



**Langer Lab, MIT** Cambridge, MA  
*Undergraduate Research Assistant* June 2005 – June 2006

- Evaluated biodegradable cationic polymers for gene therapy to primary endothelial cells; results contributed to 2 publications.

**Industry Experience** **Biogen Idec** Cambridge, MA  
*Process Development Intern* June 2008 – August 2008

- Examined lot-to-lot differences in resin used in manufacturing process of Tysabri; results were presented to Biogen Idec process development research group.

**Advanced Electron Beams, Inc.** Wilmington, MA  
*Marketing Intern* June 2006 – September 2006

- Analyzed data for assessing viability of new market segment in volatile organic compound (VOC) destruction using low-voltage electron beam emitters; results were used by company to enter the market.
- Performed research into new markets by compiling data from government databases.
- Performed statistical analysis on five years of manufacturing metrology data of electron beam emitters to improve accuracy of manufacturing emitters.

**Teaching Experience** **Introduction to Molecular Bioengineering (BIOEN 357), UW** Seattle, WA  
*Teaching/Lab Assistant* March 2011 – June 2011

- Held lecture and discussion on laboratories in bacterial batch/fed-batch culture.
- Organized and led laboratories for forty-five undergraduate students.

**Controlled Release Systems (BIOEN 491), UW** Seattle, WA  
*Grader* March 2010 – June 2010

- Graded weekly homeworks, course presentations, and exams.

**Initiative for Maximizing Student Diversity (IMSD), UW** Seattle, WA  
*Teaching Assistant* June 2009 – August 2009

- Held lectures on molecular biology laboratory techniques to undergraduates.

**Chemical Engineering Department, MIT** Cambridge, MA  
*Tutor* February 2008 – May 2008

- Tutored undergraduate students in subjects of fluid mechanics, heat transfer, and chemical reactor engineering.

**Publications** Wang CK, Chan LW, Johnson RN, Chu DSH, **Shi J**, Schellinger JG, Lieber A, Pun SH. (2011) *HPMA-co-oligolysine copolymer-coated adenovirus efficiently transduce CAR-negative cells and are protected against neutralizing antibodies*. *Biomaterials*. *Accepted*.

**Shi J\***, Johnson RN\*, Schellinger JG, Carlson P, Pun SH. (2011) *Reducible HPMA-co-oligolysine copolymers for nucleic acid delivery*. *Int. J. Pharm.* *Accepted*.

\* Equally contributing author

Johnson RN, Chu DSH, **Shi J**, Schellinger JG, Carlson P, Pun SH. (2011) *HPMA-oligolysine copolymers for gene delivery: optimization of peptide length and polymer molecular weight*. *J. Control. Release*. *Accepted*.

Green JJ, Chiu E, Leshchiner ES, **Shi J**, Langer R, Anderson DG. (2007) *Electrostatic ligand coatings of nanoparticles enable ligand-specific gene delivery to human primary cells*. Nano. Lett. 7(4), p. 874-9.

Green JJ, **Shi J**, Chiu E, Leshchiner ES, Langer R, Anderson DG. (2006) *Biodegradable polymeric vectors for gene delivery to human endothelial cells*. Bioconjugate Chem. 17(5), p. 1162-1169.

**Posters/  
Presentations** **Shi J**, Johnson RN, Chou B, Pun SH. (2011, October) *HPMA-co-oligolysine-oligohistidine copolymers for nucleic acid delivery*. Poster presented at the annual meeting of the Biomedical Engineering Society, Hartford, CT.

**Shi J**, Chou B, Pun SH. (2011, May) *Quantification of intracellular polyplex distribution via subcellular fractionation techniques*. Poster presented at the annual meeting of the American Society of Gene & Cell Therapy, Seattle, WA.

**Activities** **Bioscience Careers Seminar Series**

*Committee Member*

- Invite speakers to speak to graduate students about non-academic career routes.
- Advertise seminars by distributing fliers and emails around campus.

**Engage Speaker Seminar Series**

*Director*

- Give presentations about graduate research aimed for the general public.
- Assist in the seminar series organization.

**MIT Educational Counselor**

- Interview high school students for admission to MIT.

**UW Department of Bioengineering Curriculum Committee**

*Graduate Representative*

- Attend monthly meetings to discuss issues pertaining to the undergraduate and graduate curriculum.
- Evaluate the graduate curriculum by conducting and compiling surveys of current students.

**UW Women's Initiative**

*Program Coordinator*

- Organize local visits to middle and high schools to encourage young women to pursue science and engineering.