Stephanie C. Weber

Princeton University
Chemical and Biological Engineering
321 Hoyt Laboratory, Princeton, NJ 08544
(609) 258-5731
scweber@princeton.edu
http://stephweber.net

Education

Ph.D. Biochemistry, Stanford University — 2011

B.S. Biology, B.S. Chemistry, *summa cum laude*, Duke University — 2006

Research Experience

Postdoctoral fellow with Cliff Brangwynne, Princeton University — 2011-present
An intracellular phase transition couples nucleolar size with cell size in early C. elegans *embryos*

Graduate student with Julie Theriot, Stanford University — 2007-2011
Macromolecular motion in vivo: *anomalous diffusion through an "active" viscoelastic medium*

Undergraduate student with Arno Greenleaf, Duke University — 2005-2006
FF Domains and the binding of PCAPs to the carboxy terminal domain of RNA polymerase II

Summer student with Kerry O'Banion, University of Rochester — 2004
The use of RNA interference to elucidate the role of mPGES-1 in PGE2 biosynthesis

Undergraduate student with Steve Haase, Duke University — 2003-2005
The effect of CLB6 on population doubling time in Saccharomyces cerevisiae

Honors, Awards and Fellowships

Damon Runyon Postdoctoral Fellowship — 2012 - present

Jane Coffin Childs Memorial Fund Postdoctoral Fellowship (declined) — 2012

Life Sciences Research Foundation Postdoctoral Fellowship (declined) — 2012

Bioengineering Outstanding Teaching Assistant Award — 2011

Harold M. Weintraub Graduate Student Award — 2011
National award recognizing outstanding achievement in graduate studies in the biological sciences

NSF Graduate Research Fellowship 2008-2011

Graduation with Distinction in Biology, Chemistry 2006

Faculty Scholar Award 2005
Highest honor bestowed upon a Duke undergraduate recognizing intellectual leadership and scholarly accomplishment

Phi Beta Kappa 2005

Deans' Summer Research Fellowship 2005

GEBS/NSF REU Summer Scholars Program 2004

Howard Hughes Research Fellows Program 2003

Publications

Weber, S. C., and Brangwynne, C. P. (2014) Inverse size scaling of the nucleolus by a concentration-dependent phase transition, *Current Biology*, Under Review.

Weber, S. C., and Brangwynne, C. P. (2012) Getting RNA and protein in phase, *Cell*, 149, 1188.

Weber, S. C., Thompson, M. A., Moerner, W. E., Spakowitz, A. J. and Theriot, J. A. (2012) Analytical tools to distinguish the effects of localization error, confinement and medium elasticity on the velocity autocorrelation function, *Biophysical Journal*, 102, 2443.

Weber, S. C., Spakowitz, A. J. and Theriot, J. A. (2012) Nonthermal ATP-dependent fluctuations contribute to the *in vivo* motion of chromosomal loci, *Proceedings of the National Academy of Sciences*, 109, 7338.

Weber, S. C., Theriot, J. A. and Spakowitz, A. J. (2010) Subdiffusive motion of a polymer composed of subdiffusive monomers, *Physical Review E* 82, 011913.

Weber, S. C. and Theriot, J. A. (2010) Mu gets in the loop, *Molecular Cell* 39, 1.

Weber, S. C., Spakowitz, A. J. and Theriot, J. A. (2010) Bacterial chromosomal loci move subdiffusively through a viscoelastic cytoplasm, *Physical Review Letters* 104, 238102.

Invited Talks

Weber, S. C. and Brangwynne, C. P. (2014) Nucleolar assembly and growth are governed by a concentration-dependent phase transition, *American Society for Cell Biology*, Annual Meeting.

Weber, S. C. and Brangwynne, C. P. (2014) Inverse size scaling of the nucleolus by a concentration-dependent phase transition, *Biophysical Society*, Disordered Motifs and Domains in Cell Control.

Weber, S. C. and Brangwynne, C. P. (2014) Nucleolar size and assembly is governed by a concentration-dependent phase transition, *Gordon Research Conference*, Post-Transcriptional Gene Regulation.

Weber, S. C., Spakowitz, A. J. and Theriot, J. A. (2010) ATP-dependent fluctuations drive macromolecular motion *in vivo*, *American Society for Cell Biology*, Annual Meeting.

Teaching/Mentoring Experience

Pedagogical training through the Teaching Transcript Program,
The McGraw Center, Princeton University — 2013 - present

Guest Lecturer, CBE533 Mechanics and Dynamics of Soft Living Matter,
Princeton University — Aut 2012, 2014

Mentor for high school, undergraduate, senior thesis and graduate students,
Princeton University — 2011-present

Teaching Assistant, BIOE41 Physical Biology of Macromolecules,
Stanford University — Aut 2010

Teaching Assistant, Physiology Course, Marine Biological Laboratory,
Woods Hole, MA — Sum 2008

Teaching Assistant, BIO109 The Human Genome and Disease,
Stanford University — Win, Spr 2008

Service

Princeton Postdoc Council — 2013 - present
Serve as liaison between postdocs and administration;
Organize professional development and social events
for the postdoctoral community at Princeton

Mentoring Program — 2013 - present
Coordinate mentoring relationships between postdocs and
graduate students, in collaboration with Graduate Women
in Science and Engineering (GWISE)

Outreach — 2012 - present
Design and deliver lectures and lab activities for middle school
students at Stuart Country Day School in Princeton, NJ
and Kilmer Elementary School in Trenton, NJ

References

Clifford P. Brangwynne, Ph.D.
Assistant Professor
Chemical and Biological Engineering
Princeton University
301 Hoyt Laboratory
Princeton, NJ 08544
(609) 258-4528
cbrangwy@princeton.edu

Julie A. Theriot, Ph.D.
Professor
Biochemistry, Microbiology & Immunology
Stanford University
279 West Campus Dr. MC 5307
Stanford, CA 94305
(650) 725-7968
theriot@stanford.edu

Mikko Haataja, Ph.D.
Professor
Mechanical and Aerospace Engineering
Princeton University
D404C Engineering Quadrangle
Princeton, NJ 08544
(609) 258-9126
mhaataja@princeton.edu

Andrew J. Spakowitz, Ph.D.
Associate Professor
Chemical Engineering
Stanford University
Stauffer III - Room 113
318 North South Mall
Stanford, CA 94305
(650) 736-8733
ajspakow@stanford.edu