

Curriculum Vitae Carolina Wählby

PI and Computational Biologist at the Imaging platform of Imaging Platform of the Broad Institute of Harvard and MIT, 7 Cambridge Center, Cambridge, MA 02142, USA
carolina@broadinstitute.org phone: +1 617 714-7750 <http://www.broadinstitute.org/~carolina>

and

Associate Professor in Quantitative Microscopy, at SciLifeLab and the Centre for Image Analysis, Uppsala University, Box 337, SE-751 05 Uppsala, Sweden. carolina@cb.uu.se, <http://www.cb.uu.se/~carolina/> phone: +46-18-513955

Education and appointments:

- **MSc in Molecular Biotechnology**, Uppsala University (1993-1998)
- **PhD degree in Computerized Image Analysis** (20031030), Centre for Image Analysis, Uppsala University. Thesis title: Algorithms for Applied Digital Image Cytometry available at <http://publications.uu.se/theses/abstract.xsql?dbid=3608>.
- **PostDoc/Researcher at the Department of Genetics & Pathology**, Research Group on Molecular Medicine, Uppsala University, Sweden 2005-2009 (50%) with Prof. Ulf Landegren and Prof. Mats Nilsson.
- **Assistant Professor in Digital Image Analysis** at the Centre for Image Analysis, Uppsala University, Sweden (100% 2004, 50% from 2005-2009)
- **Associate professor (docent) in Digital Image Processing** at the Centre for Image Analysis, Uppsala University, Sweden, Feb. 5, 2009
- **Computational Biologist** at the Imaging Platform of the Broad Institute of Harvard and MIT, Cambridge, MA, USA, May 2009.
- **Principal Investigator** for high-throughput *C. elegans* image analysis at the Broad Institute of Harvard and MIT, Cambridge, MA, USA, January 2010.
- **Associate professor (Senior Lecturer) in Quantitative Microscopy** at the SciLifeLab and the Centre for Image Analysis, Uppsala University, Sweden, October 2011
- **Present employment:**
 - Principal Investigator, Imaging Platform, Broad Institute of Harvard and MIT, Cambridge, MA, USA (since May 2009, full time May 2009-June 2011) at 50%.
 - Associate Professor in Quantitative Microscopy at the SciLifeLab and the Centre for Image Analysis at 50%.

Teaching merits:

Supervision of PhD students:

- Assistant supervisor for **Patrick Karlsson** who presented his [PhD thesis](#) ‘Methods and models for 2D and 3D image analysis in microscopy, in particular for the study of muscle cells’ on September 19, 2008.
- Main supervisor for **Amalka Pinidiyaarachchi** who presented her [PhD thesis](#) on ‘Digital Image Analysis of Cells: Applications in 2D, 3D and Time’ on February 27, 2009.
- Assistant supervisor for **Magnus Gedda** who presented his [PhD thesis](#) on ‘Contributions to 3D Image Analysis using Discrete Methods and Fuzzy Techniques: With Focus on Images from Cryo-Electron Tomography’, on May 20, 2010.
- Main supervisor for **Amin Allalou**, who presented his [PhD thesis](#) on ‘Methods for 2D and 3D Quantitative Microscopy of Biological Samples’ on November 11, 2011.
- Main supervisor for **Milan Gavrilovic**, who will present his [PhD thesis](#) on ‘Spectral Image Processing with Applications in Biotechnology and Pathology’ planned December 2, 2011.

Formal education in teaching & scientific management

- ‘Pedagogisk grundkurs III’: a 12 day Educational Base Course organized by Uppsala University, fall 1999.
- ‘Projektledning’: a four-day course in Project Management organized by SLU, the Swedish University of Agricultural Sciences.
- ‘Utbildningsdag för handledare inom forskarutbildningen’, a one-day course for PhD-student supervisors organized by the Medical Faculty, April 16, 2007.
- Participant in Conference on Educational Renewal, Uppsala April 3, 2007.
- ‘Handledarutbildning, steg II, en kurs för forskarhandledare’ A three-week course on supervising and managing PhD students, Uppsala University, 2008-2009.
- Docent degree in Computerized Image Processing, Feb 5, 2009.
- ‘Management Matters’, a one-week management training session at the Broad Institute presented by Catalyst Consulting Group, August 2009.
- ‘Responsible Conduct in Research’; a series of half-day sessions of discussions intermixed with web-based material on ethics in scientific work seen from different perspectives. 2010-2011.

Teaching experiences and administration of teaching

- 1998 – 2009: Lecturer in Digital image analysis and Computer assisted image analysis MN1, Department of Scientific Computing. 2002, 2004-2005 and 2007-2008 also responsible for organization and administration of the course. (<http://www.it.uu.se/edu/course/homepage/bild1/>).
- 2004 – 2009: Lecturer in Advanced Course on Computerized Image Analysis MN2, Department of Scientific Computing. 2004 also responsible for organization and administration of the course. (<http://www.it.uu.se/edu/course/homepage/bild2/>).

- Invited Lecturer to several courses for PhD students at Uppsala University, the Swedish University of Agricultural Sciences and the Karolinska Institute (Current Scientific Methods, Light and Confocal Microscopy, Methods in Veterinary Medicine, Applied Digital Image Analysis, Computer Science and Artificial Intelligence Laboratory (CSAIL) at MIT).
- 1998-2001 Responsible for organization and administration of ‘Naturvetenskapliga forskarskolan’ (<http://fsik.se/>), an annual research school for 40 college-level students from central Sweden.
- Co-organizer and lecturer at an image analysis training course at Visiopharm, Hørsholm, Denmark, in October 2006, as part of the initial phase of the EU-Strep project ENLIGHT (involving PostDoc & senior researchers).

Appointments/board participation

- Thesis evaluation committee for Philip Malmberg on “Graph-based Methods for Interactive Image Segmentation”, Centre for Image Analysis, Uppsala University, May 6, 2011 (prof. Ingela Nyström).
- Thesis opponent for Antti Lehmuusola on “Image Processing for Systems Biology: Validation and Performance Evaluation Through Simulation” Tampere University of Technology, December 10, 2009 (prof. Olli Yli-Harja)
- Project manager of WP2 (work package on image analysis) of EU-Strep project ENLIGHT (ENhanced LIGase based Histochemical Techniques) 2006-2009, managing researchers in image analysis from academia and industry and coordinating collaborations with partners in biomedicine from five different European countries.
- Member of ‘elektorsförsamlingen’ for the Faculty of Science and Technology, Uppsala University, Sweden, responsible for nominating and electing members to the board of the faculty 2005- 2009.
- Reviewer of international scientific journals (Journal of Microscopy, Cytometry, Journal of Biomedical Informatics, Computer Methods and Programs in Biomedicine, and BMC Bioinformatics) and per-reviewed conferences (SCIA 2003, SCIA 2005, HealthCom 2005).
- Member of the International Program Committee of HealtCom2005, Busan, Korea, June 2005.

Research grants and awards

- National Institute of Health, NIGMS, grant 1R01 GM095672-01 (20110202-20151231) Title: "Image analysis for high-throughput C. elegans infection and metabolism assays". This 5-year research grant from NIH was, apart from being funded, also selected as one out of four ‘exceptional R01 applications’, available as sample applications through NIH’s website: <http://funding.niaid.nih.gov/researchfunding/grant/pages/appsamples.aspx>
Role: Principal investigator
- Swedish Research Council Collaboration Grant, Medicine (20010101-20101231) Title: “A multidisciplinary approach to establish mechanisms for mitochondrial DNA segregation in human disease”. Role: co-Principal Investigator, with Mats Nilsson and Nils-Göran Larsson

- Broad Institute 2010 bonus award for “Extraordinary work on C.elegans image analysis, an NIH R01 grant that received a perfect 10 score, and workable solutions for a C.elegans fat metabolism assay.”
- Uppsala University 2006 BASTU-project grant ‘for an effort to improve the quality of the education at UU by connecting the course in Computer Assisted Image Analysis with existing and future courses within the different education programs and industry’.

Other scientific merits

- 2000 (2 months) visiting PhD student at the Medical Image Technology Laboratory, Inje University, Korea (Prof. Heung-Kook Choi).
- 1998 - 2001 Web master at the Centre for Image Analysis, Uppsala University.
- 1998 - 2002 Editor of SSABlaskan, the newsletter for the Swedish Society for Automated Image Analysis.
- 1996 – 1997 MSc thesis work carried out at the Department of Cell and Molecular Biology and the Department of Oncology and Pathology, the Karolinska Institute, Stockholm (Prof. Nils Ringertz).
- 1996 - 1997 HTML programmer for the Nobel e-museum (<http://nobelprize.org/>).
- 1996 - 1997 Research training (part time) on intra cellular protein trafficking at the Department of Biochemistry, Stockholm University (Prof. Einar Hallberg).
- 1995 (2 months) Research training at the Quaternary Geology research group, Stockholm University, Sweden (Prof. Urve Miller).

Publications, conference presentations and invited talks:

Please visit

http://www.cb.uu.se/~carolina/carolina_publications.html or

http://www.broadinstitute.org/~carolina/carolina_publications.html

for an updated list.