



Wendy Elizabeth MACKAY

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ASSISTANT

Alexandra Merlin
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Biography

Wendy Mackay is a Research Director (tenured Professor) at INRIA. She heads the In[Situ] research group in Human-Computer Interaction, which includes faculty, students and research staff from INRIA, CNRS and the University of Paris-Sud. She is currently on sabbatical at Stanford University and was formerly is Vice President of Research in Computer Science at the Univ. Paris-Sud.

Initially trained as an experimental psychologist, she moved to Digital where she created a multimedia research group which produced the first commercial interactive video system (IVIS), a pre-Hypercard multimedia authoring language and over 30 multimedia projects. She has subsequently managed research groups at MIT and Xerox PARC's EuroPARC, as well as serving as a visiting professor at the Université Paris-Sud, France and Aarhus University, Denmark.

Wendy served as Chair of ACM/SIGCHI, among other executive positions, as well as member of the ACM Publications Board and SIGBoard and will be chairing the CHI 2013 conference in Paris. She has published over two hundred research articles in human-computer interaction and has served as program chair or on the program committees of ACM CHI, ACM UIST, ACM CSCW, ACM DIS and ACM Multimedia, among other conferences. Her multidisciplinary design methods are taught around the world, including Stanford, MIT, Georgia Tech, U. Washington, U. Penn and U. British Columbia. Her current research interests include multidisciplinary and participatory design, mixed reality and interactive paper, situated interaction and co-adaptive systems and multimedia and mediated communication.

Education

Ph.D.	Massachusetts Institute of Technology	Management Technological Innovation	1990
M.A.	Northeastern University	Experimental Psychology	1979
B.A.	University of Calif., San Diego	Honors Psychology	1977

Employment

Visiting Professor	Stanford University	2010 - present
Research Director, Head of INSITU	INRIA, Saclay, Île-de-France	2002 - present
Vice President, Computer Science Dept.	Univ. Paris-Sud, France	2007 - 2010
Senior Researcher	INRIA, Rocquencourt	2000 - 2002
Visiting Professor	Univ. Aarhus, Denmark	1998 - 2000
Senior Researcher	CENA	1996 - 1997
Senior Research Scientist	Rank Xerox EuroPARC	1991 - 1995
GEEP Fellow	Digital Equipment Corp. & MIT	1987 - 1990
Technical Liaison, Project Athena	Digital Equipment Corp. & MIT	1986 - 1986
Research and Development Manager	Digital Equipment Corp.	1983 - 1986
Visiting Scientist	M.I.T., L.C.S.	1983 - 1986
Cost Center Manager	Digital Equipment Corp.	1982 - 1983
Unit Manager	Digital Equipment Corp.	1981 - 1982
Educational Specialist	Digital Equipment Corp.	1979 - 1980

Honors and Awards

ACM/CHI Academy, Phi Beta Kappa, Honors Psychology B.A., magna cum laude, California Scholarship Federation, National Honor Society, Northeastern University Fellowship, Digital Equip. GEEP Scholarship.

Best publication awards: CACM'93, COCS'93, IHM'09, CHI'09, CACM web site, CHI'11.



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Research

I have been responsible for a number of 'firsts' in my career: at DEC, I wrote the original toolkit software for IVIS, the world's first commercial interactive video system (1982). At MIT, I conducted the first major study of electronic mail and cognitive overload (1988). At Xerox's EuroPARC, I launched a new area of ubiquitous computing with the publication of an award-winning special issue of CACM on Computer Augmented Environments (1993). My multi-disciplinary design methods are taught around the world (2002), including Stanford, MIT, Georgia Tech, U. Washington, U. Penn, Columbia and U. British Columbia. My current research interests include:

MULTIDISCIPLINARY AND PARTICIPATORY DESIGN METHODS:

I am interested in how to triangulate across research disciplines and have developed various methods for creating and evaluating interactive software: Generative Walkthroughs (systematic incorporation of socio-technical design principles), Video Prototyping (interactive 'sketching' ideas with video), the Interactive Thread (multidisciplinary group design exercises), Technology Probes [6] (technology installed 'in situ' that provides social science, engineering and design results) and Touchstone [5] (platform for exploratory experiment design). CPN2000 embodied this multi-disciplinary participatory design approach.

MIXED REALITY AND INTERACTIVE PAPER:

At Xerox EuroPARC, we introduced the concept of augmented paper interfaces and explored how to integrate paper with on-line multimedia information. Projects include: Video Mosaic (a digital desk that permits paper storyboards to act as the interface to an on-line video editor), Ariel (paper engineering drawings are the interface to a media space, and for sharing informal annotations), Digital Drawing Board (hand-drawn 2-dimensional sketches are projected as 3-dimensional drawings), and Caméléon [8, 10] (augmented flight strips). Since joining INRIA, we have developed the A-Book [7] and Prism [4] (integrate paper-based and electronic information for research biologists) and Musink [2] and Knotty Gestures (to support creativity for music composers). FamilyNet and Telebeads provide simple-to-control tangible network interfaces for managing access to Communication Appliances [1,6].

SITUATED INTERACTION AND CO-ADAPTIVE SYSTEMS:

My thesis at MIT introduced the concept of co-adaptive systems [11], supported with empirical data from a five-month study of software customization at MIT and a two-year study at Xerox PARC of the Information Lens, the first electronic mail filter. I developed Argus, a generalized mail filtering and annotation system and Pygmalion, a multi-media message system. Later, CPN2000 offered state-of-the-art tools for situated interaction. Since joining INRIA, we developed OctoPocus [3] (dynamic feedforward and feedback to aid learning gestures), Musink [2] (users dynamically define their own gesture language) and Knotty Gestures (users leave interactive traces as they write) which provide users with feedback about previous actions to help them co-adapt their future use of these systems.

MULTIMEDIA AND MEDIATED COMMUNICATION:

Early in my career, I was responsible for managing the development of IVIS, the industry's first interactive videodisc system, Producer, a multimedia authoring language and over 30 computer-based education products, all developed with a toolkit I designed and implemented. Later projects at Digital, MIT and Xerox included: the NavDisc (mixed real images from Penobscot Bay, Maine, with computer-generated images to create a dynamic multimedia navigation simulation), Video Boxer (based on the Boxer language), the first generalized Wizard of Oz prototyping tool (used to test intelligent tutoring strategies), EVA (exploratory data analysis of multimedia data), DIVA [9] (a stream-based editor for managing and analyzing temporal data, particularly video), and the world's first international media space, WAVE (connecting design and manufacturing engineers across countries). Since joining INRIA, we have been exploring Communication Appliances [6], a novel way to provide simple, single-function devices for close family members to stay in touch. We support remote couples (MissU, WeMe, Nightboard), families (MirrorSpace, MessageProbe, VideoProbe, Tokitok), the elderly (MirrorSpace, MarkerClock [1]), and have developed various multimedia devices for children, including Tangicam (a physical photo frame), SketchCam (for 'sketching' with real images) and StoryTable (a video 'puppet theater').



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Teaching

I teach courses in both French and English at the Master and Doctoral level. I co-created an annual course on the design and evaluation of interactive systems at the Univ. Paris-Sud and have taught variations of the course at Univ. Paris V, Univ. Paris VI, Institut Pasteur, Ecole des Mines, among others. I also teach an annual course, Technical Writing in English, at the doctoral level. Other courses include: How to Design Experiments, Advanced Interaction Techniques, Designing Augmented Artifacts and Participatory Design, as well as courses in statistics and experimental psychology. I have created specific courses for various summer schools in Italy, France, Scotland, England and Denmark. I have co-created the new Research Master in Human-Computer Interaction at Univ. Paris-Sud, to start in Fall 2010, and am responsible for the Univ. Paris-Sud Master efforts with respect to ICT Labs. Since joining INRIA, I have supervised 7 Ph.D. students, 4 of whom have completed their dissertations.

Professional Service

I have been extremely active in ACM SIGCHI, having served in all roles on the SIGCHI executive committee, including Chair, and co-founded CHI's first local chapter, Greater Boston SIGCHI. I have served on the ACM Publications and SIG boards, among others. I was Editor-in-Chief of IJHCS and serve or have served on the editorial boards of several HCI journals, including TOCHI and RIHM. I served as Technical Program Chair and Area Chair for CHI, as Program Chair for 6 other conferences, and as Associate Chair for over 40 ACM conferences, including CHI, UIST, CSCW and DIS. I served as Conference Chair for ECSCW'05 and DARE'00. I have been on numerous award and evaluation committees in North America and Europe.

Selected Publications

(For a complete list, see: <http://insitu.lri.fr/People/WendyMackay>)

1. Nancel, M., Wagner, J., Pietriga, E., Chapuis, O. and Mackay, W. (2011) Mid-air Pan-and-Zoom on Wall-sized Displays. *Proc. Human factors in computing systems (CHI'11)*. ACM, May, pp. 177-186. Best Paper Award.
2. Riche, Y. and Mackay, W. (2010) PeerCare: Supporting Awareness of Rhythms and Routines for Better Aging in Place. *Journal of Computer Supported Cooperative Work*, 19[1]:
3. Tsandilas, F., Mackay, W. and Letondal, C. (2009) Musink: Composing Music through Augmented Drawing. *Proc. ACM CHI '09 Human Factors in Computing Systems*, pp.819-828. Best Paper Award.
4. Bau, O. and Mackay, W. (2008) OctoPocus: A Dynamic Guide for Learning Gesture-Based Command Sets. *Proc. ACM Symposium on User Interface Software and Technology (UIST'08)*. pp. 37-46.
5. Tabard, A., Mackay, W. & Eastmond, E. (2008) From Individual to Collaborative: The Evolution of Prism, a Hybrid Laboratory Notebook. *Proc. ACM Computer-Supported Cooperative Work (CSCW'08)*. pp 569-578.
6. Mackay, W., Appert, C., Beaudouin-Lafon, M., Chapuis, O., Du, Y., Fekete, J.-D. & Guiard, Y. (2007) Touchstone: Exploratory design of experiments. *Proc. ACM CHI '07 Human Factors in Computing Systems*. pp 1425-1434
7. Hutchinson, H., Mackay, W.E., Westerlund, B., Bederson, B., Druin, A., Plaisant, C., Beaudouin-Lafon, M., Conversy, S., Evans, E., Hansen, H., Roussel, R., Eiderbäck, B., Lindquist S. and Sundblad, Y. (2003) Technology Probes: Inspiring Design for and with Families. *Proc. ACM CHI '03 Conference on Human Factors in Computing Systems*. pp 17-24.
8. Mackay, W.E., Letondal, C., Pothier, G., Bøegh K. and Sørensen, H. (2002) The Missing Link: Augmenting Biology Laboratory Notebooks. In *Proc. ACM Symposium on User Interface Software and Technology (UIST 2002)*. pp 41-50.
9. Mackay, W.E. (2000) Is Paper Safer? The Role of Paper Flight Strips in Air Traffic Control. *ACM Transactions on Computer-Human Interaction*. Vol 6 (4), pp. 311-340.
10. Mackay, W.E. (2000) Responding to cognitive overload: Co-adaptation between users and technology. *Intellectica*. Vol. 30 (1), pp. 177-193.