# Jane E. Hayes (publishes as Jane Huffman Hayes)

## A. Professional Preparation

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|---|---|---|---|
| Hanover College | Geology and Political Science (double major) | BA (Cum Laude) | 1983 |
| University of Southern Mississippi | Computer Science | MS | 1987 |
| George Mason University | Information Technology | PhD | 1999 |

## B. Appointments

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|---|---|
| Jan 2007 - | Associate Professor of Computer Science, University of Kentucky |
| Jan 2001 - 2007 | Assistant Professor of Computer Science, University of Kentucky |
| Jan 2001 - 2007 | Consultant, Science Applications International Corporation |
| Nov 1984 – Jan 2001 | Corporate Vice President/Operation Manager, Science Applications International Corporation |

## C(i). Most Significant Publications

1. **Jane Huffman Hayes**, Alex Dekhtyar, and Senthil Sundaram, "Advancing Candidate Link Generation for Requirements Tracing: The Study of Methods," IEEE Transactions on Software Engineering, Volume 32, No. 1, pp. 4-19, January 2006.

2. **Jane Huffman Hayes**, Alexander Dekhtyar, James Osbourne, "Improving Requirements Tracing via Information Retrieval," in Proceedings of the International Conference on Requirements Engineering (RE), Monterey, California, September 2003, pp. 138 – 148.

3. **Jane Huffman Hayes**, Timothy C. Lethbridge, and Daniel Port, "Evaluating Individual Contribution Toward Group Software Engineering Projects," in Proceedings of the International Conference on Software Engineering (ICSE), Portland, OR, May 2003, pp. 622-627.

4. A. Jefferson Offutt and **J. Huffman Hayes**, "A Semantic Model of Program Faults," published in The Proceedings of the International Symposium on Software Testing and Analysis (ISSTA), ACM, San Diego, CA, January 1996, pp. 195-200.

5. **Jane Huffman Hayes**, Alex Dekhtyar, Senthil Karthikeyan Sundaram, and Sarah Howard, "Helping Analysts Trace Requirements:  An Objective Look," in Proceedings of IEEE Requirements Engineering Conference (RE) 2004, Kyoto, Japan, September 2004, pp. 249-261.

## C(ii). Other Publications

1. **Jane Huffman Hayes** and Alex Dekhtyar, "A Framework for Comparing Requirements Tracing Experiments," International Journal on Software Engineering and Knowledge Engineering (IJSEKE), Volume 15, Number 5, October 2005, pp. 751 - 781.

2. **Jane Huffman Hayes**, Alex Dekhtyar, and Senthil Sundaram*, "Improving After the Fact Tracing and Mapping to Support Software Quality Predictions," IEEE Software, Volume 22, Number 6, November/December 2005, pp. 30 – 37.

3. **Jane Huffman Hayes**, Alex Dekhtyar, Senthil Sundaram*, "Humans in the Traceability Loop: Can't Live With 'Em, Can't Live Without 'Em," accepted to Workshop on Traceability of Emerging Forms of Software Engineering (TEFSE), to be presented in Long Beach, CA on November 8, 2005, pp. 20 - 23.

4. Hakim Sultanov, **Jane Huffman Hayes**, "Application of Swarm Techniques to Requirements Engineering:  Requirements Tracing," to appear in Proceedings of IEEE International Conference on Requirements Engineering (RE), September 2010, Sydney, Australia.

5. David Cuddeback, Alex Dekhtyar, **Jane Huffman Hayes,** "Automated Requirements Traceability: the Study of Human Analysts," to appear in Proceedings of IEEE International Conference on Requirements Engineering (RE), September 2010, Sydney, Australia.

## D. Synergistic Activities
1. I am developing a software engineering curriculum for the department. Have thus far developed 5 courses: graduate-level software engineering survey course, graduate-level requirements engineering course, graduate-level software design course, graduate-level and upper-division software testing and quality evaluation course, graduate-level and upper-division experimental software engineering course, and undergraduate Senior Design Project course (I re-designed this course, it previously had no software engineering content).
2. Developed, and continuing to develop and maintain, numerous worthwhile software products such as PheTracker (helps PKU disease sufferers track their phenylalanine milligrams), Stereologist (a stereology tool that assists M.D.s who perform research in facial bone regeneration), and Speak (an audio analysis tool that assists speech therapists and parents who are working with young children with hearing and/or speech impairments). These double as on-going experimental studies for my traceability and maintainability research.
3. Assisted Perot Systems to improve the maintainability of their software as well as to develop new means of performing cost and effort estimation for maintenance of potential customer's software (customers outsource their legacy code to Perot).
4. On a volunteer basis, set up and administered program at SAIC as well as personally transported 60+ personal computers, 70 monitors, 12+ printers, hundreds of keyboards, and hundreds of mice to the Powell County School system in eastern Kentucky, 1997 to 2007.
5. Assisted with redefinition of curriculum for Computer Science department, Fairmont State College, Fairmont, West Virginia, 1997.

## E(i). Collaborators within the last 48 months

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| Jeff Offutt, George Mason University | Alex Dekhtyar, CalPoly |
| Senthil Sundaram, Microsoft | David Cuddeback, CalPoly |
| Ashlee Holbrook, Lexmark | Giulio Antoniol, Ecole Polytechnique de Montreal |
| Hakim Sultanov, University of Kentucky | Yann-Gael Geuheunec, Ecole Polytechnique de Montreal |
| Olga Dekhtyar, CalPoly | Max di Penta, Università degli Studi del Sannio |
| Nasir Ali, Ecole Polytechnique de Montreal | Mary Biddle, University of Kentucky |
| Dan Port, University of Hawaii | Allen Nikora, CalTech, JPL |
| Rocco Oliveto, Università Sannio | Andrian Marcus, Wayne State University |
| Jane Cleland-Huang, DePaul University | Jean Domel, DePaul University |
| Inies Chemmannoor, Intel | LiGuo Huang, SMU |
| David Janzen, CalPoly | |

## E(ii). Graduate Advisor
Jeff Offutt, George Mason University

## E(iii). Graduate Advising
Senthil Sundaram, Microsoft, earned PhD in 2007
Ashlee Holbrook, Lexmark, earned PhD in 2008