of Chemical Engineering, Stanford University, September 2005.

125. "Hydrogel Niches Designed to Permit or Promote Cell Function," Gordon Research Conference, Biomaterials and Tissue Engineering, Plymouth, NH, August 2005.

124. "Engaging Engineers in Developmental Biology Research," Society for Developmental Biology, San Francisco, CA, July 2005.

123. "Synthetic Hydrogels as Extracellular Matrix Analogs for Tissue Engineering," Engineering Conferences International, Frontiers and Advances in Biotechnology, Biological, and Biomolecular Engineering, Harrison Hot Springs, British Columbia, July 2005.

122. "The Next Generation of Photopolymers for Cell Delivery and Tissue Regeneration," Third International Photopolymerization Fundamentals Conference, Breckenridge, CO, June 2005.

121. "Engineering Principles in the Design of Scaffolds for Cartilage Regeneration," Cleveland Clinic Cartilage Summit, Cleveland, OH, May 2005.

120. "Challenges in Biomaterial Design for Tissue Engineering," NIH Tissue Engineering Conference, Cambridge, MA, May 2005.

119. "Tissue Engineering: Designing Polymers to Regenerate Tissues," Alan S. Michaels Distinguished Lectureship, MIT, April 2005.

118. "Synthetic Polymer Niches that Promote Tissue Regeneration," Harvard University, April 2005.

117. "Synthesis and Design of Osteogenic Hydrogels for the Controlled Differentiation of Mesenchymal Stem Cells," Materials Research Society, San Francisco, CA, March 2005.

116. "Promise and Progress of Tissue Engineering Research," Givens Institute Lecture, Aspen, CO, March 2005.

115. "Tissue Engineering Principles Applied to Development Biology," Department of Biology, University of Colorado at Denver, February 2005.

114. "Osteogenic Scaffolds for the 3D Culture of hMSCs," Department of Chemical and Biochemical Engineering, Colorado State University, February 2005.

113. "Permissive and Promoting Biomaterials for Stem Cell Culture," Department of Biomedical Engineering, University of Virginia, February 2005.

112. "Engineered Biomaterials in Regenerative Medicine," HHMI Cloister Program, February 2005.

111. "Chemical Engineering in 2020: Return of the J.E.D.I," Department of Chemical and Biological Engineering, University of Colorado, Centennial Celebration, February 2005.

110. "Engineering Aspects of Regenerative Medicine," Gambro, February 2005.

109. "Permissive and Promoting Hydrogel Niches for 3D Cell Culture and Tissue Regeneration," Department of Chemical Engineering, Texas Tech University, January 2005.

108. "Permissive and Promoting Hydrogel Niches for Cartilage Regeneration," Department of Chemical and Biomolecular Engineering, Notre Dame, January 2005.

107. "Biomaterials in Regenerative Medicine: Future Thrusts," American Institute of Chemical Engineers National Meeting, Austin, TX, November 2004.

106. "Delivering DNA with Photopolymers for Applications in Tissue Engineering," The 7th New Jersey Biomaterials Symposium, New Brunswick, NJ, October 2004.

105. "Synthetic Hydrogel Niches for Cell Encapsulation and Tissue Regeneration," National Academy of Engineering Annual Meeting, Bioengineering Section, Washington DC, September 2004.

104. "Micro and Nanopatterning of Hydrogels for Biomaterials Applications," International Bioengineering and Nanotechnology Conference, Biopolis, Singapore, September 2004.

103. "Hydrogels Formed from Multifunctional Macromolecular Monomers and Their Application as Cells Scaffolds," Polymer Networks IUPAC Meeting, Washington DC, August 2004.

102. "Biomaterials for Cartilage Tissue Engineering," Gordon Research Conference on Musculoskeletal Biology & Bioengineering, Andover, NH, July 2004.

101. "Synthesis and Design of Osteogenic Hydrogels for the Controlled Differentiation of Mesenchymal Stem Cells," 3rd German-American Frontiers of Chemistry, Kloster Seeon, Germany, July 2004.

100. "Hydrogels as Chondrocytes Carriers: How Gel Chemistry Influences Tissue Evolution," Regenerate International Conference and Exposition, Seattle, WA, June 2004.

99. "Photopolymerizable Networks with Tailored Degradation and Release Profiles," American Association of Pharmaceutical Scientists Pharmaceutics and Drug Delivery Conference, Philadelphia, PA, June 2004.

98. "What the Biomaterials Lab of the Future Will Look Like," Young Scientists Forum: Biomaterials in the 21st Century, 7th World Biomaterials Congress, Sydney, Australia, May 2004.

97. "Synthetic Polymer Niches for the 3D Culture of Chondrocytes and Regeneration of Cartilage," Department of Chemical and Biological Engineering, Rensselaer Polytechnic Institute, March 2004.

96. "Photopolymer Cell Scaffolds: Tissue Engineering Applied to Dentistry," 20th Annual Scientific Meeting of the Colorado Section, American Association for Dental Research, Denver, CO, February 2004.

95. "Designer Cell Scaffolds for Tissue Regeneration," Department of Chemistry and Biochemistry, University of Delaware, Newark, February, 2004.

94. "If I Only Had a New…Progress and Promise in Tissue Engineering Research," 2004 Annual Meeting of the American Association for the Advancement of Science, Seattle, WA, February 2004.

93. "Biofunctional Gels that Control Stem Cell Differentiation," National Institute of Standards and Technology, Boulder, CO, January 2004.

92. "Designer Biomaterials in Regenerative Medicine," Medical Scientist Training Program, Case Western Reserve University, Cleveland, OH, January 2004.

91. "Engineering 3-D Synthetic Polymer Niches for Tissue Regeneration," Department of Chemistry & Biochemistry, University of Colorado, November 2003.

90. "Hydrogels for Cartilage Tissue Engineering: How Gel Chemistry Influences Chondrocyte Function and Tissue Formation," Department of Chemical Engineering, University of Oklahoma, October 2003.

89. "How Polymer Chemistry Influences Cell Function and Tissue Development," Department of Chemistry, Denver University, October 2003.

88. "Designer Matrices for 3D Cell Culture," Department of Molecular, Cellular, and Developmental Biology, University of Colorado, September 2003.

87. "Multifunctional Hyaluronic Acid Macromers for Photoencapsulated Valvular Interstitial Cells: Designing Gels with Tunable Properties," World Congress on Medical Physics and Biomedical Engineering 2003 Congress, Sydney, Australia, August 2003.

86. "Manipulations in Hydrogel Chemistry Control Photoencapsulated Chondrocyte Behavior and their Extracellular Matrix Production," 26th Australasian Polymer Symposium, Noosa, Australia, July 2003.

85. "Designer Biomaterials in Regenerative Medicine," 18th Annual National M.D./Ph.D. Student Conference, Snowmass, Colorado, July 2003.

84. "*In Situ* Forming Polymers for Tissue Regeneration," Materials Chemistry Forum, Royal Society of Chemistry, London, England, May 2003.

83. "Photocrosslinked Gels for Cartilage Tissue Engineering: Tuning Gel Degradation Behavior and Its Influence on Chondrocyte Function," Department of Chemical Engineering, Princeton University, Princeton, NJ, May 2003.

82. "Designing Tissue Engineering Scaffolds From Multifunctional Macromers," Department of Chemical Engineering, University of Massachusetts, Amherst, April 2003.

81. "*In Situ* Forming Gel Constructs and Monitoring Degradation Behavior to Control Extracellular Matrix Evolution," Spring 2003 Conference of the American Chemical Society, New Orleans, LA, March 2003.

80. "Tissue Engineering with Cells in Gels," Department of Chemical and Biomolecular Engineering, University of Illinois at Urbana-Champaign, March, 2003.

79. "Tissue Engineering with Cells and Gels," Department of Chemical Engineering, Clemson University, Clemson, SC, February, 2003.

78. "Multifunctional Macromolecular Monomers: New Directions in *In Situ* Forming Orthopaedic Biomaterials," University of Colorado Health Sciences Center, Denver, February 2003.

77. "Multifunctional Monomer Photopolymerizations: Experimental Characterization and Simulation of Molecular Microgels," Loctite Corporation, Rocky Hill, CT, February 2003.

76. "Engineering Hydrogels to Control Cell Function," Department of Biomedical Engineering, Yale University, New Haven, CT, February 2003.

75. "Tailoring the Architecture of Degradable Gels for Cartilage Tissue Engineering," Department of Biomedical Engineering, University of Texas at Austin, January 2003.

74. "Cells, Gels, and Tissue Engineering," Department of Chemical Engineering, Pennsylvania State University, State College, PA, December 2002.

73. "Multifunctional Macromolecular Monomers: New Directions in *In Situ* Forming Orthopaedic Biomaterials," Polymers in Medicine and Biology: 2002 Conference, Sonoma Valley, CA, November 2002.

72. "Photopatterning Gels to Design Cell Scaffolds," Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA, October, 2002.

71. "Designing Photopolymers to Encapsulate Cells for Tissue Engineering," 3M, Minneapolis, MN, October 2002.

70. "Engineering Polymers to Control Cell Function," Gene Regulation in Differentiation and Development Science Meeting, Howard Hughes Medical Institute, Chevy Chase, MD, October 2002.

69. "Modeling Release from Degradable PEG Hydrogels and Their Application in the Delivery of Osteoconductive Growth Factors," Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society, Houston, TX, October 2002.

68. "Engineering Gels to Control Cell Function and Tissue Evolution," American Chemical Society ProSpectives Conference Series, Boston, MA, October 2002.

67. "Cells, Gels, and Tissue Engineering," Department of Chemical Engineering, University of California, Berkeley, October 2002.

66. "Engineering Gels to Control Cell Function and Tissue Development," Department of Chemical Engineering, California Institute of Technology, Pasadena, CA, October 2002.

65. "Multifunctional Macromolecular Monomers: New Directions in *In Situ* Forming Orthopaedic Biomaterials," Department of Material Science and Engineering, University of Michigan, Ann Arbor, MI, September 2002.

64. "Photopolymerization in the Presence of Cells? New Directions in Tissue Engineering," Second International Photopolymerization Fundamentals Conference, Breckenridge, CO, June 2002.

63. "Polymers for DNA Delivery," Educational Symposium, Society for Gene Therapy, Boston, June 2002.

62. "Biomimetic Gels for Orthopaedic Tissue Engineering," Biomaterials for Engineered ECM, Gordon Research Conference, New London, CT, June 2002.

61. "Photopolymers: The Next Generation of Cell Scaffolds," DuPont Discovery Chemistry Seminar Series, DuPont Experimental Station, May 2002.

60. "Photocrosslinkable and Degradable Polymer Networks," Department of Biomedical Engineering, Johns Hopkins University, April 2002.

59. "Rationally Designed Biomaterials for Bone Tissue Engineering," Program of Biomedical Sciences, University of Pittsburgh, April 2002.

58. "Degradation Networks: Controlling and Predicting Erosion Profiles," Department of Chemistry, University of Virginia, March 2002.

57. "Degradation Behavior of Photocrosslinked Hydrogels and Their Application in Cartilage Tissue Engineering," Division of Biomedical Sciences, Harvard University, March 2002.

56. "Photopolymerized Biomaterials: *In Situ* Formation and Micropatterning," Department of Bioengineering, Arizona State University, March 2002.

55. "Degradation Behavior of Photocrosslinked Hydrogels and their Application in Cartilage Tissue Engineering," School of Chemical Engineering, Cornell University, February 2002.

54. "Photopolymerized Orthopaedic Biomaterials with Osteoconductive Properties," Department of Chemical Engineering, University of Louisville, January 2002.

53. "Photopolymerization of Degradable Polymer Networks and Their Application in Medicine," Department of Chemical Engineering, University of Wisconsin, December 2001.

52. "Degradation Kinetics Influence ECM Production of Photoencapsulated Chondrocytes in PEG-Based Hydrogels," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

51. "Molecular and Cellular Characterization of Valvular Interstitial Cells on Polymeric Tissue Engineering Scaffolds," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

50. "Photopolymerization of Degradable Polymer Networks and Their Application in Medicine," DSM Desotech, Elgin, IL, July 2001.

49. "Release Behavior of Macromolecules from Degrading Polymer Networks," Macromolecular Drug Delivery and Pharmaceutical Biotechnology Symposium, Breckenridge, CO, July 2001.

48. "Photopolymerizable Biomaterials in Cartilage Tissue Engineering," Polymers Gordon Research Conference, New London, NH, July 2001.

47. "Designer Materials for Medical Applications," Medical Student Fellows Meeting, Howard Hughes Medical Institute, May 2001.

46. "New Directions in Photopolymerizable Biomaterials," Materials Research Society, San Francisco, CA, April 2001.

45. "The Body Shop: New Directions in Polymeric Biomaterials," American Chemical Society Rocky Mountain Sectional Meeting, Denver, CO, January 2001

44. "The Convergence of Nanotechnology, Biomaterials, and Medicine," American Institute of Chemical Engineers 2000 Fall Meeting, Los Angeles, CA, November 2000.

43. "Degradation Behavior of Hydrogels and their Application in Cartilage Tissue Engineering," Department of Chemical Engineering, Johns Hopkins University, November 2000.

42. "*In Situ* Forming Degradable Networks and Their Application in Tissue Engineering and Drug Delivery," 10th International Symposium on Recent Advances in Drug Delivery Systems, Salt Lake City, UT, February 2001.

41. "Photopolymerization of Degradable Polymer Networks and Their Biological Applications," Department of Chemical Engineering, University of Delaware, November 2000.

40. "Photopolymerization of Degradable Polymer Networks and Their Biological Applications," Department of Chemical Engineering, Rutgers University, November 2000.

39. "*In Situ* Forming Polymeric Biomaterials and Their Use in Drug Delivery," 5th New Jersey Symposium on Biomaterials Science, Piscataway, NJ, November 2000.

38. "New Directions in Photopolymerizable Biomaterials," DuPont Horizons in Biotechnology Seminar, Experimental Station, Wilmington, DE, October 2000.

37. "Degradation Behavior of Hydrogels and their Application in Cartilage Tissue Engineering," Department of Bioengineering, Rice University, October 2000.

36. "Current Trends and Future Directions in Tissue Engineering," Pediatric Short Course, Aspen, CO, August 2000.

35. "Photopolymerization of Degradable Networks and Their Biological Applications," US/Germany Polymer Symposium, Northwestern University, August 2000.

34. "Novel Materials for Tissue Repair and Engineering," The First Annual Scientific Meeting of The TMJ Association, Bethesda, MD, May 2000.

33. "Photopolymerizable Biomaterials for Orthopaedic Applications," Department of Chemical Engineering, Colorado State University, February 2000.

32. "Photocrosslinkable, Degradable Networks," Department of Chemistry, Bowling Green University, January 2000.

31. "Photopolymerizations in Bioengineering," 50 Years of Photopolymerization Technology, DuPont Experimental Station, June 2000.

30. "Photopolymerization of Degradable Polymer Networks and Their Medical Applications," University of Minnesota, March 2000.

29. "*In Situ* Formation of Polymeric Biomaterials," American Chemical Society 2000 Spring Meeting, San Francisco, CA, March 2000.

28. "*In Situ* Forming Biomaterials," Department of Chemical Engineering, Texas A&M University, October 1999.

27. "Biodegradable Polymers for Tissue Engineering," Gordon Conference on Reactive Polymers, Ion Exchangers and Adsorbents, New England College, NH, July 1999.

26. "*In Situ* Forming Biomaterials," Department of Chemical Engineering, University of Illinois, May 1999.

25. "New Directions in Photopolymerizable Biomaterials," Department of Chemical Engineering, University of Michigan, April 1999.

24. "Orthopaedic Biomaterials Based on Photocrosslinkable and Degradable Multifunctional Monomers," American Chemical Society 1999 Spring Meeting, Anaheim, CA, March 1999.

23. "New Directions in Photopolymerizable Biomaterials," Department of Chemical Engineering, University of California Santa Barbara, March 1999.

22. "New Directions in Photopolymerizable Biomaterials," Department of Chemical Engineering, Northwestern University, January 1999.

21. "Novel Applications of Photopolymerization in Medicine," Department of Chemical Engineering, University of South Carolina, January 1999.

20. "Novel Orthopaedic Biomaterials Based on Crosslinkable Polyanhydrides," School of Chemical Engineering, Purdue University, February 1999.

19. "Structural Evolution in Highly Crosslinked Materials Formed by Photopolymerizations," NAPP Systems Inc., San Marcos, CA, November 1998.

18. "Novel Applications of Photopolymerization in Bioengineering," JASON Fall Meeting, November 1998.

17. "Photopolymerizations in Bioengineering," Department of Chemical Engineering, University of Iowa, October 1998.

16. "Transdermal Photopolymerization for Cartilage Tissue Engineering," Biomedical Engineering Society 1998 Annual Fall Meeting, Cleveland, OH, October 1998.

15. "Characterization of Highly Crosslinked Polymer Films by Photopolymerization," 5th Biannual North American Research Conference on The Science and Technology of Organic Coatings, Hilton Head Island, SC, November 1998.

14. "Photopolymerization in Bioengineering," Packard Fellowship Meeting, Santa Fe, NM, September 1998.

13. "Photopolymerization of Surface Eroding Networks and Their Application in Medicine," World Polymer Congress – MACRO'98, Gold Coast, Australia, July 1998.

12. "Photocurable Monomers That Surface Erode," DuPont, Experimental Station, Wilmington, DE, May 1998.

11. "New Directions for Photopolymerizations Applied to Medicine," Hanyang University, Seoul, Korea, May 1998.

10. "Surface Eroding Polyanhydride Networks," Korean Science and Engineering Foundation, Seoul, Korea, May 1998.

9. "Hydrogels With Controlled Microstructure for Drug Delivery," School of Pharmacy, University of Colorado Health Science Center, Denver, CO, May 1998.

8. "Non-idealities of the Structural Evolution of Highly Crosslinked Networks," Photopolymerization Conference, Macromolecular Photochemistry Center at the University of Southern Mississippi, March 1998.

7. "Photopolymerizations in Biomedical Applications," Abbott Laboratories, Abbott Park, IL, January 1998.

6. "Kinetics and Structural Evolution of Nonideal Networks," CibaVision, Duluth, GA, January 1998.

5. "Novel Polymers for the Repair of Cartilage," Plastic Surgery Grand Rounds, Massachusetts General Hospital, Boston, MA, October 1997.

4 "A New Class of Photopolymerizable, Surface Eroding Polymers for Medical Applications," Surfaces in Biomaterials, Minneapolis, MN, September 1997.

3. "Teaching Graduate Students to Teach," American Society for Engineering Education Chemical Engineering Summer School, Snowbird, UT, August 1997.

2. "Photopolymerizations in Biomedical Engineering," Department of Chemical Engineering, Colorado School of Mines, April 1997.

1. "Biodegradable Polyanhydride Glasses: High-Strength, Surface-Eroding Polymers," Bio'96 International Biotechnology Meeting and Exhibition, Philadelphia, PA, June 1996.

PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS

246. "Flipping the Switch: Engineering Cell-instructive Microenvironments with Photo-activatable ``Caged'' Peptides," Materials Research Society, San Francisco, CA, April 2012.

245. "Probing tumor cell migration, growth, and invasion using a synthetic 3D extracellular matrix based on thiol-ene photopolymerization to control the microenvironment," Materials Research Society, San Francisco, CA, April 2012.

INSERT TALKS FROM FRPA: Gordon Conferences, Keystone Conferences, AIChE, BMES, ACS

244. "Cell-cell communication mimicry with PEG hydrogels for enhancing beta-cell function," Society for Biomaterials, Orlando, FL, April 2011.

243. "Controlled reaggregation of pancreatic β-cells promotes viability and functional expression," Society for Biomaterials, Orlando, FL, April 2011.

242. "Extracellular matrix proteins mediate osteogenic differentiation of human mesenchymal stem cells on phosphate functionalized gels through integrin mediated focal adhesion kinase signaling," Society for Biomaterials, Orlando, FL, April 2011.

241. "Sequestration of endogenous TGF-β for directed differentiation of mesenchymal stem cells," Society for Biomaterials, Orlando, FL, April 2011.

240. "Photoreversible patterning of biomolecules within 3D click gels," Society for Biomaterials, Orlando, FL, April 2011.

239. "Photodegradable microparticles for spatiotemporal control of growth factor delivery," Society for Biomaterials, Orlando, FL, April 2011.

238. "In situ property control of step- and chain-growth PEG hydrogels via photolytic degradation," Australasian Polymer Symposium, Coffs Harbour, Australia, February 2011.

237. "Photoclick: Spatial and temporal control of the alkyne-azide reaction," Australasian Polymer Symposium, Coffs Harbour, Australia, February 2011.

236. "Cytocompatible click-based hydrogels with dually tunable properties through orthogonal photocoupling and photodegradation reactions," Australasian Polymer Symposium, Coffs Harbour, Australia, February 2011.

235. "Two-photon irradiation of photoresponsive hydrogels to control cell-material interactions," Australasian Polymer Symposium, Coffs Harbour, Australia, February 2011.

234. "Biomimetic strategy to enhance cell communication and survival in PEG hydrogels," TERMIS-NA, Orlando, FL, December 2010.

233. "In situ manipulation of microenvironment modulus to examine its influence on cell fate," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2010.

232. "Control of synthetic ECM context to direct cell morphology and cell adhesion in 2D and 3D," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2010.

231. "Photodegradable, photoadaptable hydrogels vis radical-mediated disulfide scission and thiol-ene click reactions," American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 2010.

230. "miRNA-based tissue engineering: using miRNA mimics and inhibitors to induce osteogenesis," 4th RNA Stability Meeting, Montreal, Canada, October 2010.

229. "Spatiotemporal control of cell-ECM interactions with photoactive PEG hydrogels," GRC on Signal Transduction By Engineered Extracellular Matrices, Biddenfor, ME, June 2010.

228. "Tethering TGF-β1 to the surface of hydrogels to reduce local dendritic cell activation," GRC on Signal Transduction By Engineered Extracellular Matrices, Biddenfor, ME, June 2010.

227. :Prediction of collagen and glycosaminoglycan content by acoustic microscopy," Society for Biomaterials, Seattle, WA, April 2010.

226. "Growth and differentiation of human mesenchymal stem cells in polymer-peptide hydrogels that undergo cell-mediated degradation," Society for Biomaterials, Seattle, WA, April 2010.

225. "Controlled release of bioactive transforming growth factor beta 1 form affinity peptide hydrogels," Society for Biomaterials, Seattle, WA, April 2010.

224. "Surface-initiated photopolymerization to fabricate functionalized coatings which provide local t cell immunosuppression," Society for Biomaterials, Seattle, WA, April 2010.

223. "Controlled Reaggregation of Pancreatic β-Cells in PEG-based Microwells," Society for Biomaterials, Seattle, WA, April 2010.

223. "Phototunable Click-based Hydrogels for 3D Cell Encapsulation and Manipulation," Society for Biomaterials, Seattle, WA, April 2010.

222. "Regulating Local Inflammation in Poly(ethylene glycol) Hydrogels for Encapsulation of Vascular Endothelial Cells," Society for Biomaterials, Seattle, WA, April 2010.

221. "Extracellular Matrix Expression by Valvular Interstitial Cells on Peptide Functionalized PEG Hydrogels," Society for Heart Valve Disease, Hilton Head, SC, March 2010.

220. "Global effects of TGF-beta1 on porcine valvular interstitial cells," Society for Heart Valve Disease, Hilton Head, SC, March 2010.

219. "Phototunable hydrogels for external manipulation of cell microenvironments," 11th Pacific Polymer Conference, Cairns, Australia, December 2009.

218. "Photodegradable Hydrogels to Investigate the Effect of the Network Structure on Encapsulated Cell Function," Materials Research Society, Boston, MA, December 2009.

217. "Bioorthogonal Click Chemistries for Synthesizing and Patterning the 3D Cell Niche," Materials Research Society, Boston, MA, December 2009.

216. "A Synthetic Strategy for Mimicking the Extracellular Matrix Provides a New Tool for Studying Cancer Biology," Materials Research Society, Boston, MA, December 2009.

215. "In Situ Control of Hydrogel Modulus with Light to Direct Cell Phenotype," American Institute of Chemical Engineers Annual Meeting, Nashville, TN, November 2009.

214. "Controlling the Availability of Cytokine/Chemokine with Peptide-Functionalized Affinity Hydrogels to Regulate Local Inflammation," American Institute of Chemical Engineers Annual Meeting, Nashville, TN, November 2009.

213. "Valvular Interstitial Cell Myofibroblastic Differentiation is Directed by Substrate Elasticity," 6th Biennial Meeting of the Society for Heart Valve Disease, Berlin, Germany, June 2009.

212. "Ob-cadherin, A Novel Cell Surface Marker for Valvular Myofibroblasts," 6th Biennial Meeting of the Society for Heart Valve Disease, Berlin, Germany, June 2009.

211. "Pravastatin Inhibition of Valvular Interstitial Cell Calcific Nodule Formation is Mediated through Prevention of Myofibroblast Differentiation," 6th Biennial Meeting of the Society for Heart Valve Disease, Berlin, Germany, June 2009.

210. "An Instrumented Bioreactor for Cartilage Tissue Engineering," Society for Biomaterials, San Antonio, TX, April 2009.

209. "Antibody-functionalized Polymer Surfaces for Local T Cell Immunosuppression," Society for Biomaterials, San Antonio, TX, April 2009.

208. "Enzyme-Responsive, Thiol-ene Hydrogels for Local Therapeutic Delivery at Sites of Inflammation," Society for Biomaterials, San Antonio, TX, April 2009.

207. "Effect of acid and sulfate functional groups on chondrogenic differentiation of mesenchymal stem cells," Society for Biomaterials, San Antonio, TX, April 2009.

206. "Spatial Patterning of Structural Properties in a Photodegradable PEG-Based Hydrogel for Cell Culture," Society for Biomaterials, San Antonio, TX, April 2009.

205. "Controlling Affinity Binding in Poly(ethylene glycol) Hydrogels for Sustained Growth Factor Delivery," Society for Biomaterials, San Antonio, TX, April 2009.

204. "*In Vivo* Evaluation of Enzymatically Degradable Thiol-ene Hydrogels Formed *in situ* Designed to Promote and Accelerate the Natural Wound Healing Response," Society for Biomaterials, San Antonio, TX, April 2009.

203. "Sequential Click Reactions for Synthesizing and Patterning 3D Cell Microenvironments," Society for Biomaterials, San Antonio, TX, April 2009.

202. "Glucagon-like Peptide-1 Immobilized Bioactive PEG Hydrogels to Promote Cell Function," Tissue Engineering Regenerative Medicine International Society Meeting, San Diego, CA, December 2008.

201. "Cell and Matrix Elasticity Effects on Cell Adhesion, Orientation, Self-Assembly and Differentiation," 8th World Biomaterials Conference, Amsterdam, The Netherlands, May 2008.

200. "Controlled Photolytic Degradation of PEG-based Hydrogel Surfaces to Examine the Effect of Stiffness on Valvular Interstitial Cells," 8th World Biomaterials Conference, Amsterdam, The Netherlands, May 2008.

199. "Participation of Cysteine in Radical Mediated Thiol-ene Photopolymerization for the Synthesis of Poly(ethylene glycol) Hydrogels," 8th World Biomaterials Conference, Amsterdam, The Netherlands, May 2008.

198. "Engineering Microporous Gelatin-Based Hydrogels for Three-Dimensional Cell Culture," 8th World Biomaterials Conference, Amsterdam, The Netherlands, May 2008.

197. "Designing a Synthetic Material with Extracellular Matrix Properties for the Delivery of Cells to Skin Wounds," 8th World Biomaterials Conference, Amsterdam, The Netherlands, May 2008.

196. "Three Dimensional Biochemical Patterning of Click-based PEGtide Hydrogels via Thiol-ene Photopolymerization," 3M, St. Paul, MN, April 2008.

195. "Photoresponsive PEG-based 3D Cell Culture Platforms," American Chemical Society, New Orleans, LA, April 2008.

194. "Photoresponsive PEG-based Hydrogels as Niches to Tailor Biochemical Cue Presentation for Tissue Engineering Applications," Materials Research Society, San Francisco, CA, March 2008.

193. "Controlled Enzyme Responsive Release from PEG Hydrogels for Local Therapeutic Delivery at Sites of Inflammation," Materials Research Society, San Francisco, CA, March 2008.

192. "Limits of Mechanical Stimulation for a PEG-CAP Hydrogel Scaffold Used for Tissue Engineered Cartilage," Biomedical Engineering Society, Los Angeles, CA, September 2007.

191. "Mechanical Properties of Degraded Bovine Knee Cartilage Characterized by High-Frequency Ultrasound," Biomedical Engineering Society, Los Angeles, CA, September 2007.

190. "Human Mesenchymal Stem Cells for Dermal Wound Healing," Biomedical Engineering Society, Los Angeles, CA, September 2007.

189. "Controlled photolytic degradation of PEG-based hydrogels to direct cell behavior," Biomedical Engineering Society, Los Angeles, CA, September 2007.

188. "Mesenchymal Stem Cells in Degradable Photopolymerizable Hydrogels for Tissue Engineered Cartilage," Biomedical Engineering Society, Los Angeles, CA, September 2007.

187. "Temporal Delivery of Adhesive Peptide Sequences to Maintain hMSC Survival and Initiate Chondrogenesis," Biomedical Engineering Society, Los Angeles, CA, September 2007.

186. "In Vitro Modeling of Stenotic Disease Progression in Valvular Interstitial Cells," Keystone Conference on Tissue Engineering & Developmental Biology, Snowbird, UT, March 2007.

185. "PEG-Peptide hydrogels designed to direct chondrogenic differentiation of hMSCs," Keystone Conference on Tissue Engineering & Developmental Biology, Snowbird, UT, March 2007.

184. "Epinephrine mediated stress response impairs burn wound healing," Keystone Conference on Tissue Engineering & Developmental Biology, Snowbird, UT, March 2007.

183. "Studying the Interactions Between Native Human Dermal Cells and Mesenchymal Stem Cells: Using Cell Biology as an Aid Towards Developing a Tissue Engineering Strategy for Improved Wound Healing," Keystone Conference on Tissue Engineering & Developmental Biology, Snowbird, UT, March 2007.

182. "Controlled Photolytic Degradation of PEG-based Hydrogels," Materials Research Society, San Francisco, CA, April 2007.

181. "Synthesis of poly(ethylene glycol)-co-peptide hydrogels by thiol-ene photoinitiated polymerization," Materials Research Society, San Francisco, CA, April 2007.

180. "Identifying chemical moieties to control hMSC differentiation using a high-throughput methodology and multifunctional hydrogels that promote osteogenic hMSC differentiation through stimulation and sequestering of BMP2," Society for Biomaterials, Chicago, IL, April 2007. (Outstanding PhD student award)

179. "Insulin Delivery from Genetically Modified Pancreatic Islets," American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 2006.

178. "Influencing Chondrogenic Differentiation of hMSC Photoencapsulated in PEG-Peptide Thiol-Methacrylate Mixed Mode Networks," American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 2006.

177. "Heparin-functionalized PEG hydrogels direct three-dimensional human mesenchymal stem cell osteogenic differentiation," American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 2006.

176. "Integrin Linked Kinase Production Prevents Anoikis in Human Mesenchymal Stem Cells," 2006 American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 2006.

175. "Islet-derived cell aggregates for encapsulation," American Institute of Chemical Engineers Annual Meeting, San Franciso, CA, November, 2006.

174. "A Multifunctional Pancreatic Islet Encapsulation Barrier Formed From Multi-layer Hydrogels," Biomedical Engineering Society Annual Meeting, Chicago, IL, October 2006.

173. "Controlled Release of Bioactive Hydrogel Components Enhances Encapsulated VIC ECM Production," Biomedical Engineering Society Annual Meeting, Chicago, IL, October 2006.

172. "Basic fibroblast growth factor: A critical signaling molecule in cardiac valve tissue engineering," Biomedical Engineering Society Annual Conference, Chicago, IL, October 2006.

171. "Vancomycin Derivative Photopolymerized to Titanium Kills *Staph. Epidermidis*," Society for Biological Engineering 2nd International Conference on Bioengineering and Nanotechnology, Santa Barbara, CA, September 2006.

170. "A Novel Antibacterial Polymer: Surface Modification of Ti-6A1-4V Orhopaedic Alloy," 16th Annual Open Scientific Meeting of the Musculoskeletal Infection Society, Lake Tahoe, CA, August 2006.

169. "A Novel Antibacterial Polymer: Surface Modification of Ti-6A1-4V Orthopaedic Alloy," 21st Annual National M.D./Ph.D. Student Conference, Keystone, CO, July 2006.

168. "Repression of Myofibroblast Differentiation in the Aortic Valvular Interstitial Cell by Basic Fibroblast Growth Factor," National MD/PhD Conference, Keystone, CO, July 2006

167. "Integrin Linked Kinase Production Prevents Anoikis in Human Mesenchymal Stem Cells," 2006 Signal Transduction by Engineered Extracellular Matrices Gordon Reseach Conference, New London, CT, July 2006.

166. "Genetic Modification of Encapsulated Pancreatic Islets for Insulin Delivery," Controlled Release Society Annual Meeting, Vienna, Austria, July 2006

165. "Biomaterials with Tunable Properties for Tissue Engineering," UCLA Bioengineering Symposium, Los Angeles, CA June 2006.

164. "Osteogenic Hydrogels for Controlled Differentiation of Human Mesenchymal Stem Cells," Australasian Society for Biomaterials 16th Annual Conference, Rotorua, New Zealand, February 2006.

163. "Modulating Myofibroblast Phenotype for Cardiac Valve Engineering," Australasian Society for Biomaterials 16th Annual Conference, Rotorua, New Zealand, February 2006.

162. "Synthesis and characterization of statin-releasing monomers for bone tissue engineering applications," Australasian Society for Biomaterials 16th Annual Conference, Rotorua, New Zealand, February 2006.

161. "Photopolymerized Hydrogels with Polycaprolactone Subunits for Cartilage Tissue Engineering: Enzymatic Degradation, Modeling, and Cell Encapsulation Studies," 28th Australasian Polymer

Symposium & Australasian Society for Biomaterials 16th Annual Conference, Rotorua, New Zealand, February 2006.

160. “Influence of cell-matrix interactions on encapsulated islet function”, Pancreatic Islets: Development to Transplantation, Keystone Symposia, Taos, NM, February 2006.

159. “Osteogenic Gels for Mesenchymal Stem Cell Delivery,” International Association for Dental Research, Brisbane, Australia, June 2006.

158. "Post-gelation Functionalization of Degradable Thiol-Ene Biomaterials," Materials Research Society, Boston, MA, December 2005.

157. “Photopolymerized Multilaminate Hydrogels for Tailored Drug Delivery,” Materials Research Society, Boston, MA, December 2005.

156. “Photodegradable Groups for Tunable Polymeric Materials” Pacifichem, Honolulu, HI, December 2005.

155. "Post-gelation Functionalization of Degradable Thiol-Ene Biomaterials," Materials Research Society, Boston, MA, December 2005.

154. "Heparin/PEG copolymerized hydrogels as an osteogenic niche for hMSCs," 3rd European Medical and Biological Engineering Conference, Prague, Czech Republic, November 2005.

153. "Manipulations in hydrogel degradation behavior enhance osteoblast function and mineralized tissue formation," American Institute of Chemical Engineers National Meeting, Cincinnati, OH, November 2005.

152. “Heparin functionalized hydrogels provide an osteogenic niche for hMSCs," Biomaterials/Tissue Engineering Gordon Research Conference, Plymouth, NH, August 2005.

151. "Photopolymeric Thiol-ene Biomaterials: Controlling Network Structure to Tune Degradation Behavior and Material Properties" Photopolymerization Fundamentals, Breckenridge, CO, June, 2005.

150. “Bioactive Hydrogel Barrier Membranes Provide Localized Immunosuppression for Encapsulated Pancreatic Islet Grafts”, AAPS National Biotechnology Conference, San Francisco, CA, June 2005.

149."Improving Encapsulated Beta-cell Viability Via Controlled Cell-material and Cell-cell Interactions," Society for Biomaterials, Memphis, TN, May 2005.

148. “Synthesis of Osteogenic Hydrogels for the Controlled Differentiation of hMSCs,” Aegean Conferences: Tissue Engineering, Crete, Greece, May 2005.

147. "Colocalization of RGD and PHSRN epitopes on PEG surfaces influences osteoblast function," Material Research Society, San Francisco, CA, March 2005.

146 "Colocalization of RGD and PHSRN epitopes on PEG surfaces influences osteoblast function," Student Annual Research Symposium, Boulder, CO, February 2005.

145. “Fundamental Studies of Degradable Thiol-Acrylate Photopolymeric Biomaterials as Tissue Engineering and Drug Delivery Scaffolds,” American Institute of Chemical Engineers National Meeting, Austin, TX, November 2004.

144. “Effect of Cell Environment on ECM Production and Gene Expression in Poly(ethylene glycol)/Chondroitin Sulfate Hydrogels,” American Institute of Chemical Engineers National Meeting, Austin, TX, November 2004.

143. “A rapid antigen detection assay using photografted whole antibodies,” American Institute of Chemical Engineers National Meeting, Austin, TX, November 2004.

142. "Application of Living Radical (Photo)polymerizations to Fabrication and Modification of Microfluidic Devices Formed from Crosslinked Networks," Polymer Networks IUPAC Meeting, Washington DC, August 2004.

141. "Thiol-ene and Thiol-acrylate Photopolymerizations: Unique Polymer Properties," Polymer Networks IUPAC Meeting, Washington DC, August 2004.

140. "Engineered Cartilage Development Using Pulsatile Bioreactors: Influence of Fluid Stress on Matrix Production," Polymer Networks IUPAC Meeting, Washington DC, August 2004.

139. "Thiol-acrylate Photopolymerizations: Controlled Network Evoluation," Polymer Networks IUPAC Meeting, Washington DC, August 2004.

138. "Synthetic Hydrogel Niches for 3D Cell Culture and Tissue Regeneration: The Role of Gel Architecture and Degradation," MACRO 2004, Paris, France, July 2004.

137. "Synthesis of Antimers for Photografting on Polymeric Surfaces using Living Radical Photopolymerization Techniques," 7th World Biomaterials Congress, Sydney, Australia, May, 2004.

136. "Examining Distributions of Molecules in Degradable Biomaterials with Confocal Microscopy," 7th World Biomaterials Congress, Sydney, Australia, May, 2004.

135. "Direct Imaging of Neural Cells in PEG Hydrogels: Factors Influencing Cell Survival, Proliferation, and Differentiation," 7th World Biomaterials Congress, Sydney, Australia, May, 2004.

134. "Osteogenic Differentiation of Human Mesenchymal Stem Cells Photoencapsulated in PEG Hydrogels," 7th World Biomaterials Congress, Sydney, Australia, May, 2004.

133. "The Characterization of Photocured Degradable PEG and Bisphenol A Proposylate Copolymers," 20th Annual Scientific Meeting of the Colorado Section, American Association for Dental Research," Denver, CO, February, 2004.

132. "Controlled Degradable Biomaterial Networks: Investigation of pH Gradient Formation in Networks Formed from Multifunctional Monomers Via Confocal Microscopy," Material Research Society Fall Meeting, Boston, MA, December, 2003.

131. "Living Radical Photopolymerizations for Constructing Polymeric 3D Microfluidic Devices with Spatially Controlled Grafted Functionalities," American Institute of Chemical Engineers National Meeting, San Francisco, CA, November, 2003.

130. "Novel Technologies for Three-Dimensional Polymeric Microsensors," American Institute of Chemical Engineers National Meeting, San Francisco, CA, November, 2003.

129. "Laser Scanning Confocal Microscopy as a Tool for Characterizing Diffusion in Crosslinked Polymer Networks," American Institute of Chemical Engineers National Meeting, San Francisco, CA, November, 2003.

128. "Hyaluronic Acid Hydrogels as a VIC Scaffold: Applications in Heart Valve Tissue Engineering," American Institute of Chemical Engineers National Meeting, San Francisco, CA, November, 2003.

127. "Encapsulation of Islets in Poly(Ethylene Glycol) Hydrogels: The Effects of Cell Aggregation and Gel Crosslinking Density on Beta-cell Function," American Institute of Chemical Engineers National Meeting, San Francisco, CA, November, 2003.

126. "Osteoblast Function and Expression in 2D and 3D Peg Hydrogels," Biomedical Engineering Society 2003 Annual Fall Meeting, Nashville, TN, October, 2003.

125. "Degradable Poly(2-Hydroxyethyl Methacrylate) Biomaterials: The Influence of Crosslinking Density on Network Properties," 226th American Chemical Society Meeting, New York, NY, September, 2003.

124. "Multifunctional Hyaluronic Acid Macromers for Photoencapsulating Valvular Interstitial Cells: Designing Gels with Turnable Properties," World Congress on Medical Physics and Biomedical Engineering 2003 Congress, Sydney, Australia, August, 2003.

123. "Modeling and Experimental Analysis of Particle Transport in Microfluidic Channels," Gordon Research Conference on The Physics and Chemistry of Microfluidics, Big Sky, MT, August, 2003.

122. "Manipulations in Hydrogel Chemistry Control Photoencapsulated Chondrocyte Behavior and Extracellular Matrix Production," 26th Australasian Polymer Symposium, Noosa, Australia, July, 2003.

121. "Degradable Crosslinked Copolymer Biomaterials Synthesized from Multivinyl Monomers," 26th Australasian Polymer Symposium, Noosa, Australia, July, 2003.

120. "Crosslinked Network Synthesis by Radical Chain Photopolymerization: Natural and Directed Evolution of Macromolecular Structure," Gordon Research Conference, Polymers East, South Hadley, MA, June, 2003.

119. "Biofluidic Transport and Molecular Recognition in Polymeric Microdevices," DARPA Principal Investigators' Meeting, Santa Barbara, CA, February, 2003.

118. "Modeling and Experimental Analysis of Particle Transport in Microfluidic Devices," 2003 AAAS Annual Meeting, Denver, CO, February, 2003.

117. "*In Situ* Forming Cell Gel Constructs: Monitoring Gel Degradation to Control Extracellular Matrix Evolution," 225th American Chemical Society National Meeting, Division of Polymeric Materials: Science and Engineering, New Orleans, LA, March, 2003.

116. "Photocrosslinkable Anhydride Monomers with Tailored Degradation and Mechanical Properties for Orthopaedic Applications," StAR Symposium, Boulder, CO, February, 2003.

115. "Altering Gene Expression of Chondrocytes Photoencapsulated in Hydrogels by Local DNA Delivery," 2003 Annual Meeting of the Society for Biomaterials, Reno, NV (abstract submitted).

114. "Controlled DNA Release from Photocrosslinked Polyanhydrides," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November 2002.

113. "Controlling the Architecture of Degradable, Photocrosslinked Hydrogels for Cartilage Tissue Engineering," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November 2002.

112. "Experimental Investigation of Heterogeneity in Thick Networks Formed by the Photoinitiated Polymerization of Divinyl Monomers," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November 2002.

111. "Coupling Modeling and GPC to Understand Chain Length Effects in Multivinyl Photopolymerizations of Degradable Networks," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November 2002.

110. "Engineering Design Approaches to Optimize Tissue Formation and Distribution by Osteoblasts Photoencapsulated in PEG Hydrogels," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November, 2002

109. "Photocrosslinkable Anhydride Monomers with Tailored Degradation and Mechanical Properties for Orthopaedic Applications," Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society, Houston, TX, October, 2002

108. "Controlling Mineralized Tissue Formation and Distribution by Osteoblasts Photoencapsulated in PEG Hydrogels," Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society, Houston, TX, October, 2002

107. "Modeling Release from Degradable PEG Hydrogels and Their Application in the Delivery of Osteoconductive Growth Factors," Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society, Houston, TX, October 2002.

106. "Designing Scaffolds for Valvular Interstitial Cells," Second Joint Meeting of the IEEE Engineering in Medicine and Biology Society and the Biomedical Engineering Society, Houston, TX, October 2002.

105. "Crosslinking Density Influences Chondrocyte Morphology and Metabolism in Mechanically Loaded PEG Hydrogels," World Congress on Biomechanics, Calgary, Canada, August 2002.

104. "Synthesis and Application of Multifunctional Lactide and Caprolactone Based Oligomers for Orthopaedic Tissue Engineering," American Chemical Society Fall Meeting, Boston, MA, August 2002.

103. "Poly([2-L-histidyl]ethyl Methacrylate): A Potential DNA Transfection Agent," American Chemical Society Fall Meeting, Boston, MA, August 2002.

102. "Photopolymerization of Poly(Vinyl Alcohol) and Poly (Ethylene Glycol) Based Macromers to Produce Crosslinked, Degradable Hydrogels with Controlled Transport Properties," American Chemical Society Fall Meeting, Boston, MA, August 2002.

101. "Modifying Photo-Crosslinked Networks with Living Free Radical Initiators," American Chemical Society Fall Meeting, Boston, MA, August 2002.

100. "3D-Microfluidic Devices Using Liquid Polymer Precursors," American Chemical Society Fall Meeting, Boston, MA, August 2002.

99. "Coupling GPC and Modeling to Investigate Kinetic Chain Lengths in Multivinyl Photopolymerized Degradable Networks," American Chemical Society Fall Meeting, Boston, MA, August, 2002.

98. "Photoencapsulation of DNA in Crosslinked PEG Hydrogels," 29th Annual Meeting of the Controlled Release Society, Seoul, Korea, July 2002.

97. "Crosslinked Degradable Polymer Microparticles for Drug Delivery Applications," 29th Annual Meeting of the Controlled Release Society, Seoul, Korea, July 2002.

96. "Controlled Delivery of Osteoconductive Growth Factors from Injectable and Degradable PEG Hydrogels," Controlled Release Society Annual Meeting, Seoul, Korea, July, 2002.

95. "Photopolymerizable Poly(Vinyl Alcohol) Gels," Industry/University Cooperative Research Center on Fundamentals and Applications of Photopolymerization Conference, Breckenridge, CO, June 2002.

94. "Multifunctional Degradable Hydrogels: Poly (Vinyl Alcohol) Based Macromers," Photopolymerization Fundamentals Conference, Breckenridge, CO, June 2002.

93. "Photocurable Lactic Acid Based 3-D Scaffolds: Evaluation in a Critical-Sized Calvarial Defect in Rats," Society for Biomaterials Annual Meeting, Tampa, FL, April, 2002

92. "Developing Cell Scaffolds for Tissue Engineering Cartilage using Degradable Photocrosslinked PEG Hydrogels," Society for Biomaterials Annual Meeting, Tampa, FL, April 2002.

91. "*In Vivo* Photopolymerization of Degradable Polyanhydride Networks in a Tibia Defect," Orthopaedic Research Society Annual Meeting, Dallas, TX, February, 2002.

90. "Modeling and Experimental Characterization of Degradable Poly(Vinyl Alcohol) Tissue Scaffolds," Materials Research Society Fall Meeting, Boston, MA, November 2001.

89. "Development of *In Situ* Forming 3-D Lactic Acid Based Polymer Scaffolds for Bone Tissue Engineering," Materials Research Society Fall Meeting, Boston, MA, November 2001.

88. "An *In Vivo* Investigation of Chondrocyte ECM Production in Photocrosslinked, Degradable PEG Hydrogels," Annual Fall Meeting of the Biomedical Engineering Society, Durham, NC, October 2001.

87. "Synthesis and Application of Multifunctional Lactide and Caprolactone Based Oligomers for Orthopaedic Tissue Engineering," American Chemical Society National Meeting, Chicago, IL, August, 2001.

86. "Mechanisms to Protect DNA from Radical Damage During Photoencapsulation," Annual Fall Meeting of the Biomedical Engineering Society, Durham, NC, October 2001.

85. "Guided ECM Evolution and integration of Engineered Cartilage using Photocrosslinked PEG-Hydrogels," Annual Fall Meeting of the Biomedical Engineering Society, Durham, NC, October 2001.

84. "Photopolymerized Coatings and Surface Modifications," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

83. "Characterization of Valve Cells and their Interactions with a Poly(vinyl alcohol) Scaffold," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

82. "Synthesis and Characterization of Degradable Poly(vinyl alcohol) Hydrogels," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

81. "Degradation Kinetics Influence ECM Production of Photoencapsulated Chondrocytes in PEG-based Hydrogels," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

80. "Photopolymerized Coatings and Surface Modifications," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

79. "Synthesis and Application of Multifunctional Lactide and Caprolactone Based Oligomers for Orthopaedic Tissue Engineering," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

78. "A Methodological Investigation on the Preparation of Micropatterned Polymer Layers Based on Photoiniferter-Mediated Grafting Polymerization," American Chemical Society Fall Meeting, Chicago, IL, August 2001.

77. "Osteoconductivity and Biocompatibility of Lactide Based *In Situ* Forming Networks for Orthopaedic Applications," Society for Biomaterials Annual Meeting, Minneapolis, MN, April 2001.

76. "Tissue Engineering of the Aortic Heart Valve: A Cell Biology Approach," Society for Biomaterials Annual Meeting, Minneapolis, MN, April 2001.

75. "Tailoring the Architecture of Degradable Photocrosslinkable Poly(ethylene oxide) Hydrogels for Tissue Engineering Cartilage," Society for Biomaterials Annual Meeting, Minneapolis, MN, April 2001.

74. "Modeling the Degradation of Hydrogels Formed from Multi-Functional Macromers," Society for Biomaterials Annual Meeting, Minneapolis, MN, April 2001.

73. "A Novel Process for Forming Crosslinked Degradable Microparticles for use in Drug Delivery," Society for Biomaterials Annual Meeting, Minneapolis, MN, April 2001.

72. "Photopolymerizable PVA and Chondroitin Sulfate Hydrogels for Cartilage Tissue Engineering," Society for Biomaterials Annual Meeting, Minneapolis, MN, April 2001.

71. "Photopolymerization and Compressed Antisolvent Processing of Crosslinked Degradable Microparticles for Drug Delivery," American Institute of Chemical Engineers 2000 Fall Meeting, Los Angeles, November 2000.

70. "Characterization of Highly Crosslinked Network Structure: Results from Scanning Probe Microscopy and Off-Lattice Simulation," American Institute of Chemical Engineers 2000 Fall Meeting, Los Angeles, November 2000.

69. "Surface Modification of Poly(Vinyl Alcohol) Hydrogels Promotes Cell Adhesion," Biomedical Engineering Society Annual Meeting, Seattle, WA, October 2000.

68. "Multifunctional PLA Oligomers as an *In Situ* Forming Orthopaedic Biomaterial," Biomedical Engineering Society Annual Meeting, Seattle, WA, October 2000.

67. "Gel Properties Influence Extracellular Matrix Formation in Chondrocytes Photoencapsulated in Poly(ethylene oxide) and Poly(vinyl alcohol) Hydrogels," Biomedical Engineering Society Annual Meeting, Seattle, WA, October 2000.

66. "*In Situ* Forming Polymeric Biomaterials," American Chemical Society 2000 Fall Meeting, Washington, DC, August 2000.

65. "Preparation of Photopolymerizable Hydrogels for Cartilage Tissue Engineering," Colorado Biotechnology Symposium, Ft. Collins, CO, September 2000.

64. "Photocurable Polyanhydrides Engineered for Orthopaedic Applications"" American Chemical Society 2000 Fall Meeting, Washington DC, August 2000.

63. "Microgel Formation in Highly Crosslinked Polymers: Simulated and Experimental Results," American Chemical Society 2000 Fall Meeting, Washington DC, August 2000.

62. "Attachment of Proteins to Poly(vinyl alcohol) for Biomedical Applications," American Chemical Society 2000 Fall Meeting, Washington DC, August 2000.

61. "Predicting Degradation Behavior of PLA-b-PEG-b-PLA Hydrogels," American Chemical Society 2000 Fall Meeting, Washington DC, August 2000.

60. "UV-Induced Radical Grafting of Hydrophilic Monomers from Dithiocarbamated Polymer Surfaces," American Chemical Society 2000 Fall Meeting, Washington DC, August 2000.

59. "*In vitro* Formation of Neocartilage in Photocrosslinked Poly(ethylene oxide) Hydrogels," World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 2000.

58. "*In Situ* Forming Poly(ethylene oxide) and Poly(vinyl alcohol) Hydrogels for Cartilage Tissue Engineering," World Polymer Congress, IUPAC Macro 2000, Warsaw, Poland, July 2000.

57. "Predicting Degradation Behavior of PEG-*b*-PLA hydrogels," World Polymer Congress, IUPAC Macro 2000, Warsaw, Poland, July 2000.

56. "Photografting on Crosslinked Polyanhydride Surfaces to Control Degradation and Enhance Biocompatibility for Orthopaedic Applications," Sixth World Biomaterials Congress, Kamuela, HI, May 2000.

55. "Predicting the Release Behavior of High Molecular Weight Solutes From Degradable Poly(Ethylene Glycol)-Based Networks," North American Membrane Society, Boulder, CO, May 2000.

54. "*In Situ* Forming Polymeric Biomaterials," American Chemical Society Meeting, San Francisco, CO, March 2000.

53. "Space-based Simulation of Structural Evolution in Crosslinked Polymers," American Physical Society, Minneapolis, MN, March 2000.

52. "Photografting on Crosslinked Polyanhydride Surfaces to control Degradation and Enhance Biocompatibility for Orthopaedic Applications," Society for Biomaterials World Congress, Kamuela, Hawaii, May 2000.

51. "Photocurable Collagen for Tissue Engineering Applications," American Institute of Chemical Engineers 1999 Fall Annual Meeting, Dallas, TX, November 1999 (1st Place Award).

50. "Impact of Polymerization Kinetics on Degradation Behavior of Hydrogels," American Institute of Chemical Engineers 1999 Fall Meeting, Dallas, TX, November 1999.

49. "Controlling Degradation Behavior in Photocrosslinked Polyanhydride Biomaterials," American Institute of Chemical Engineers 1999 Fall Meeting, Dallas, TX, November 1999.

48. "Compressed Antisolvent Processing and Photopolymerization of Crosslinked Polymer Microparticles," Supercritical Fluids in Materials Processing and Synthesis, Davos, Switzerland, September 1999.

47. "Photocrosslinkable Poly(ethylene oxide) and Poly(vinyl alcohol) Hydrogels for Tissue Engineering Cartilage," Annual Fall Meeting of the Biomedical Engineering Society, Atlanta, GA, October 1999.

46. "Optimization of Synthetic Hydrogel Biomaterials through Control of Microstructure," Annual Fall Meeting of the Biomedical Engineering Society, Atlanta, GA, October 1999.

45. "Modes for Controlling the Degradation and *In Vivo* Biocompatibility of a Novel Class of *In Situ* Forming Polymers," 12th Annual Colorado Biotechnology Symposium, Boulder, CO, September 1999.

44. "Controlled Release Applications of Photopolymerized Microparticles Using Compressed Antisolvents," 12th Annual Colorado Biotechnology Symposium, Boulder, CO, September 1999.

43. "Fundamental Studies of Biodegradable Hydrogels as Cartilage Replacement Materials," 36th Annual Rocky Mountain Bioengineering Symposium, Copper Mountain Resort, CO, April 1999.

42. "Fundamental Studies of Biodegradable Hydrogels as Cartilage Replacement Materials," Materials Research Society 1999 Spring Meeting, San Francisco, CA, April 1999.

41. "*In Situ* Transdermal Photopolymerization of Hydrogels," Society for Biomaterials, Providence, RI, April 1999.

40. "Nonuniform Initial Concentration Profiles in Photolaminated Devices for Controlled Release," 26th International Symposium on Controlled Release of Bioactive Molecules, Boston, MA, June 1999.

39. "Photocrosslinked Polyanhydrides as an *In Vivo* Polymerizable Biomaterial," Materials Research Society 1999 Spring Meeting, San Francisco, CA, April 1999. (Outstanding Graduate Student gold medalist award)

38. Photopolymerizable Poly(Vinyl Alcohol) Gels," Materials Research Society 1999 Spring Meeting, San Francisco, CA, April 1999.

37. "Photopolymerization of Poly(Vinyl Alcohol) Hydrogels to Tissue Engineer Cartilage," American Institute of Chemical Engineers 1998 Fall Annual Meeting, Miami Beach, FL, November 1998.

36. "Photopolymerization of Polymer Microparticles Using Compressed Antisolvents for Use in Controlled Release Applications," 26th International Symposium on Controlled Release of Bioactive Molecules, Boston, MA, June 1999.

35. "The Effects of Crosslinking Density on Cartilage Formation in Photocrosslinkable Hydrogels," 36th Annual Rocky Mountain Bioengineering Symposium, Copper Mountain Resort, CO, April 1999. (2nd place award)

34. "Tissue Engineering of Cartilage in Poly(Vinyl Alcohol) Hydrogels," American Institute of Chemical Engineers 1998 Fall Annual Meeting, Miami Beach, FL, November 1998.

33. "Photopolymerizable, Crosslinkable Polyanhydrides for Orthopedic Applications," American Institute of Chemical Engineers 1998 Fall Annual Meeting, Miami Beach, FL, November 1998 (3rd Place Award).

32. "Polyanhydrides: A New Class of Surface Eroding and High Strength Biopolymers," Colorado Biotechnology Symposium, Fort Collins, CO, September 1998.

31. "Optimization of Concentration Profiles in Polymer Matrices for Controlled Release," American Chemical Society 1998 Fall Meeting, Boston, MA, August 1998.

30. "Characterization of Multifunctional Monomers that Produce Highly Crosslinked, Degradable Networks," American Chemical Society 1998 Fall Meeting, Boston, MA, August 1998.

29. "Transdermal Photopolymerizations for Biomedical Applications," IUPAC Polymer Networks 98, Trondheim, Norway, June 1998.

28. "Novel Device for Three-Dimensional Scaffold Preparation," Society for Biomaterials, San Diego, CA, April 1998.

27. "Photopolymerized Multilayered Poly(HEMA) Hydrogels for Zero-Order Drug Release," American Institute of Chemical Engineers 1997 Fall Annual Meeting, Los Angeles, CA, November 1997.

26. "Photocrosslinkable Polyanhydride Networks for Use in Orthopedic Applications," American Institute of Chemical Engineers 1997 Fall Annual Meeting, Los Angeles, CA, November 1997.

25. "Photopolymerized, Biodegradable, and Crosslinked Polyanhydrides for Orthopedic Applications," American Institute of Chemical Engineers 1997 Fall Annual Meeting, Los Angeles, CA, November 1997.

24. "Monte Carlo Simulations of Chain Crosslinking Polymerizations," University of Colorado, Department of Physics, May 1997.

23. "Computer Simulations of Liquid-Crystalline Diacrylate Monomer Polymerizations," American

22. "Surface Eroding Polymer Networks For Biomedical Applications," IUPAC Polymer Networks 96, Doorn, The Netherlands, September 1996.

21. "Kinetics and Mechanisms of Multifunctional Monomer Photopolymerizations," American Chemical Society 1996 Fall Meeting, Orlando, FL, August 1996.

20. "Photopolymerization of Novel Degradable Networks for Orthopedic Applications," American Chemical Society 1996 Spring Meeting, New Orleans, LA, April 1996.

19. "Kinetics of UV Polymerization of Acrylic Acid," American Chemical Society 1996 Spring Meeting, New Orleans, LA, April 1996.

18. "Mucoadhesive PVA Hydrogels for Release of Wound Healing Drugs," 5th World Biomaterials Congress, Toronto, Canada, May 1996.

17. "Termination Kinetics During Crosslinking Photopolymerizations of Multifunctional Monomers," American Institute of Chemical Engineers 1995 Fall Annual Meeting, Miami Beach, FL, November 1995.

16. "Structural Evolution of Crosslinked Polymer Films," American Institute of Chemical Engineers 1995 Fall Annual Meeting, Miami Beach, FL, November 1995.

15. "Termination Mechanisms in Polymerizations of Multifunctional Monomers," Intersociety Polymer Conference, Baltimore, MD, October 1995.

14. "Photopolymerizations of Dimethacrylate Coatings: Kinetics and Volume Relaxation Effects," American Chemical Society 1995 Spring Meeting, Anaheim, CA, April 1995.

13. "Optimization of Comonomer Composition for Maximization of Monomer Conversion and Material Properties in Dental Restorative Materials," American Chemical Society 1995 Spring Meeting, Anaheim, CA, April 1995.

12. "Structural Evolution of Highly Crosslinked Polymer Networks," Materials Research Society 1994 Fall Meeting, Boston, MA, November 1994.

11. "Effects of Heterogeneity on the Polymerization of Multifunctional Monomers," American Institute of Chemical Engineers 1994 Fall Annual Meeting, San Francisco, CA, November 1994.

10. "Kinetics and Reaction Diffusion in Photopolymerizations of Multiethylene Glycol Dimethacrylates," American Institute of Chemical Engineers 1994 Fall Annual Meeting, San Francisco, CA, November 1994.

9. "Application of UV-Vis Spectroscopy to Determine Free Volume Distributions During Polymerization Reactions," American Chemical Society 1994 Fall Meeting, Washington, D.C., August 1994.

8. "Reaction Mechanisms and Network Structure in Multifunctional Monomer Polymerizations," IUPAC Polymer Networks 94, Prague, Czech Republic, July 1994.

7. "Monitoring the Microstructure of Crosslinked Networks with Photochromic Probes," American Physical Society 1994 Spring Meeting, Pittsburgh, PA, April, 1994.

6. "Reaction Behavior and Kinetics of Multifunctional (Meth)acrylate Photopolymerizations," American Chemical Society 1994 Spring Meeting, San Diego, CA, March 1994.

5. "Diffusion Effects on the Composition and Structure of Crosslinked Copolymers," American Institute of Chemical Engineers 1993 Fall Annual Meeting, St. Louis, MO. 1st place in the Materials Poster Session, Polymer Group, November 1993.

4. "Kinetics of Multifunctional Monomer Polymerizations," American Institute of Chemical Engineers 1993 Fall Annual Meeting, St. Louis, MO. 3rd place in the Student Poster Paper Session, Engineering Science and Fundamentals, November 1993.

3. "Free Volume Distributions during Photopolymerizations of Multifunctional Monomers," American Institute of Chemical Engineers 1993 Fall Annual Meeting, St. Louis, MO. 3rd place in the Student Poster Paper Session, Materials Engineering and Science, November 1993.

2. "Kinetic Gelation Model Predictions of Gel Point Conversions, Cyclization Rates, and Heterogeneity during Polymerizations of Tetrafunctional Monomers," American Chemical Society 1993 Spring Meeting, Chicago, IL, August 1993.

1. "Kinetic and Structural Aspects of Network Formation from Photopolymerized Multifunctional Acrylates and Methacrylates," American Institute of Chemical Engineers 1992 Fall Annual Meeting, Miami Beach, FL, November 1992.

GRANTS RECEIVED

Current external research funding:

NIH R01, NIDCR, "Osteogenic Hydrogel Niches to Promote hMSC Migration and Differentiation," (C.N. Bowman, co-PI), 12/10-11/15, $250,000 annual direct costs.

NSF, DMR, "Spatiotemporal Regulated Click Hydrogels for 3D Cell Culture," 9/10-8/13, $140,000 annual funding.

DOD, Peer Reviewed Orthopaedic Research Program (PRORP), "Improving Joint Function Using Photochemical Hydrogels for Articular Surface Repair," (co-PI with M. Gill, PI), 10/10 - 09/14, $70,000 annual direct costs (KSA portion).

NIH R21, NIAMS, "Engineering Tissue with miRNAs," 7/10-6/12, $112,500 annual direct costs.

NIH R01, NIDDK, "Bioactive Gels that Promote Long-Term Islet Survival and Function," (K.A. Haskins, co-PI), 1/08-12/12, $250,000 annual direct costs.

NIH R01, NHLBI, "Bioactive Hydrogel Niches for 3D VIC Culture," (L. A. Leinwand, co-PI), 3/08-2/13, $225,000 annual direct costs (competitive renewal submitted).

NIH R01, NCI, "Quantitative Analysis of Tumor Cell Migration in Three Dimensional Matrices," (co-PI with M. Zaman, PI), 9/1/08-8/31/12, $60,000 annual direct cost (KSA portion). (competitive renewal submitted)

Howard Hughes Medical Institute, Investigator, 8/00-8/15, $670,000 annual funding (plus 100% of salary support for KSA).

Pending external research funding:

NIH R01, NHLBI, "Effects of Nitric Oxide on the Aortic Valve," (co-PI with D. Heistad, PI), 6/1/12-5/31/17, $70,000 annual direct cost (KSA portion).

NIH R01, Director's Transformative Award Program, "Three-dimensional Phototunable Platform for Culture of Mammalian Nerve Cells," (PI with H. Wichterle), 9/1/12—8/31/17, $616,000 annual direct costs.

NSF, CBET, "Rheological characterization of cellulary remodeled hydrogel matrices," 12/1/12-11/30/15, $398,296 total cost.

Past external educational funding:

Department of Education, "Graduate Assistance in Areas of National Needs Programs (co-PI on Biological Engineering GAANN)," (co-PI with R.S. Davis; C.N. Bowman, PI), 9/04-8/08 ($175,000 annual funding)

Department of Education, "Graduate Assistance in Areas of National Needs Programs (co-PI on Micro and Nano-structured Materials GAANN)," (co-PI with R.H. Davis; C.N. Bowman, PI), 9/06-8/09

Past major external research funding:

NIH R01, NIAMS, "Online Monitoring and Control for Functional Cartilage Tissue Engineering with Hydrogels," (T. Quinn, co-PI, at NIST), 12/05-7/11, $220,000 annual direct costs.

NIH R01, "Photopolymerized Gels for Cartilage Tissue Engineering," (C.N. Bowman, co-PI), 8/99-7/08, $250,000 annual direct costs.

NSF, Waterman Award, "Biomaterials in Regenerative Medicine," 8/04-7/07, $166,666 annual direct costs.

American Heart Association Grant-in-Aid, "Tissue Engineering Heart Valves with VICs," 7/03-6/06, $60,000 annual direct costs.

NIH, P30, "Photopolymerization Methods to Encapsulate Islets," (co-PI with K. Haskins, PI), 8/02-9/04, $125,000 annual funding.

Dreyfus Foundation, "Camille Dreyfus Teacher-Scholar Award," 7/00-6/05, $60,000 total funding.

DARPA/AFSOR, "Biofluidic Transport and Molecular Recognition in Polymeric Microdevices," (Co-PI with C.N. Bowman; R.S. Davis, PI), 1/02-2/05, $395,000 annual funding.

NIH, R29 FIRST Award, "Novel Degradable Polymers for Orthopedic Application," 5/98-4/04, $120,000 annual direct costs.

NSF, CAREER Award, "Photocrosslinkable Polymers for Fracture Fixation," 4/98-3/02, $75,000 annual funding

Packard Foundation, "Packard Fellowship for Research in Science and Engineering," 11/97-10/02, $125,000 annual funding.

PROFESSIONAL SOCIETIES

American Institute of Chemical Engineers (AIChE)
American Institute of Medical and Biological Engineering (AIMBE)
American Chemical Society (ACS)
Materials Research Society (MRS)
Controlled Release Society (CRS)
Society for Biomaterials (SFB)

Society for Biological Engineering (SBE)
Biomedical Engineering Society (BMES)
Society for Developmental Biology (SDB)
American Association for the Advancement of Science (AAAS)

CHAIR OF MEETINGS AND SYMPOSIA

1. Organized and Co-Chairperson of Session, "Young Faculty Forum," AIChE Annual Meeting, Chicago, IL, November 1996
2. Co-Chairperson of Session, "Polymer Reaction Engineering," AIChE Annual Meeting, Los Angeles, CA, November 1997
3. Organized and Chairperson of Session, "Young Faculty Forum," AIChE Annual Meeting, Los Angeles, CA, November 1997
4. Organized and Co-Chairperson of Session, "Teaching Graduate Students to Teach," ASEE Chemical Engineering Summer School, Snowbird, UT, July 1997
5. Chairperson of Session, "Polymer Reaction Engineering" AIChE Annual Meeting, Miami Beach, FL, November 1998
6. Organized and Co-Chairperson of Session, "ACS Polymer Chemistry Award Symposium for Robert Langer," ACS Meeting, Anaheim, CA, March 1999
7. Chairperson of Session, "Polymer/Light Relationships," ACS Meeting, Anaheim, CA, March 1999
8. Chairperson of Session, "Polymer Synthesis," ACS Meeting, San Francisco, CA, March 2000
9. Chairperson of Session, "Biomolecular/Membrane Interactions and Drug Delivery," NAMS Meeting, Boulder, CO, May 2000
10. Chairperson of Session, "Orthopaedic Biomaterials," BMES Meeting, Seattle, WA, October, 2000
11. Organized and Co-Chairperson of Session, "Polymeric Biomaterials in Tissue Engineering," ACS Fall Meeting, Chicago, IL, August 2001
12. Organized and Co-Chairperson of Session, "Polymer Thin Films and Interfaces," AIChE Annual Meeting, Reno, NV, November 2001
13. Organizer and Co-Chairperson for Symposium, "Polymeric Biomaterials for Tissue Engineering," 5-sessions sponsored by the Whitaker Foundation and ARO, MRS Fall Meeting, Boston, MA, November 2001
14. Organizer and Co-Chairperson for Symposium, "Biomimetics," Society for Biomaterials 28th Annual Meeting, Tampa, FL, April 2002
15. Organizer and Co-Chairperson of Session, "Bioengineering," ASEE Chemical Engineering Summer School, Boulder, CO, July 2002
16. Co-Chairperson of Session, "Heart Valve Tissue Engineering," EMBS-BMES Meeting, Houston, TX, October 2002
17. Chairperson of Session, "Functionalized Surfaces and Nanocomposites," Gordon Research Conference—Polymers East, South Hadley, MA, June, 2003.
18. Chairperson of Session, "Designer materials," National Academy of Engineering, Frontiers of Engineering, Irvine, CA, September 2004.
19. Chairperson of Session, Howard Hughes Medical Institute Scientific Meeting, Chevy Chase, MD, May, 2004.
20. Organizer and Co-Chairperson for Topical Symposium, "Advances in Biomaterials, Bionanotechnology, Biomimetic Systems and Tissue Engineering," AIChE Annual Meeting, Austin, TX, November 2004.
21. Organizer and co-Chairperson for Symposium, "Biomaterials and Nanotechnology," Society for Biomaterials Annual Meeting, Nashville, TN, April 2005.
22. Co-Chairperson of Session, "Biomaterials in Nanotechnology," AIChE Annual Meeting, Cincinnati, OH, November 2005.
23. Meeting Chair, MRS Fall 2009 Meeting, Boston, MA, November 2009.
24. Chairperson of Session, "Polymer Delivery System for Tissue Regeneration," 13th Pacific Polymer Conference, Cairns, Australia, December 2009.

25. Frontiers of Engineering Program, Chair, National Academy of Engineering, September 2011 — present.
26. Steering Committee Member, "Biomaterials," NSF Workshop, Arlington, VA, June 2012 (co-authored written report on future challenges and opportunities for the field).

MEMBER OF FEDERAL REVIEW PANELS AND INVITED MEETING PARTICIPANT

1. National Science Foundation
   Proposal review panel, "Biomedical Engineering and Research to Aid the Disabled," Division of Bioengineering and Environmental Systems, June 1997
2. National Science Foundation
   Proposal review panel, "Biomedical Engineering and Research to Aid the Disabled," Division of Bioengineering and Environmental Systems, February 1998
3. National Science Foundation
   Invited speaker and participant, United States-Korea Biomedical Engineering Workshop and Symposium, Seoul, Korea, May 1998
4. National Academy of Engineering
   Invited participant, "Fourth Annual Symposium on Frontiers in Engineering," September 1998
5. JASON
   Invited speaker and participant, "Photopolymerizations in Bioengineering," Fall Annual Meeting, November 1998
6. National Institutes of Health
   Proposal review panel, "Biomimetics and Tissue Engineering in the Restoration of Craniofacial Tissues," June 1999
7. National Institutes of Health
   Proposal review panel, "Orthopaedics SBIR/STTR," July 1999
8. National Institutes of Health
   Proposal review panel, "Bioengineering Research Partnerships," November 1999
9. National Institutes of Health
   Proposal review panel, "Orthopaedics SBIR/STTR," December 1999
10. National Science Foundation
    Invited speaker and participant, United State-Germany Polymer Symposium, Chicago, IL, August 2000
11. TMJ Association
    Invited speaker and participant, 1st Meeting of the TMJ Association, Washington DC, May 2000
12. Food and Drug Administration, Center for Devices and Radiological Health
    Member of the Dental Products Panel of the Medical Devices Advisory Committee, October 2000 to present
13. National Institutes of Health
    Proposal review panel, NIAMS Special Emphasis Panel, November 2000
14. NASA
    Proposal review panel, "Cellular Biotechnology and Tissue Engineering," February 2001
15. National Institutes of Health
    Proposal review panel, "Orthopaedics SBIR/STTR," March 2001
16. National Institutes of Health,
    Proposal review panel, "Vaccines," July 2001
17. Ohio BRTT Review
    Proposal review panel, "Tobacco-related Research Program," April 2002
18. National Institutes of Health
    Proposal review panel, "Nephrology/Urology," November 2002
19. American Institute of Chemical Engineering
    Member of the Chemical Engineering Technology Operating Council, Nov. 2002 – Nov. 2005
20. National Institutes of Health
    Proposal review panel, "NIAMS Special Emphasis Panel," April, 2003

21. National Institutes of Health
Proposal review panel, "NIDCR Tissue Engineering Panel," April, 2003
22. National Institutes of Health
Proposal review panel, "NIAMS Special Emphasis Panel," May, 2003
23. Materials Research Society
Elected to the Board of Directors, October 2003 — December 2006.
24. Society for Biomaterials
Societal Alliance Committee and Awards Committee, May 2004 —May 2006.
25. Materials Research Society
Chair of the Planning Committee, January 2005- January 2007
26. National Institutes of Health
Proposal review panel, "Neurogenesis and Cell Fate Study Section," May 2004.
27. National Institutes of Health, NIBIB, January 2004 — June 2008.
Member of the Musculoskeletal Tissue Engineering Study Section
28. National Science Foundation
Proposal review panel, "Interfacial, Transport, and Thermodynamic," April 2005.
29. National Institutes of Health
Proposal review panel, "Nanomedicine Development Centers," August 2005.
30. National Research Council
National Science Foundation MRSEC Program Review Committee Member, August 2005 to January 2007.
31. National Institutes of Health, Molecular, Cellular and Developmental Neuroscience
Proposal review panel, "Neurogenesis and Cell Fate Study Section," October 2005.
32. National Institutes of Health, NHLBI
Nanobiotechnology Impact on Hematology and Cellular Therapeutics Meeting, September 2006.
33. Society for Biomaterials
Liaison Committee, October 2006 — December 2007.
34. Tissue Engineering and Regenerative Medicine International Society
North American Council Member, November 2005 — present.
35. Biomedical Engineering Society
Affiliations Committee Member, November 2006 — present.
36. National Institutes of Health, NIBIB
Chair of proposal review panel, "Bioengineering Research Grants," March 2007.
36. National Institutes of Health, Molecular, Cellular and Developmental Neuroscience
Proposal review panel, "Neurogenesis and Cell Fate Study Section," June 2007.
36. National Institutes of Health, NIAMS
Proposal review panel, "Arthritis and Musculoskeletal and Skin Diseases Special Grants Review" June 2007.
37. Purdue University, School of Chemical Engineering
Academic Advisory Board Member, January 2008 — December 2010
38. Tufts University, Department of Chemical Engineering
Advisory Board Member, January 2007 — December 2009
39. National Institutes of Health, NIBIB
Proposal review panel, "Enabling Technologies for Tissue Engineering and Regenerative Medicine," November 2008.
40 Air Forces Institute for Regenerative Medicine (AFIRM)
External advisory committee, January 2009 — present.
41. National Institutes of Health, NIBIB
Chair of Study Section, Musculoskeletal Tissue Engineering, October 2009 — present.
42. National Academy of Engineering
Fritz J. and Dolores H. Russ Prize selection committee, January 2010 — December 2013
43. National Science Foundation, DMR
Proposal review panel, "Biomaterials CAREER Panel," October 2010

44. National Science Foundation
    Alan T. Waterman Award Committee, June 2010 — May 2013
45. National Institutes of Health, NIDCR, May 2010 — April 2011
    Director Search
46. National Academy of Engineering
    United States Frontiers of Engineering Program, Chair, September 2011— September 2014
47. American Institute of Chemical Engineers, Awards Committee
    Member (2010-2011), Vice-Chair (2011-2013), Chair (2014-2016).
48. Acta Materialia
    Board of Governors, May 2011 — present.
49. National Institute of Health, NIBIB/NIAMS
    Program Review Committee, "Tissue Engineering Cartilage Repair", May 2011
50. AAAS, *Science Translational Medicine*
    Search Committee for the Chief Scientific Advisor, January 2011 — December 2011
51. National Academy of Engineering
    Ad hoc committee for Engineering Education Program and the Center for the Advancement of Scholarship on Engineering Education, May 2011-December 2011.
52. Institute of Medicine
    Planning Committee for Education of the Health Care & Science Workforce, February 2012-December 2012.

REVIEWER OF JOURNALS

Acta Biomaterialia
Advanced Biomaterials
Advanced Functional Materials
Advanced Materials
Angewandte Chemie
AIChE Journal
Biomacromolecules
Biomaterials
Biotechnology and Bioengineering
FASEB Journal
Integrative Biology
Journal of the American Chemical Society
Journal of Applied Polymer Science
Journal of Biomaterials Science-Polymer Edition
Journal of Biomedical Materials Research
Journal of Controlled Release
Journal of Heart Valve Disease
Journal of Pharmaceutical Sciences
Journal of Polymer Science-Polymer Chemistry
Journal of Polymer Science-Polymer Physics
Journal of Tissue Engineering and Regenerative Medicine
Langmuir
Liquid Crystals
Macromolecular Chemistry and Physics
Macromolecules
Nature
Nature Biotechnology
Nature Chemistry
Nature Materials
Nature Methods
Nanomedicine

PNAS
Polymer
Science
Science Translational Medicine
Soft Materials
Translational Science
Tissue Engineering

COURSES TAUGHT

Spring 2012: CHEN 4805, *Biomaterials*, 105 undergraduate students (Instructor Rating: 5.5/6.0, Department Rating: 4.9/6.0)

Spring 2011: CHEN 5838, *Polymer Physics*, 20 graduate students (Instructor Rating: 5.3/6.0, Department Rating: 5.0/6.0)

Fall 2009: GEEN 1400, Engineering Projects, 30 undergraduate students, interdisciplinary laboratory and lecture course (Instructor Rating: 5.4/6.0, Department Rating: 4.8/6.0).

Spring 2009: CHEN 5838, *Tissue Engineering*. 12 graduate students and 6 undergraduate students (Instructor Rating: 5.9/6.0, Department Average: 5.0/6.0).

Spring 2008: CHEN 4450/5550, *Polymer Chemistry*. 14 graduate students and 6 undergraduate students (Instructor Rating: 5.7/6.0, Department Average: 4.6/6.0).

Fall 2004: CHEN 1211, *General Chemistry for Engineers*. ~400 undergraduate students (Instructor Rating: 2.66/4.00, Department Average: 2.91/3.00).

Spring 2004: CHEN 5838, *Tissue Engineering*. 10 graduate students and 8 undergraduate students (Instructor Rating: 3.80/4.00, Department Average: 2.95/4.00).

Fall 2001: CHEN 5838, *Polymeric Biomaterials in Tissue Engineering*. 20 graduate students (Instructor Rating: 3.58/4.00, Department Average: 3.10/4.00).

Fall 2000: CHEN 4460/5460, *Polymer Engineering*. ~55 undergraduate students and ~15 graduate students (Instructor Rating: 3.59/4.00, Department Average: 3.16/4.00).

Spring 2000: CHEN 3200, *Chemical Engineering Fluid Mechanics*, ~50 undergraduate students (Instructor Rating: 3.73/4.00, Department Average: 3.24/4.00)

Spring 1999: CHEN 3200, *Chemical Engineering Principles I: Fluid Mechanics*, ~55 undergraduate students. (Instructor Rating: 3.84/4.00, Department Average: 3.31/4.00)

Fall 1998: CHEN 4838/5838, *Polymer Engineering*. ~10 undergraduate students and ~15 graduate students. (Instructor Rating: 3.81/4.00, Department Average: 3.35/4.00)

Fall 1997: CHEN 4450/5450, *Polymer Chemistry*. ~5 undergraduate students and ~15 graduate students. (Instructor Rating: 3.80/4.00, Department Average: 3.05/4.00)

Spring 1997: CHEN 3200, *Chemical Engineering Principles I: Fluid Mechanics*. ~50 undergraduate students. (Instructor Rating: 3.76/4.00, Department Average Instructor Rating: 3.22/4.00)

Fall 1996: CHEN 4440, *Chemical Engineering Materials*. ~65 undergraduate students. (Instructor Rating: 3.39/4.00, Department Average Instructor Rating: 3.06/4.00)

Spring 1995: CHEN 3200, *Chemical Engineering Principles I: Fluid Mechanics*. ~40 undergraduate students. (Instructor Rating: 3.85/4.00, Department Average Instructor Rating: 3.27/4.00)

PAST AND PRESENT ADVISEES

Graduate Students Supervised:

Jennifer S. Young (co-advised with C.N. Bowman), January 1996 — October 1998, Graduated with PhD Thesis, "Fundamentals of Crosslinking Photopolymerizations and Applications to Biomedical systems" (Staff scientist at Los Alamos National Laboratory).

Sanxiu Lu, January 1996 — January 1999, Graduated with PhD Thesis, "Controlled Drug Delivery From Photopolymerized Multilaminated Matrix Devices" (Instructor, Ming Zhou Hua Xia Chinese School, Eden Prairie, MN)

Dina C. Svaldi-Muggli, January 1996 — May 1997, Graduated with MS Thesis, "Development of Photocrosslinkable Biodegradable Polyanhydrides for Use in Orthopedic Applications" (Part-time instructor at the University of North Dakota).

Amy K. (Burkoth) Poshusta, January 1997 — July 2000, Graduated with PhD Thesis, "Synthesis and Characterization of *In Situ* Forming Polyanhydride Networks for Orthopaedic Applications," (Senior Scientist, QLT USA Inc, Fort Collins, CO).

Andrew T. Metters (co-advised with C.N. Bowman), January 1998 — August 2000, Graduated with PhD Thesis, "Investigation of Degradable Crosslinked Hydrogels: Prediction of Degradation Behavior" (Senior Staff Engineer, BD Medical, Bellirica, MA).

Stephanie J. Bryant, January 1998 — August 2002, Graduated with PhD Thesis, "Photocrosslinkable Hydrogels as Cell-Scaffolds for Tissue Engineering Cartilage: A Study Examining Gel Properties, Degradation, Mechanical Loading and Clinical Relevance" (Assistant Professor, University of Colorado, Chemical and Biological Engineering Department).

Penny J. Martens, January 1998 — December 2002, Graduated with PhD Thesis, "Hydrogel Synthesis from Multifunctional Poly(Vinyl Alcohol) Macromers: Experimental and Theoretical Approaches to Understanding Degrading Networks" (Research Assistant Professor, University of New South Wales, Australia).

Jennifer L. Owens (co-advised with T.W. Randolph), January 1998 — August 2002, Graduated with PhD Thesis, "Compressed Antisolvent Precipitation and Photopolymerization for the Formation of Crosslinked Polymer Microparticles Useful For Controlled Drug Delivery" (Law Associate with Birch, Horton, Bittner and Cherot, Anchorage, AK).

J. Brian Hutchison, January 1999 — May 2003, Graduated with PhD Thesis, "Crosslinked Network Synthesis by Radical Chain Photopolymerization: Natural and Directed Evolution of Macromolecular Structure" (Manager of Chemistry, RainDance, Boston, MA).

Jason A. Burdick, January 1999 — August 2002, Graduated with PhD Thesis, "Synthesis and Characterization of Osteoinductive Photocurable Scaffolds: A Tissue Engineering Approach to Enhance Bone Regeneration" (Associate Professor, University of Pennsylvania, Bioengineering Department).

Deborah J. Quick, January 2000 — December 2003, Graduated with PhD Thesis, "A Photopolymer Platform for Controlled Gene Delivery." (Process Development Scientist, GlobeImmune, Inc.)

Charles R. Nuttelman, January 2000 — May 2005, Graduated with PhD Thesis, "Osteogenic poly(ethylene glycol)-based hydrogels for 3D human mesenchymal stem cell culture and bone regeneration," (Senior Instructor, University of Colorado, Chemical and Biological Engineering Department).

Michelle Staben (co-advised with R.H. Davis), January 2000 — May 2005, Graduated with PhD Thesis, "Modeling and Experimental Characterization of Particle Transport in Polymer Microfluidic Devices." (Engineer, Glaxo Smith Kline, Research Triangle Park, NC)

Robert (Bobby) P. Sebra, (co-advised with C.N. Bowman), January 2002 — December 2005, Graduated with PhD Thesis, "Design and Application of Chemically and Biologically Active Surface Graft Architectures using Living Radical Photopolymerization Chemistry." (Surface Scientist, Pacific Biosciences, San Francisco, CA)

Andrew (Drew) W. Watkins, January 2001 — January 2006, Graduated with PhD Thesis, "Controlling and Characterizing Molecular Distributions in Hydrogels for Biomaterials Applications." (Staff Scientist, QLT USA, Inc., Fort Collins, CO)

Amber (Hofstad) Rydholm (co-advised with C.N. Bowman), January 2001 — May 2006, Graduated with PhD Thesis, "Photopolymeric Thiol-ene Biomaterials: Controlling Network Structure to Tune Degradation Behavior and Material Properties." (Process Engineer, Paxis Pharmaceuticals, Boulder, CO)

Mark A. Rice, January 2002 to May 2006, Graduated with PhD Thesis, "PEG-Based Hydrogels as Chondrocyte Carriers for Tissue Engineered Cartilage: Controlling Extracellular Matrix Evoluation and Integration with Native Cartilage." (Process Development Engineer, Ventria Bioscience, Junction City, KS).

Darshita (Dipa) Shah, January 2002 to December 2006, graduated with PhD Thesis, "Tailored Environments for the 3D Culture and Manipulation of Valvular Interstitial Cells." (Curriculum and Research Associate, Engineering is Elementary, Museum of Science, Boston, MA)

Kelly Macdonald, January 2003 — August 2004, graduated with MS Thesis. "Development of Gene Therapy Techniques for Use in Bone Tissue Engineering Applications." (Process Engineer, Amgen, Boulder, CO)

Laney (Philpott) Weber, January 2003 — December 2006, graduated with PhD Thesis, "Biologically Active PEG Hydrogel Microenvironments for Improving Encapsulated β-cell Survival and Function." (Operations Manager, Bioscience Writers, Houston, TX)

Danielle S.W. Benoit, January 2003 — December 2006, graduated with PhD Thesis, "Poly(ethylene glycol) Hydrogel Microenvironments with Bidirectional Signaling Mechanisms to Regulate Cell Function for Bone Tissue Engineering Applications." (Assistant Professor, University of Rochester)

Melinda C. Cushing, September 2003 – December 2006, MD/PhD student, graduated with PhD thesis, "Understanding and manipulating extracellular signals critical to the myofibroblast activation of valvular interstitial cells." (Associate Professor in Dermatology, Oregon Health and Science University)

Chelsea (Collins) Salinas, January 2004 – May 2008, graduated with PhD thesis, "Photoinitiated Thiol-Acrylate Polymerizations to Tailor PEG Microenvironments with Peptide Moieities to Direct Chondrogenic Differentiation of hMSCs." (Instructor, University of Pennsylvania)

MacKinley Lawson (co-advised with C.N. Bowman), August 2004 — May 2008, MD/PhD student, graduated with PhD thesis, "Structure-function relationships of polymerizable vancomycin derivatives for the antimicrobial surface modification of orthopedic biomaterials" (Radiology resident, University of Colorado at Denver)

Helen Simms (co-advised with C. N. Bowman), January 2003 – August 2008, graduated with PhD thesis, "Functionalized microfluidic devices for directing and monitoring cell-material interactions." (Process engineer, Hospira)

April M. Kloxin, January 2005 – January 2009, graduated with PhD thesis, "Photolabile hydrogels for dynamic tuning of physical and chemical properties to probe cell-cell and cell-material interactions." (Assistant Professor, University of Delaware)

Benjamin D. Fairbanks (co-advised with C.N. Bowman), January 2005 — December 2009, graduate with PhD thesis, "Photochemical reactions for functional biomaterials development: Thiol-ene and Thiol-yne photopolymerizations." (Postdoctoral Associate, CSIRO, Melbourne, Australia)

Julie A. Benton, January 2006 — June 2009, graduated with PhD thesis, "Soluble and microenvironmental factors that modulate myofibroblast and calcific differentiation of valvular interstitial cells" (Product Development, Edwards Life Sciences, Irvine, CA)

Alex A. Aimetti, January 2006 — August 2010, graduated with PhD thesis, "Synthetic peptide design for functionalized biomaterials: Development of cellular responsive drug delivery platforms and cyclic, multivalent peptide derivatives using radical-mediated thiol-ene/thiol-yne chemistries." (Staff Scientist, InVivo Therapeutics)

Cole A. DeForest, January 2007 — June 2011, doctoral student, "Phototunable Click-based Hydrogels for 3D Cell Culture: Dynamic Biochemical and Biomechanical Tailorability of the Cell Niche" (Postdoctoral Associate, CalTech)

Changjun (Celia) Xue, January 2007 — May 2008, graduated with MS thesis, "Screening material influences on mesenchymal stem cell differentiation using a microwarray methodology" (Research Scientist, Bristol-Myers Squibb)

Patrick Hume, August 2007 — April 2011, graduated with PhD thesis, MD/PhD student, "Improvement of the immunoisolation capacity of PEG hydrogels through bioactive modifications" (Completing MD degree)

Huan (Sharon) Wang, July 2007 — present, MCD Biology doctoral student, "Regulating the Myofibroblast Properties of Valvular Interstitial Cells"

Mark W. Tibbitt, January 2008 — August 2012, doctoral student, "Fundamental characterization of photodegradable hydrogels: Spatiotemporal control of the cellular microenvironment"

Abigail Banaszek Bernard, January 2008 — present, doctoral student, "ECM-mimetics for Improved β-cell Function"

Navakanth Gandavarapu, January 2008 — present, doctoral student, "Development of Material Arrays to Screen Cellular Interactions"

Joshua D. McCall, January 2008 — June 2012, graduated with PhD thesis, "Poly(ethylene glycol) based biomaterial platforms for guiding cell behavior through controlled presentation and release of bioactive, therapeutic proteins" (Process engineer, Novozymes NA)

Sarah (Trexler) Gould, January 2009 — present, doctoral student, "3D Culture Environments for Valvular Interstitial Cells"

Samir Singh, January 2010 — present, doctoral student, "FRET systems to monitor local property changes in cellularly responsive hydrogels"

Kelly Trowbridge Shekiro, January 2010 — present, doctoral student, "Promoting hydrogel niches for islet transplantation"

Emi Tokuda, January 2010 — present, doctoral student, "Thiol-ene hydrogels for probing mechanisms of cancer cell migration"

Kyle Kyburz, January 2010 — present, doctoral student, "Osteogenic gel niches for mesenchymal stem cell homing"

Chunyan Yang, May 2010 — present, Biochemistry doctoral student, "Peptide directed osteogenic differentiation of mesenchymal stem cells"

Kathryn (Katie) Lewis, January 2011 — present, doctoral student, "Phototunable cell culture niches"

Kelly Pollock, January 2011 — present, doctoral student, "Microarray analysis of the differences between the 2D versus 3D culture of VICS"

Daniel McKinnon, January 2011 — present, doctoral student, "Bio-orthogonal click gels for axon guidance of motor neuron"

Balaji Sridhar, July 2011 — present, MD/PhD student, "Chondrogenic polymer delivery vehicles"

Emily Matherly, January 2012 — present, doctoral student, "Expansion and neurogenic differentiation of mouse ES Cells in peptide functionalized gels"

M. Quinn Fleming, January 2012 — present, doctoral student, "Photodegradable microspheres for spatiotemporal delivery of neurotrophic factors"

Jiaju Shen, June 2012 — present, doctoral student, "Matricellular effects on cardiac myocyte and NFAT expression"

Postdoctoral Associates Supervised

Ning Luo, PhD, February 1999 — May 2001 (Director of Research & Development, BioBased Technologies).

Kelly Davis Arehardt, PhD, February 2001 — January 2004 (Staff scientist, Kimberly-Clark).

Kristyn Masters, PhD, November 2001 — November 2003 (Associate Professor, Univ. of Wisconsin).

Melissa Mahoney, PhD, December 2002 — December 2004. (Assistant Professor, Univ. of Colorado)

Brian Hutchison, PhD, August 2003 — August 2004 (Manager of Chemistry, RainDance)

Elizabeth Hedberg, PhD, July 2004 — July 2006. (Assistant Professor, Univ. of New Mexico)

Andrea Kasko, PhD, September 2004 — August 2006. (Assistant Professor, Univ. of California at Los Angeles)

Sirish Reddy, PhD, June 2005 — October 2006. (Research Scientist, Novellus, Portland, OR)

Jay Blanchette, PhD, June 2004 — July 2007. (Assistant Professor, Univ. of South Carolina)

Charles Cheung, PhD, January 2004 — April 2008. (Product Engineer, Abbott Labs)

Jennifer Recknor, PhD, September 2006 — May 2008. (Product Engineer, W.L. Gore)

Peter Mariner, PhD, June 2006 — July 2011. (Senior Staff Researcher, Univ. of Colorado)

Michael Schwartz, PhD, September 2006 — June 2010. (Research Assistant Professor, Univ. of Wisconsin)

Brian Polizzotti, PhD, October 2007 — December 2008 (Research Staff Scientist, GE Research).

Chien-Chi Lin, PhD, September 2007 — July 2010. (Assistant Professor, Indiana University - Purdue University Indianapolis)

Sarah Anderson, PhD, March 2008 — May 2011. (Research Scientist, Dharmacon)

April Kloxin, PhD, February 2009 — May 2011. (Assistant Professor, University of Delaware)

Ben Fairbanks, PhD, January 2010 — November 2010. (Postdoctoral Fellow, CSIRO, Melbourne)

Daniel Alge, August 2010 — present.

Alex Aimetti, September 2010 January 2011. (Postdoctoral Fellow, MIT)

Malar Azagarsamy, October 2010 — present.

Chelsea Magin Kirschner, January 2011 — present.

Kelly Schultz, May 2011 — present.

Alexei Kazantsev, January 2011 — May 2012. (Senior Scientist, Mosaic Biosciences)

Melissa Pope, May 2011 — present.

Mirza Peljto, July 2011 — August 2012.

Jennifer Leight, September 2011 — present.

William Wan, April 2011 — present.

Graduate and MD Students Supervised (Independent Study, Biotechnology Program Rotations, and MD Fellows):

Jeff Heyes (Chem. Eng., F96). Lori Pietrowziewski (Chem. Eng., F97), Heather Ferguson (Biochem., S98), Bill Wagner (Biochem., S97), Megan Bonner (MCD Biology, F98), Eric Pogue (MCD Biology, S99), Charlie Nuttelman (Chem. Eng., F99), Michelle Staben (Chem. Eng., F99), Aaron Heib (Biochem., S00), Allison O'Brian (Chem. Eng., F00), Amber Hofstad (Chem. Eng., F00), Suzanne Van Kreeveld (MCD Biology, S01), Mark Roedersheimer (MD, UCHSC, F01), Junhao Ge (F01), Mark Rice (F01),

Adrian Hinman (MD, Yale, F01&S02), Laney Philpott (F02), Danielle Benoit (F02), MacKinley Lawson (MSTP, UCHSC, Sum03), Melinda Cushing (MSTP, UCHSC, Sum03), Brennan Dodson (MD, UCHSC, Sum03), Chelsea Collins (F03), Sarah Velencio (Biochem, S03), Krista Hedberg (Biochem, S03), Amber Clausi (S03), Alexia Finetello (Chem. Eng., F04), April Kloxin (Chem. Eng., F04), Justin Kuczynski (MCD Biology, S05), Aaron Lynn (MSTP, UCHSC, Sum 05), Sara Pedron-Haba (Visiting Student from Madrid, Spain, Sum05, F05, Sum 06, F06), Cole DeForest (Chem. Eng., Sum06), Pat Hume (MSTP, UCHSC, Sum 06), Malie Shomali (Chem. Eng., F06), Meghana Rangan (Chem. Eng., F06), Matthew Hoehne (Chem. Eng., F06), Huan (Sharon) Wang (MCD Biology, F06-S07), Quan Yuan (Biochem, S07), Josh McCall (Chem. Eng., F07), Abigail Banaszek (Chem. Eng., F07), Navakanth Gandavarapu (Chem. Eng, F07), Sarah Trexler (Chem. Eng., F08), Adam Terella (MD, UCHSC, F08, S09), Cara Rahan (Biochem., S09), Brooke Johnson (Medical Student, UCHSC, Sum09), Kiran Dyamenahalli (MSTP, UCHSC, Sum09), Balaji Sridhar (MSTP, UCHSC, Sum09), Kelly Trowbridge (Chem. Eng, Sum09), Samir Singh (Chem. Eng, Sum09), Crystal Pulliam (MCD Biology, Fall 09), Chun Yang (Biochemistry, S10), George Myers (MSTP, UCHSC, Sum10), Gennevieve Park (MSTP, UCHSC, Sum10), Kelly Pollock (Chem. Eng., Sum10), Michael Bachman (Chem. Eng., F10), Cara Young (Bioengineering, University of New South Wales, Australia, S11), Justin Wubel (MD Fellow, CU-Denver, S11), Jacob Polaski (Biochem, S11), Huey Wen Ooi (Bioengineering and Nanotechnology, University of Queensland, Brisbane, Australia, Sum11), Emily Matherly (Chem. Eng., Sum11, F11), Kelsey Childress (Chem. Eng, F11), M. Quinn Fleming (Chem. Eng., F11)

Undergraduate Students Supervised (Independent Study, Senior Thesis, and Research):

Austin Healy (Sum11, REU student from UPittsburgh), Srinidhi J Radhakrishnan (S11-pres), Justin Lee (S10-pres), Lisa Sawicki (Sum10, REU student from UFlorida), Miguel Quevedo (Sum10, REU from UMiami), Jake Luoma (F10 – pres), Sarah Haeger (F09-S10, F10-pres), Nicole Darling (F10-pres), Lauren Perdue (S10-F10), Kristen Feaver (F09-S10, F10-pres), Mark Kissler (F09-S10), Bruce Han (Sum09-pres.), Emily Maginnis (F09-pres), Donna Kuntzler (Sum09-S10, F10-S12), Jhenya Nahreini (F09-pres), Kristina Fuerst (Sum09-S12), Erika Johannesen (S09-F10), Zachary Lakeman (Sum09-F09), Patrick Boyer (Sum09, REU from Vanderbilt), Kayla Culver (Sum 09, REU from Johns Hopkins), Lydia Everhart, (Sum09, BURST from UDayton), Amanda Jackson (F08-S09), Tyler Menge (F08-S10), Robert Rogers (F08-Sum09), Nick Alvey (S08-F09, Sum10-pres), Alexandra Machen (Sum08, REU student from UKansas), Caroline Szczepanski (Sum08, REU student from Lafayette College), Hanna Kern (Sum07-S09, REU student from CU, F07-F08), Daniel Cox (Sum07, REU student from WashingtonU), Sean Kessler (Sum07, REU student from Lehigh), Brad Harkarder (Sum07), Vani Vivekanandan (F08, Sum07, F07, Sum03), Greg Rocheleau (F06-S06), Brandon Downey (S06), Alexandra Zelinskaya (F06), Brook Cole (S05, Sum05, F05-F06), Suzanne McCartney (Sum06, F07-S08), Kevin Hoth (Sum06, F07-S08), Marielle Soniat (Sum06, REU student from LATech), Stephanie Nelson, (Sum06, REU student from CU), Ben Murphy (Sum06, REU student from Vanderbilt), Stephanie Ablowitz (Sum06, student from UMichigan), Evan Sims (S06-F08), Jonathan Fairbairn (S06), Jo-Tsu Liao (F05-Sum06), Victor Hsu (S06), Andrea Morin (S05-S06), B. Gian James (F05-Sum06), Nathan Johnson (F05-S06), Jonathan King (Sum 05, REU student from Kansas State), Emily Burdett (Sum05, REU student from UOklahoma), Nicole Held (Sum 05, student MCDB, UCB), Andrew Durney (S05 & Sum 05), Cole DeForest (Sum 05, REU student from Princeton), Stephanie Southard (S05, Sum05, F05-S06), Brook Cole (S06-Sum06), Stuart Collins (F04, Sum05, F05-S06), Christina Lopez (F04-Sum06), Mike Jaeggli (Sum04 & Sum05 & Sum06, student from Clemson), Alex Halevi (Sum04, F06, F07-S08), Alexis Wertz (Sum04-F04), Johannah Sanchez-Adams (Sum04, REU student from Duke), Alex Aimetti (Sum04, REU student from WPI), Dianne Dornbusch (Sum04, REU student from Texas A&M), Stephanie LaNasa (Sum04, REU student from UIowa), Sarah Recktenwall-Work (S03-F03, F04-S05, Sum05-Sum06), Stephanie Femino (S04), Jeff Kim (S04), Price Stark (S04), Kirsten Hayda (S04,S05,F05), Phillip Homier (S04,S05,Sum05,F05), Ben Lawrence (Sum03, REU student from OSU), Anders Berliner (Sum03, REU student from Case Western), Steven Beck (Sum03, REU student from CMU), Kyle Lampe (Sum03, REU student from U Missouri), Sean Langelier (Sum03-F03), Maggie Tripodi (S02-Sum06, F06-S07), Alex Lindquist (F01-S04), Emily Schneider (S00, F01-S02), Scott Henry (S01-S02), Mariah Mason (S00-S03), Janice Huang (S01-S02), Ryan Bender (Sum01-S02), Kristin Gardiner (Sum01, REU student from U-Conn), Jason Bara (Sum01, REU student from VCU), Chelsea Shields (F00-S01), Nate Martin (F00-S01),

Madalene Fetsch (S01), Tim Farris (S00), Rachel Niedner (S00), Jeffrey Arthur (Sum00, REU student from Rice Univ.), Laney Philpott (Sum00, REU student from Univ of Arkansas), Andrea Crapisi (Sum 00, REU student from Iowa State Univ), Sara Horton (S00), Alan Peterson (Sum99-S00), Mark Rice (Sum99, REU student from Univ. of Kansas), Cynthia Echevarria (Sum99, REU student from CMU), Shannon Smith, (Sum99, REU student from Univ. of S. Miss.), Erin O'Brien (Sum99, REU student from Mount Holyoke), Melinda Roskos (S99-present), Derek Mortisen (F98-S00), Charlie Nuttelman (F96-Sum99), Sarah Keyser (F96-S99), Kelly Gonzales (S98-S99), Kathryn Riddle (F98-present), Jessica Robinette (F97-S98), Chris Kloxin (S98-S99), Courtney Stotko (S98), Kyra Marciniak (Sum98, REU student from MIT), Caroline Parler (Sum98, REU student from Univ. of SC), Michael Wu (Sum98, REU student from NYU and Stevens Inst. of Tech.), Jennifer Terry (F96-S97), Lisa Dougan (F96-S97), Hyun Lee (S97), Michele Drexler (Sum97), Jennifer Engler (Sum97), Marc Kroll (Sum97), Matthew Lipscomb (Sum97, REU student from Clemson), Steve Fox (Sum97, REU student from CMU).