



# Society for Analytical Chemists OF PITTSBURGH



## JANUARY MEETING

***Monday, January 5, 2009***  
**8:00 p.m.**

Duquesne University  
Laura Falk Hall

Dinner: City View Café (6<sup>th</sup> Floor)



**ERIC AHRENS, PH.D.**

ASSOCIATE PROFESSOR  
DEPARTMENT OF BIOLOGICAL SCIENCES  
CARNEGIE MELLON UNIVERSITY

**"Emerging Developments in Cellular MRI"**

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5:30 PM	Social Hour .....	Student Union – City View Café (6 <sup>th</sup> Floor)
6:30 PM	Dinner .....	Student Union – City View Café (6 <sup>th</sup> Floor)
7:30 PM	Student Affiliate Meeting .....	Mellon Hall – Room 410
7:40 PM	Business Meeting .....	Mellon Science Building – Laura Falk Hall
8:00 PM	Technical Meeting .....	Mellon Science Building – Laura Falk Hall

### ABSTRACT:

Imaging specific immune cell populations *in vivo* can play an important role in elucidating disease pathogenesis and accelerating therapeutic development. Recent advances in magnetic resonance imaging (MRI) technology enable immune cell tracking and quantification *in vivo*. These new methods rely on unique perfluorocarbon (PFC) nanoemulsion formulations. Immune cells are labeled with PFC either *ex vivo* following phenotypic selection or *in vivo*, and cell migration patterns are visualized non-invasively using <sup>19</sup>F MRI. The key advantage of this method is that the images are extremely selective for the labeled cells, with no background signal from the host's tissues. Data show that PFC nanoemulsions are highly biocompatible and nontoxic. Recent rodent applications using the PFC imaging platform will be described, as well as the potential for clinical translation.

### BIOGRAPHY:

Dr. Ahrens is currently an Associate Professor in the Department of Biological Sciences at Carnegie Mellon University. He received his B.S. and Ph.D. degrees in physics from the University of California at Los Angeles. As a graduate student Dr. Ahrens studied electronic properties of novel superconducting materials at low temperatures using nuclear magnetic resonance (NMR). After completing his Ph.D., Dr. Ahrens switched to biological research and joined the research faculty at the California Institute of Technology (Caltech) in the Division of Biology. While at Caltech, Dr. Ahrens focused on advancing the state-of-the-art of extremely high-resolution magnetic resonance imaging (MRI) in biological systems. Currently, Dr. Ahrens' research focuses on developing new technologies to enable MRI to visualize specific cells and molecules in the body, thereby providing insight into disease processes.

### DINNER RESERVATIONS:

Please email Larry Senor, Arrangements Co-Chair at [senor@pittcon.org](mailto:senor@pittcon.org), by Tuesday, December 30, 2008 to make dinner reservations. Should you not have email, please call Larry at 724-327-4428. The entrée for January is Tomato Crusted Halibut served with Saffron Olive Oil Rice Cake. Dinner will cost \$8 (\$4 for students) and checks can be made out to the SACP. If you have any dietary restrictions, let Larry know when you leave message.

### PARKING:

Duquesne University Parking Garage entrance is on Forbes Avenue. Upon entering the garage, you will need to get a parking ticket and drive to upper floors. Bring your parking ticket to the dinner or meeting for a validation sticker. Please contact Dr. Mitch Johnson at Duquesne University, if any difficulties arise.