2019 BOARD NOMINEE

Marti Hearst

Professor, School of Information and EECS
University of California, Berkeley

CRA
Computing Research Association

Awards and Honors and Year Received

- Fellow of the ACM, 2013
- Member of the CHI Academy, 2017
- Excellence in Teaching Award (student voted), 2015, 2014, 2002, 1999
- NSF CAREER Grant, 2000
- Okawa Foundation Fellow, 1998

Involvement in CRA Activities

- Attended CRA Snowbird 2014 as an invited panelist
- Nominated the 2017 winner of the CRA outstanding female undergraduate re-searcher award

Other Relevant Experience

- President of the Association for Computational Linguistics, 2018. (4000 members)
- Leadership position in U.S. Federal Government, 2009,Äì2011 (directly reported to the head of an agency; was in charge of re-envisioning all of IT for that agency with $3B budget and 10,000 employees and then making it happen). This had a policy component as well, which is relevant for CRA
- Am a cross-disciplinary researcher. I have been on the editorial boards (and reviewed for) journals from several fields: information retrieval, computational linguistics, human-computer interaction, information visualization, social media, artificial intelligence, education and tech

Research Interests

- Computational Linguistics
- Search User Interfaces
- Information Visualization
- Learning at Scale
- Human-computer Interaction

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Personal Statement

I spent the last three years as VP elect, Vice President, and finally President of the Association of Computational Linguistics, a 4000-member society that is growing at a rapid rate, but is nonetheless run as an almost entirely volunteer organization. We had to tackle issues as diverse as overnight revocation of our members' ability to enter the country, publishing on preprint servers and how these compromise double-blind reviewing, and revamping our aging information technology structure. We worked in a collaborative, consensus-based manner, and I hope to bring the skills I acquired over the last three years to the CRA board.

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MARTI A. HEARST

appointments

Full Professor, School of Information, UC Berkeley, 2008–Present.
Full Professor, EECS Department, UC Berkeley, 2015–Present.
Associate Professor, School of Information, UC Berkeley, 2002–2008.
Assistant Professor, School of Information, UC Berkeley, 1997–2002.
Member of the Research Staff, Xerox Palo Alto Research Center, 1994–1997.

education

Ph.D, Computer Science, University of California, Berkeley, 1994.
Dissertation: *Context and Structure in Automated Full-Text Information Access.*
Advisor: Robert Wilensky.

M.S., Computer Science, University of California, Berkeley, 1989.
Advisor: Michael Stonebraker.

B.A. Computer Science, University of California, Berkeley, 1985.
Graduated with distinction and honors in Computer Science.

selected honors & awards

Fellow of the ACM, 2013.
Member of the CHI Academy, 2017.
Excellence in Teaching Award (student voted), 2015, 2014, 2002, 1999.
NSF CAREER Grant, 2000.
Okawa Foundation Fellow, 1998.

selected leadership positions

President of the Association for Computational Linguistics, 2018.
Vice President, Association for Computational Linguistics, 2017.
Leadership position in U.S. Federal Government, 2009–2011.
Advisory Board Member, CACM Magazine, 2007 – present.
NSF/CISE Advisory Committee, 2004 – 2006.
Steering Committee, AAAI ICWSM conference, 2013 – 2015.
Steering Committee, ACM Learning@Scale conference, 2014–2016.
Co-Founder and program co-chair, ACM Learning@Scale Conference, 2014.
General Chair, AAAI ICWSM, 2010.
Program Co-chair, ACL HLT-NAACL, 2003.
Program Co-chair Chair, ACM SIGIR, 1999.

selected recent invited talks

Keynote speaker, Web Intelligence Conference, "The Intersection of Language, Algorithms, and Design," Santiago Chile, 2018.

Keynote speaker, LinkedIn Data Analytics week, "Visual Narrative for Insights from Data", Sunnyvale, CA, 2018.

Presidential Address, ACL Annual Meeting, "ACL At Your Service," Melbourne, Australia, 2018.

Keynote speaker, IJCAI, "As We Train the AI, so the AI Can Train Us," Melbourne, 2017.

Distinguished speaker, Microsoft Computing in the 21st Century conference, "Learning at Scale as a Driver of Innovation," Seoul, South Korea, 2016.

Keynote speaker, Association for Computational Linguistics, "Can Natural Language Processing Become Natural Language Coaching?," Beijing, 2015.

Keynote speaker, ACM SIGIR, "Seeking Simplicity in Search User Interfaces," Gold Coast, Australia, 2014.

selected publications

Book

Marti Hearst. *Search User Interfaces*. Cambridge University Press, 2009.

Selected Journal Articles

Nakov, P., and Hearst, M., Semantic Interpretation of Noun Compounds Using Verbal and Other Paraphrases, *ACM Transactions on Speech and Language Processing*, special issue on Multiword Expressions, 10 (3), 2013.

Hearst, "'Natural' Search User Interfaces," *Communications of the ACM*, 54(11), p. 60-67, Nov 2011.

Divoli, A., Wooldridge, M., and Hearst, M., "Full Text and Figure Display Improves Bioscience Literature Search", *PLoS ONE* 5(4): e9619, April 2010.

Hearst, M. Clustering versus Faceted Categories for Information Exploration, in *Communications of the ACM*, 49(4), April, 2006.

Pevzner, L., and Hearst, M., "A Critique and Improvement of an Evaluation Metric for Text Segmentation," *Computational Linguistics*, 28 (1), March 2002.

Selected Conference Papers

Laskowski, P., Karayev, S., and Hearst, M. How Do Professors Format Exams? An Analysis of Question Variety at Scale, ACM Learning@Scale 2018.

Head, A., Glassman E.L., Hartmann, B., and Hearst, M.A., Interactive Extraction of Examples from Existing Code, ACM CHI, May 2018.

Coetzee, D., Lim, S., Fox, A., Hartmann, B., and Hearst, M.A. Structuring Interactions for Large-Scale Synchronous Peer Learning, ACM CSCW, March 2015.

Yee, K-P., Swearingen, K., Li, K., and Hearst, M., Faceted Metadata for Image Search and Browsing, ACM CHI April, 2003.

Schwartz, A., and Hearst, M., "A Simple Algorithm for Identifying Abbreviation Definitions in Biomedical Text," PSB, Kauai, Jan 2003.

Hearst, M. "Automatic Acquisition of Hyponyms from Large Text Corpora," COLING, Nantes, France, July 1992.

selected service

UC Berkeley Committee on Committees (Fall 2016 – Spring 2018)

UC Berkeley Committee on Courses (Fall 2014 – Spring 2016)

ACM Transactions on Computer-Human Interaction (TOCHI) (Associate Editor) 2002–2018

ACM Transactions on the Web TWEB (Associate Editor) 2006–2012

ACM Transactions on Information Systems (TOIS) (Associate Editor) 1997–2005

Computational Linguistics (Associate Editor) 1999–2002

selected diversity efforts

Regularly participate in programs that introduce underrepresented undergraduates to research by directly advising them.

Regularly speak at women in computing events.

Have advised a large number of female CS PhD students to completion and successful careers.

Nominated the 2017 winner of the CRA outstanding female undergraduate researcher award.

In my teaching, I strive to make technical material understandable to students from a diversity of backgrounds.

selected research results

Search

Developed the Flamenco faceted search project, which is widely recognized to have influenced product search engines the world over, as well as search engines for digital libraries and online museums. The BioText search project has influenced PubMed and SemanticScholar. Wrote *Search User Interfaces*, the first major academic book on the topic; full text is available free online.

Computational Linguistics

Well-known Text analysis algorithms include the Schwartz and Hearst abbreviation recognition algorithm, the TextTiling algorithm for multi-paragraph discourse segmentation, and "Hearst patterns" for automatic extraction of nouns in hyponymy (is-a) relationships.

Education

Have integrated active peer learning into my teaching, and conducted research into how to introduce this method online. Results include showing benefits from using structured peer learning incentives in remote group work and new methods for evaluating the design of visualizations for classwork at scale.