Elizabeth K. Mann

Department of Physics, Kent State University, Kent, OH, 44242, emann@kent.edu

a. Professional Preparation

Case Western Reserve University	Cleveland, OH	Physics	B.S. 1978
University of Illinois	Urbana-Champ.,IL	Physics	1978-1980
Ecole Normale Supérieure; Paris VI	Paris, France	Physics of Fluids	Ph.D.1992
Centre de Recherche Macromoléculaire; Centre de Recherche Odontologique	Strasbourg,France "	Polymer Science Biophysics	1993-96 "
Swiss Federal Institute of Technology	Zurich, Switzerland	Colloid & soil science	1997

b. Appointments

2009 – present	Professor of physics at Kent State University
2003 – 2009	Associate professor of physics at Kent State University
1998-2003	Assistant professor of physics at Kent State University
1997	Assistant project scientist at Swiss Federal Inst. of Technology (ETH), Zurich
1994-1996	Visiting "maitre de conference" (lecturer) at Université Louis Pasteur and Ecole Européenne de chimie, polyméres, et materiaux (ECPM), Strasbourg

c. i. Products most closely related to the proposed project

1. Piotr Popov, Leo Steinkerchner, and Elizabeth K. Mann "Molecular dynamics study of rhodamine 6G diffusion at n-decane-water interfaces" *Phys. Rev. E*, **91**: 053308 (2015), doi: 10.1103/PhysRevE.91.053308.
2. Provisional patent filing # KSU.493 – Self-Assembled Cholesteric Liquid Crystal Microlenses (μ-lenses); A. Jakli, E. Mann, P. Popov "System and method thereof for accurate optical detection of amphiphiles at a liquid crystal interface."
3. Piotr Popov, Elizabeth K. Mann and Antal Jákli, "Accurate Optical Detection of Amphiphiles at Liquid-Crystal–Water Interfaces." *Physical Review Applied*, **1**, 034003 (2014), doi: http://dx.doi.org/10.1103/PhysRevApplied.1.034003.
4. Piotr Popov, Daniel J. Lacks, Antal Jákli and Elizabeth K. Mann "Insertion of liquid crystal molecules into hydrocarbon monolayers" *J. Chem. Phys.*, **141**, 054901 (2014), doi: 10.1063/1.4891307.
5. Timothy J. Smith, Wilder Iglesias, Elizabeth K. Mann, Antal Jákli, and Daniel J. Lacks "Alignment of Nematic Liquid Crystals by a Bent-Core Substrate" *Liquid Crystals*, **40**: 159-164 (2013), doi: 10.1080/02678292.2012.735705.

ii. Other Significant Products

1. Mona Mirheydari, Sewwandi S. Rathnayake, Hannah Frederick, Taylor Arhar, Elizabeth K. Mann, Simon Cocklin and Edgar E. Kooijman "Insertion of perilipin 3 into a glycero(phospho)lipid monolayer depends on lipid headgroup and acyl chain species" *J. Lipid Research*, **57**, 1465-1476 (2016), doi: 10.1194/jlr.M068205.
2. Wilder Iglesias, Nicholas L. Abbott, Elizabeth K. Mann and Antal Jákli "Improving Liquid Crystal Biosensing", *ACS Applied Materials & Interfaces,* **4***:* 6884−6890 (2012), doi: 10.1021/am301952f.
3. P. Basnet, P. Mandal, D. Malcolm, E. K. Mann, S. Chaieb, "Chiral Hierarchal Self-assembly in Langmuir Monolayers of Diacetylenic lipids", *Soft Matter*, **9**: 1383–1722 (2013), doi: 10.1039/C2SM26771C.
4. Wilder Iglesias, Timothy Smith, Prem Basnet, Daniel J. Lacks, Antal Jákli E. K. Mann, "Alignment by Langmuir/Schaefer monolayers of bent-core liquid crystals" *Soft Matter*, **7**: 9043–9050 (2011), doi: 10.1039/c1sm05546a.

5. J. Wang, L. Qiu, W. Weissflog, A. Jákli, E. K. Mann “Inverse Langmuir/Schaefer layers of bent-core molecules” *Liquid Crystals*, **37**:1229-1236 (2010), doi: 10.1080/02678292.2010.494739.
6. Lu Zou, Ji Wang, Violeta J. Beleva, Edgar E. Kooijman, Svetlana V. Primak, Jens Risse, Wolfgang Weissflog, Antal Jákli, Elizabeth K. Mann “Langmuir monolayers of bent-core molecules” *Langmuir*, **20**: 2772-2780 (2004), doi: 10.1021/la0361924.

d. Synergistic Activities

Leadership: APS Committee on the Status of Women: Committee member (2015-2017); Ohio Section APS: Past Chair, chair, Chair-elect (2003-2006).

Conference Organizing Committees: 84th ACS Colloid and Surface Science Symposium (2010); Ohio APS Section Meeting (2001).

Physics teacher training: Operation Physics, Physics content expert; presented 3 workshops for high school, community college, and college teachers reaching ~50 teachers.

Student advising: Physics Undergraduate Advisor (2015-); Premed Advisor (2004-); Physics Graduate Advisor (2012-2015); American Med. Student Assoc., Kent Chapter (2006-2012).

Teaching laboratory development: Began revamping teaching lab: “Physics and entertainment and the arts” (2014); Developed demonstration with high school teacher (2000-2004).

e. Collaborators & Other Affiliations

i. Collaborators (total = 14)

Nicholas Abbott, Chemical & Biological Engineering, University of Wisconsin-Madison; James Alexander, Mathematics. Case Western Reserve University; David Allender, Physics, Kent State University; Andrew Bernoff, Mathematics, Harvey Mudd College; Arne Gerecke, Chemistry and Biochemistry, Worcester Polytechnic Institute; Antal Jakli, Liquid Crystal Institute and Chemical Physics Program, Kent State University; Sarah L. Keller, Department of Chemistry, University of Washington; Edgar E. Kooijman, Biology, Kent State University; Satyen Kumar, Physics, Kent State University; Daniel Lacks, Chemical Engineering, Case Western Reserve University; J. Adin Mann, Chemical Engineering, Case Western Reserve; Carsten Tschierske, Institute of Chemistry, Martin Luther University, Halle, Germany;

ii. Graduate (total = 1) and postdoctoral advisors (total = 2)

Graduate Advisor: Dr. Dominique Langevin, Université de Paris Sud, France; Post-doctoral Advisor: Dr. Pierre Schaaf, Institut Charles Sadron, Strasbourg, France ; Post-doctoral Advisor: Dr. Michal Borkovec, Laboratory of Colloid and Surface Chemistry (LCSC), University of Geneva, Switzerland.

iii. Graduate students: 9 Ph.D. students and 5 M.S. students graduated; current: 2 Ph.D. and 1 M.S. students. Joseph Yarzebinski (M.S., 2016), Dr. Piotr Popov (Ph. D 2015; A. Jakli, coadvisor; R&D Engineer at RavenBrick); Ghadah Alrabghi (M.S. 2015, Teaching Assistant, King Abdulaziz University-College of Science) ; Dr. Pritam Mandal (Ph.D. 2013, postdoctoral associate, KAUST, Saudi Arabia); Dr. Wilder Iglesias (Ph.D. 2012, Production/R&D manager, RavenBrick LLC, Boulder, CO); Revathy Durajai (M.S., 2012); Dr. Fanindra Bhatta (Ph.D. 2011; coadvised with D. Allender); Dr.Prem Basnet (Ph.D. 2010, University of Manitoba); Dr. Lu Zou (Ph.D. 2007; Postdoctoral associate, KSU), Dr. Ji Wang (Ph.D. 2007, Product Engineer, KLA-Tencor), Dr. Edgar E. Kooijman (M.S., 2001; Associate Professor of Biology, KSU); Dr. Svetlana Primak (Ph.D. 2002, Cleveland Clinic); Mlle. Laurence Heinrich (Ph.D. 1997, Maître de Conférences, ISPB-Faculté de Pharmacie, Université Claude Bernard, Lyon, FR); Mr. Allain Bollander (M.S., 1993-94).

Current Graduate students: Ph.D: Mona Mirheydari (E.E. Kooijman, co-adviser), Nabin Thapa; M.S: Huda Alwusaydi.

Postdoctoral fellows: 2 postdoctoral fellows: Dr. Lu Zou (2008; LCI); Dr. Marek Ostafin (1995-1997; co-supervised with P. Schaaf).