

Alex Valm

Alex Valm is a PRAT fellow in the lab of Julie Segre, National Human Genome Research Institute. He obtained his Ph.D. in pathobiology from the Brown University-Woods Hole Marine Biological Laboratory joint graduate program. Valm's broad research interests are to understand the assembly of complex microbial communities associated with the human body and how the physical structure of these communities impacts human health and disease. As a PRAT fellow, Valm is developing novel imaging technologies to elucidate the systems-level structure of microbial communities associated with human skin in healthy people before, during and after antibiotic therapy. His long-term professional goal is to contribute to our understanding of the human microbiome as an independent investigator at an academic or government institution.

EDUCATION

Ph.D. in Pathobiology December 2011

Brown University, Providence, RI

- Thesis Project: Novel Technology to Image Human Oral Microbial Communities

Master of Science in Cell Biology and Anatomy May 2001

The University of North Carolina, Chapel Hill, NC

Bachelor of Science in Biotechnology, *cum Laude* May 1996

Bradley University, Peoria, IL

PUBLICATIONS

Valm, A.M., S. Cohen, W. Legant, E. Betzig, J. Lippincott-Schwartz. 2016. Unraveling the organelle interactome through spectral imaging and pair correlation analysis. [In Preparation]

- **Valm, A.M.**, R. Oldenbourg, G.G. Borisy. 2016. Novel linear unmixing algorithm for greatly expanding the number of identifiable objects in a single fluorescence microscope image. PLoS One [Accepted with Minor Revision]

- **Valm, A.M.**, J.L. Mark Welch, R. Oldenbourg, and G.G. Borisy. 2011. CLASI-FISH: Principles of Combinatorial Labeling and Spectral Imaging for greatly expanding the number of distinguishable microbes in a single image. *Syst. Appl. Microbiol.*

- **Valm, A.M.**, J. Mark Welch, C.W. Rieken, Y. Hasegawa, M.L. Sogin, R. Oldenbourg, F.E. Dewhirst, G.G. Borisy. 2011. From the Cover: Systems-level analysis of microbial community organization through combinatorial labeling and spectral imaging. *Proc Natl Acad Sci USA* **108**:4152-7.

- Hasegawa, Y., J.L. Mark Welch, **A.M. Valm**, C.W. Rieken, M.L. Sogin, and G.G. Borisy. 2010. Imaging Marine Bacteria with Unique 16S rRNA v6 Sequences by Fluorescence in situ Hybridization and Spectral Analysis. *GeoMicro. J.* **27**:251-260.

- Braun, K.M., T. Cornish, **A. Valm**, J. Cundiff, J.L. Pauly, and S. Fan. 1998. Immunotoxicology of cigarette smoke condensates: Suppression of macrophage responsiveness to interferon-gamma. *Toxicol. Appl. Pharmacol.* **149**:136.