

# Grant B. Harris

26 Huettnner Road,  
Woods Hole, Mass. 02543  
508-524-1709 [gbharris@alum.mit.edu](mailto:gbharris@alum.mit.edu)

## Education

Massachusetts Institute of Technology, Cambridge, Massachusetts

Bachelor of Science in Mechanical Engineering, 1981. Concentrations in thermodynamics, thermo-economics, energy systems, solar architecture, systems dynamics and control; programming, graphics and technology policy.

## Experience

Marine Biological Laboratory, Woods Hole, MA (2001-2015)

*Scientific Informatics Analyst*, Cellular Dynamics Program.

Instrumentation engineering for live-cell imaging using polarized light and fluorescence microscopy. Design and development of software for instrument control, image acquisition and processing, and data management; Design of custom components for the open source [Micro-Manager](#) instrument control and image acquisition system and [ImageJ](#) image processing. Completed *Analytical & Quantitative Light Microscopy* course, 2006. Systems and network support; Development of multimedia presentations and video library archiving. Design and machining work of hardware components. Maintained technical and business relationships with collaborators and customers of [OpenPolScope.org](#). (For expanded details, see [MBL Details](#).)

University of Wisconsin, Madison (2009-2011)

*Project Co-Leader*. Architect [ImageJ2](#) project, a re-design of the open source image processing platform, ImageJ. Designed architecture of application framework emphasizing interface (API) design for backward-compatibility, modularity, interoperability, and extensibility.

Woods Hole Oceanographic Institution, Woods Hole, MA (July, 2002)

*Technical Support for the Scientific Support Services Group*. 35-day voyage aboard the *R/V Knorr* in the Greenland Sea, Reykjavik to Glasgow; installation and removal of several laboratory instrumentation packages for chemical analysis of sea water; general technical support.

Workframe, Inc., Cambridge, MA (1987 – 2001)

*Founder and president*. Software development and engineering consulting to clients in hardware/software product/system development, financial services, cosmetics, pharmaceuticals, industrial design, instrumentation, publishing, video production, manufacturing, healthcare, and legal services. Performed financial, marketing, sales, project management, client contact, development, contract, and intellectual property licensing activities.

Delivered consulting, facilitation, and training focused on improving coordination and collaboration in organizations through business process mapping and re-design, and information systems design. Focus on creative design and development processes, coordination, project/process management, role-definition, accountability and trust, and team building. Experienced in communication and teamwork training, group facilitation, and process consultation. Certified mediator. Clients included: Merrill Lynch & Co., Mercury Computer Systems, Thermo Jarrell-Ash, Pfizer, G.D. Searle Pharmaceuticals, The Center for Quality of Management, Design Continuum, Project Software & Development, Inc., SeaChange Technology, Teradyne, Hammer and Company, LaserData, Lancome, Inc. and CBS News. (For details, see [Workframe Summary](#).)

Radnet, Inc., Cambridge, (1997)

*Product Manager for Strategic Alliances* - responsible for technical marketing aspects of strategic partnerships and alliances, acting as liaison between the business development and software development groups; extensive research on internet and web-based groupware technologies, including email, discussion tools, workflow, document management, application-hosting, etc. Performed evaluation and analysis of competitive and complementary products. Designed and delivered marketing presentations and product demonstrations to potential partners and at trade shows.

## Publications

[Polarized Fluorescence Microscopy to Study Cytoskeleton Assembly and Organization in Live Cells.](#), McQuilken, M., Mehta, S.B., Harris, G., Oldenbourg, R., and Gladfelter, A.S. 2015. Curr. Protoc. Cell Biol. 67:4.29.1-4.29.13.

[Massive Bioaccumulation and Self-Assembly of Phenazine Compounds in Live Cells](#) Min K. A., Rajeswaran W. G., Oldenbourg R., Harris G., Keswani R. K., Chiang M., Rzeczycki P., Talattof A., Hafeez M., Horobin R. W., Larsen S. D., Stringer K. A., Rosania G. R.. Adv. Sci., 2, 2015.

*Algorithms for Measuring Orientation of Single and Ensemble of Molecules with Real-Time Fluorescence Polarization Microscope.* Verma, A., S. Mehta, A. Verma, G. Harris. R. Oldenbourg, T. Tani. IEEE International Symposium on Biomedical Imaging 2013.

## Technical Expertise

- Optical microscopy, cellular and molecular biology, genomic bioinformatics.
- Extensive software programming, architecture and object-oriented design, esp. in Java, including GUI design with Swing, concurrency/multi-threading, generics, annotations; Java Native Interface to utilize third-party libraries for hardware control and data interfacing.
- Familiar with development tools including Maven, git, NetBeans IDE and Platform.
- Some experience with C#, C++, Python, PROLOG, PASCAL, FORTRAN.
- Business process analysis, workflow mapping, functional requirements gathering, data modeling, systems design.
- Extensive experience with *Microsoft Office; MS Project*, information organization and visualization tools including *MindManager, Inspiration, Visio, and PaintShop*; variety of operating system platforms and networks, especially Windows.
- Internet/web technologies including browsers and servers, newsreaders, discussions, conferencing, and authoring systems; n-tier architectures. Web-application develop with FrontPage, Lotus Notes/Domino, and Drupal; E-mail, messaging and directory services, including Outlook/Exchange, Notes, SMTP, MHS, X400/500, LDAP.
- Machining and fabrication; CAD and 3D printing; mechanical and electrical troubleshooting and repair;
- Sailor, navigator.

## Professional Development

### Microscopy:

- *Analytical & Quantitative Light Microscopy.* Marine Biological Laboratory, Woods Hole, MA, 2006.

### Organizational Development:

- *Process Consultation, Dialogue and Organizational Culture* workshops with Edgar Schein, 1999, 2000 & 2001.
- *Essential Facilitation* – Interaction Associates’ program delivered by MIT Professional Learning Center, 2001.
- *Mediation @ MIT*, 37 hour program leading to certification in mediation, 2000.

### Information Systems Design:

- Essentials of Workflow Management Technology, Business Process Design, ActionWorkflow Analyst, Train-the-Trainer, ActionWorkflow Lotus Notes Developer Lab and ActionWorkflow Consultants Intensive, all at Action Technologies, Alameda, CA. (1990 – 1995)
- Workshops on *Strategies for Collaborative Modeling and Simulation and Working Through Meetings: A Framework for Designing Meeting Support*, at the Conference on Computer-Supported Cooperative Work (CSCW), ACM, Cambridge, 1996.
- *Participatory Design Conference*, ACM & Computer Professionals for Social Responsibility, Cambridge, 1996.

### Graphic Design and Semiotics:

- *Semiotics of Graphical Design & Enfolding Meaning* workshops with Thomas Ockerse at the Rhode Island School of Design, 1997, 1998.
- *Toward a Reconceptualization of the Sign*, semiotics conference at the University of Toronto, 1997.
- *Visual Explanations* workshop with Edward Tufte, 1995.

## Teaching & Training Experience

- ImageJ Developers Conference, designed and delivered *Micro-Manager* workshop, Luxemburg, 2012.
- AQLM at MBL. Workshop on object tracking using open source software. 2011, 2012.
- Teaching & Learning Lab at MIT. Design and delivery of communication and teamwork workshops for student project teams in engineering classes, 2000.