

# Biomedical Discussion Group

## Solute Partitioning and Diffusion in Hydrogels: Fundamentals of Drug and Comfort-Agent Delivery

Monday November 4, 2019

10:00 a.m - 11:00 a.m, East Campus 4 Boardroom (EC4-2101a)

### Dr. Clayton J. Radke

Professor of Chemical and Biomolecular Engineering and Vision Science at the University California (Berkeley)

#### Abstract:

Hydrogels are biocompatible and, therefore, extensively applied, for example, in pharmaceuticals, biomedicine, tissue engineering, and artificial organ scaffolds. Hydrogels also have application in a wide variety of bioseparation and biosensing processes. We focus specifically on hydroxyethyl-methacrylate (HEMA) /methacrylic acid (MAA) copolymer gels used in soft contact lenses to deliver drugs and comfort/wetting agents to the eye. In all applications, it is important to understand how aqueous solutes of varying size, molecular weight, charge, hydrophobicity, and configuration partition into and out of hydrogels which themselves are of differing water content, crosslink density (i.e., mesh size) and matrix charge density.

Please visit [cbb.uwaterloo.ca/events/bmdg-clayton-radke-2019](http://cbb.uwaterloo.ca/events/bmdg-clayton-radke-2019) for the full abstract.



#### Bio:

Clayton (Clay) J. Radke is Professor of Chemical and Biomolecular Engineering and Vision Science at the University California (Berkeley). Dr. Radke's research focuses on interfacial and colloidal technologies. He has published over 300 research monographs, coauthored one book, three patents, and delivered over 800 technical papers. He has been awarded a number of national and International awards, including the Proctor & Gamble Colloid Chemistry Award of the American Chemistry Society in 2003, the John Franklin Carl Award of the Society of Petroleum Engineering in 2011, the Chemstations Research Lectureship Award of the American Society for Engineering Education in 2013, the University of Washington Alumnus of the Year in 2015, and the Ruben Medal of the International Society of Contact Lens Researchers in 2019. He was elected to the National Academy of Engineering in 2015. Additionally, he won the physical sciences Donald Sterling Noyce Prize for Excellence in Teaching in 1993, the UCB campus Distinguished Teaching Award in 1994, the Faculty Award for Outstanding Mentorship of Graduate Student Instructor in 2018, and the department teaching award 9 times. Dr. Radke has mentored over 90 graduate students and enumerable undergraduate research assistants.

Keywords: *tissue engineering, contact lenses, biomedicine*



Coffee and Timbits available - RSVP via Eventbrite is required

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