

Paul Jaschke

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SUMMARY

Bioengineer with diverse research experience ranging from chlorophyll biosynthesis to building synthetic viruses. Proven track record in scientific publications, mentoring and leadership. Secured over \$154,000 in awards over career.

EDUCATION

Ph.D. in Microbiology, University of British Columbia, Vancouver, Canada 2010
Selected Awards: NSERC Scholarship, John Richard Turner Fellowship, Pacific Century Scholarship

B.Sc. in Biochemistry, First Class Honors, University of Alberta, Edmonton, Canada 2003
Selected Awards: Jason Lang Scholarship, Canadian Institutes of Health Research Presentation Award

RESEARCH EXPERIENCE

Stanford University, Endy Laboratory - Stanford, CA 11/2010 - Present

Bioengineering Postdoctoral Researcher

- Developed method to assemble virus genomes inside yeast and built first fully decompressed virus
- Published results of work and presented findings at Synthetic Biology 5.0 international conference
- Invited to present findings at the University of British Columbia

University of British Columbia, Beatty Laboratory - Vancouver, Canada 09/2004-09/2010

Microbiology Ph.D. Student

- Discovered and fully characterized a novel chlorophyll biosynthesis pathway in photosynthetic bacteria
- Authored six papers and a *Methods in Enzymology* book chapter
- Presented findings at institutional, regional and international conferences resulting in multiple presentation awards

University of Queensland, Garson Laboratory - Brisbane, Australia 05/2004-07/2004

Chemistry Research Technician

- Developed a novel seawater flow cell experimental system to study sponge chemical responses to wounds

University of Alberta, Casey & Michalak Laboratories - Edmonton, Canada 06/2002-09/2003

Biochemistry Student Research Assistant

- Investigated human sodium bicarbonate co-transporter function and published results in a peer-reviewed journal
- Won Canadian Institutes of Health award for results presented at meeting

LABORATORY & COMPUTER SKILLS

• **Molecular Biology**: DNA sequence design using natural and standard parts (BIOFAB), Gibson/SLiCE DNA assembly, multiplex bacterial and virus genome recombineering (MAGE), large-scale yeast plasmid isolation and manipulation without *E. coli* rescue, P1 transduction, mammalian cell transfection, multiplex PCR

• **Bioinformatics**: Python (Biopython), Matlab bioinformatics toolbox, Multiple Sequence Alignment and phylogenetic tree construction, Unipro UGENE bioinformatics suite, j5 (DNA assembly planning program), ChemBioOffice (Cambridge Soft), CodonCode Aligner (genome sequence assembly)

• **Microbiology**: *E. coli*, yeast, *Rhodobacter sphaeroides* (photosynthetic), and bacteriophage culture and manipulation

• **Proteins**: membrane protein purification, SDS/Blue-Native/and 2D-PAGE, Western blotting

• **Chemistry**: isolation and identification of chlorophyll biosynthetic pathway intermediates, HPLC, TLC, liquid-liquid extractions, mass spectrometry, absorption and fluorescence spectrophotometry

• **Management**: directed and mentored 8 undergraduate and high school student research projects over career; 5 projects resulted in student co-authorships in peer-reviewed publications

PROFESSIONAL ACTIVITIES

Advisor, Mendeley reference manager software 08/2011 - Present

Developed and taught classes at BioCurious community DIY bio lab 2011 - 2012

Mentored inaugural UBC iGEM team and guided to gold medal 01/2009 - 11/2009

Teaching Assistant for senior level bioinformatics class, University of British Columbia 2005 - 2008

Reviewer for *PLoS ONE* and *Journal of Proteome Research* 2004 - Present