**Biological Chemistry II, Spring 2019**

This graduate class will be given as 4 minicourses of about 3 weeks duration each. Each 3 week session will be focused on a different current topic in Biological Chemistry, listed below. Students will be asked to give in-class presentations related to these topics, and in some cases related to presentations by Chemistry department seminar speakers. Other assignments may also be required. Each minicourse will be graded separately as decided by the instructor of that part of the course, and the final grade will be an average of the 4 minicourse grades.

**1st part** Jan. 22, to Feb. 12. Prof. Jim Rusling **Molecular Diagnostics**

**2nd part**   Feb. 14- March 5 Prof. Xudong Yao **Chemical Proteomics**

**3rd part**  March 7 to April 2 (includes spring break Mar 17-23) Prof. Ashis Basu

**DNA Replication and Translesion Synthesis**

**4th part** April 4 - April 23 (last class)  Prof. Alfredo Angeles-Boza

**Lipid-Peptide Interactions**

Charlie Mace, Chemistry Dept., Tufts Univ., Boston Chem Dept. Seminar 2:30 PM Jan. 30

“Measurement of the hematocrit using paper-based microfluidic devices” S.B. Berry, S.C. Fernandes, A. Rajaratnam, N.S. DeChiara, & C.R. Mace,\* Lab on a Chip **2016**, 16, 3689–3594.   
**• highlighted by**[**Chemical & Engineering News**](http://cen.acs.org/articles/94/i37/Paper-device-measures-hematocrit.html?h=302702479)

“A lateral microscope enables the direct observation of cellular interfaces and quantification of changes in cell morphology during adhesion” **J.A.**Walz, I. Lui, D.J. Wilson, & C.R. Mace\*, ACS Biomaterials Science & Engineering **2016**, **2**, 1367–1375.

“Comparison of three indirect immunoassay formats on a common paper-based microfluidic device architecture”  **S.C.**Fernandes, G.S. Logounov, J.B. Munro, & C.R. Mace\*, Analytical Methods **2016**, **8**, 5204–5211.

“A multiplexed, patterned-paper immunoassay for detection of malaria and dengue fever” **R.N.**Deraney, C.R. Mace\*, J.P. Rolland, J.P., and J.E. Schonhorn, Analytical Chemistry **2016**, **88**, 6161–6165.

“Combining step-gradients and linear gradients in density” A.A. Kumar, J.A. Walz, M. Gondiac, C.R. Mace, & G.M. Whitesides, Analytical Chemistry **2015**, **87**, 6158–6164.

“Enabling the development and deployment of next generation point of care diagnostics” R. Derda, J. Gitaka, C.M. Klapperich, C.R. Mace, A.A. Kumar, M. Lieberman, J.C. Linnes, J. Jores, J. Nasimolo, J. Ndung’u, E. Taracha, A. Weaver, D.B. Weibel, T. Kariuki, & P. Yager,PLoS Neglected Tropical Diseases 2015, **9**, e0003676.

“A device architecture for three-dimensional, patterned paper immunoassays” J.E. Schonhorn, S.C. Fernandes,  A. Rajaratnam, R.N. Deraney, J.P. Rolland, & C.R. Mace,  Lab on a Chip**2014, 14**, 4653–4658. **• listed among the "Most Downloaded Articles" in October 2014**

**Colleen Krause, Chemistry Dept., Univ. of Hartford,**

**In class seminar. Thursday Feb 7**

Detection of Breast Cancer Biomarker on a disposable sensor platform