Clarkson University

Fall 2024 David A. Walsh‘67

Arts & Sciences Seminar Series

Friday, November 1 at 12pm

Room: Snell 212

**QUALITATIVE AND QUANTITATIVE PROTEOMICS: METHODS AND APPLICATIONS**

Most untargeted proteomics methods provided for a long time only information on protein identification, and later on relative quantitation. In ~2005, targeted quantitative methods started becoming more widely used, and quantitative proteomics became more precise and reproducible between laboratories. The tandem mass spectrometry technique known as “multiple reaction monitoring” has enabled a steady increase in the number of protein targets from a single target to the multiplexed quantitation of 100s of protein targets in a single analysis. The newest method we are currently developing is called “SysQuan” – this method uses tissue from a labelled mouse as a source of biologically generated internal standard peptides. Using this approach, it is now possible to do untargeted protein quantitation of 1000s of proteins in a single analysis. Using this breakthrough approach, we are working toward the quantitation of an entire proteome in a single analysis.

# C:\Users\cdarie\Downloads\Borchers Christoph.jpg**Christoph Borchers, Ph.D., Professor, Division of Experimental Medicine, McGill University, Montreal, Canada**

# *Dr. Christoph Borchers is the founder and director of the McGill-Lady Davis Institute Integrated Proteomics Program at the Jewish General Hospital, McGill University, where he is currently a Full Professor in the Gerald Bronfman Department of Oncology. Dr. Borchers received his PhD degree from the University of Konstanz, Germany in 1996, did a post-doctoral training at the NIEHS/NIH, and then became the director of the UNC-Duke Proteomics Facility and a faculty at the UNC Medical School in Chapel Hill, NC. From 2006 to 2019, he was a Professor in the Department of Biochemistry & Microbiology, and Director of the University of Victoria-Genome BC Proteomics Centre at the University of Victoria, BC, Canada.*

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The Arts & Sciences Seminar Series is a weekly colloquium series that has been supported by the School of Arts & Sciences Advisory Council at Clarkson University especially through generous gifts from David A. Walsh ‘67.

SA&S 300: Arts and Sciences Seminar is a one credit course intended to foster an

interdisciplinary outlook in undergraduates majoring in the School of Arts and Sciences.