

Louis Kang
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POSITION	Miller Fellow , University of California, Berkeley Host departments: Physics and Helen Wills Neuroscience Institute Host faculty: Michael DeWeese	2017–2020
EDUCATION	University of Pennsylvania , Philadelphia, PA, USA M.D., Perelman School of Medicine Research elective with Vijay Balasubramanian in theoretical neuroscience Ph.D., Department of Physics & Astronomy Thesis advisor: Tom C. Lubensky Thesis title: <i>Chirality and its spontaneous symmetry breaking in two liquid crystal systems</i>	Expected 2017 2015
	Harvard University , Cambridge, MA, USA A.B. in Chemistry and Physics and Mathematics <i>summa cum laude</i>	2009
AWARDS AND HONORS	Medical Scientist Training Program National Institutes of Health	2009–2017
	Mary Ellis Bell Prize University of Pennsylvania, Perelman School of Medicine “This prize is given to a student in the School of Medicine who is engaged in noteworthy research in any field related to medicine.”	2016
	Werner Teutsch Memorial Prize University of Pennsylvania, Department of Physics and Astronomy “Awarded annually to the graduate student who, by his or her performance in the first year courses, shows the most promise for outstanding achievement in research.”	2012
	Phi Beta Kappa Harvard University	2009
PUBLICATIONS	Kang L , Lubensky TC. Chiral twist drives raft formation and organization in membranes composed of rod-like particles. <i>Proc Natl Acad Sci USA</i> 114, E19 (2017). arXiv:1608.07331.	
*equal contribution	Kang L , Gibaud T, Dogic Z, Lubensky TC. Entropic forces stabilize diverse emergent structures in colloidal membranes. <i>Soft Matter</i> 12, 386 (2016).	

arXiv:1507.00746.

Davidson ZS*, **Kang L***, Jeong J*, Still T, Collings PJ, Lubensky TC, Yodh AG. Chiral structures and defects of lyotropic chromonic liquid crystals induced by saddle-splay elasticity. *Phys Rev E* 91, 050501 (2015). arXiv:1504.03619.

Jeong J*, **Kang L***, Davidson ZS, Collings PJ, Lubensky TC, Yodh AG. Chiral structures from achiral liquid crystals in cylindrical capillaries. *Proc Natl Acad Sci USA* 112, E1837 (2015).

Idema T, Dubuis JO, **Kang L**, Manning ML, Nelson PC, Lubensky TC, Liu AJ. The syncytial *Drosophila* embryo as a mechanically excitable medium. *PLOS ONE* 8, e77216 (2013). arXiv:1304.4025.

Heo M, **Kang L**, Shakhnovich EI. Emergence of species in evolutionary “simulated annealing”. *Proc Natl Acad Sci USA* 106, 1869 (2009). arXiv:0810.1765.

CONTRIBUTED TALKS

American Physical Society March Meeting, New Orleans, USA 2017
Membrane rafts stabilized by chiral liquid crystal correction to bare interfacial tension

Computational and Systems Neuroscience (Cosyne), Salt Lake City, USA 2017
Coupling between attractor networks naturally generates a discrete grid cell hierarchy

Gordon Research Conference & Seminar on Liquid Crystals, Biddeford, ME, USA 2015
Roles of entropy and chirality in depletion-induced colloidal membranes

American Chemical Society Colloid & Surface Science Symposium, Philadelphia, USA 2014
A theory for depletion-induced colloidal membranes

American Physical Society March Meeting, Denver, USA 2014
A theory for depletion-induced colloidal membranes

IAS Program on Frontiers of Soft Matter Physics, Hong Kong 2014
A theory for depletion-induced colloidal membranes

American Physical Society March Meeting, Baltimore, USA 2013
*Mitotic wavefronts mediated by mechanical signaling in early *Drosophila* embryos*

TEACHING	Teaching Assistant University of Pennsylvania Modern physics, wave phenomena, honors electromagnetism, physics laboratory	2011–2015
	Teaching Assistant Harvard University Organic chemistry, linear algebra	2006–2007
CLINICAL SERVICE	Medical Student Volunteer United Community Clinics Provided patient care at a free health clinic in West Philadelphia	2010–2013
REFERENCES	Tom C. Lubensky <i>Thesis advisor</i> University of Pennsylvania Department of Physics & Astronomy 209 S 33rd Street Philadelphia, PA 19104 tom@physics.upenn.edu	Vijay Balasubramanian <i>Research mentor</i> University of Pennsylvania Department of Physics & Astronomy 209 S 33rd Street Philadelphia, PA 19104 vijay@physics.upenn.edu
	Andrea J. Liu <i>Thesis committee chair</i> University of Pennsylvania Department of Physics & Astronomy 209 S 33rd Street Philadelphia, PA 19104 ajliu@physics.upenn.edu	Zvonimir Dogic <i>Research collaborator</i> Brandeis University Department of Physics, MS 057 415 South Street Waltham, MA 02453 zdogic@brandeis.edu