

CURRICULUM VITAE

Anca L. Ralescu

Professional Preparation

University of Bucharest, Romania	Mathematics	M.A.	1972
Indiana University, Bloomington, Indiana, U.S.A.	Mathematics	M.A.	1981
Indiana University, Bloomington, Indiana, U.S.A.	Mathematics	Ph.D.	1983

Appointments

Sept. 2006 - present	Full Professor	CS Department, University of Cincinnati.
Sept. 1998 - Aug. 2006	Full Professor	ECECS Department, University of Cincinnati.
Sept. 1989 - Aug. 1998	Associate Professor	ECECS Department, University of Cincinnati.
Sept. 1983 - Aug. 1989	Assistant Professor	CS Department, University of Cincinnati.

Visiting Positions

Sept. 2006 - Aug. 2007	Visiting Professor	Academic Center for Computing and Media Studies Kyoto University, Japan.
2004 (June - July)	Visiting Professor	Laboratory of Informatics Paris 6, LIP6 Department of Artificial Intelligence University Pierre et Marie Curie - CNRS.
Nov. 1998 - Aug. 1999	Visiting Researcher	Laboratory for Information Synthesis, The Brain Science Institute, RIKEN, Japan.
1995 (May - June)	Visiting Professor	Laboratory for Pattern Recognition and Artificial Intelligence (LAFORIA), Institute Blaise Pascal, University of Paris VI, Paris, France.
1991 - 1995	Visiting Scholar & Assistant Director	Laboratory for International Fuzzy Engineering (LIFE) Yokohama, Japan.
1990 - 1991	Visiting Professor	LIFE Endowed Chair of Fuzzy Theory, Tokyo Institute of Technology, Japan.

Selected Awards and Fellowships

- University of Cincinnati, College of Engineering "Distinguished Researcher Award", June 2008.

- Laboratory for Mathematical Neuroscience, Brain Science Institute, RIKEN, Japan, Japanese Society for the Promotion of Science Senior Research Fellowship, May - June, 2004.
- Laboratory for Mathematical Neuroscience, Brain Science Institute, RIKEN, Japan, Japanese Society for the Promotion of Science Senior Research Fellowship, May - June, 2003.
- Laboratory for Mathematical Neuroscience, Brain Science Institute, RIKEN, Japan, Japanese Science and Technology Agency Senior Research Fellowship, March 27 - June 19, 2001.
- Department of Computational Intelligence, Tokyo Institute of Technology, Tokyo, Japan, Japanese Society for the Promotion of Science Senior Research Fellowship, March-May 1997.
- University of Cincinnati Faculty Achievement Award for Excellence in Research, Scholarship or Service, 1995.
- The ASEE Stanford-NASA Faculty Summer Fellowship, 1988-1989.
- The Faculty Summer Research Fellowship awarded by the University of Cincinnati Research Council, 1984.

Selected Grants and International Collaboration

- Anca L. Ralescu (PI), *Measuring the Distance & Similarity Between Heterogeneous Data Items* (\$204,030), Department of the Navy, December 18, 2006 - December 31, 2009.
- Anca L. Ralescu (PI), *Extended, and Multidimensional Conceptual Spaces*, (\$30,000), Lockheed Martin Integrated Solutions, January 1 - December 31, 2006.
- Anca L. Ralescu (PI), *Assessing Similarity in Conceptual Spaces using Fuzzy Hamming Distance*, (\$24,000), Lockheed Martin Integrated Solutions, January 1 - December 31, 2005.
- Anca L. Ralescu (PI), *Computing within Context with Applications to Pattern Recognition*, (\$209,000) Department of the Navy, June 2003 - May 2006.
- Anca L. Ralescu (PI, University of Cincinnati), Isabelle Bloch (Co-PI, ENST, Paris, France), *Image Interpretation under Uncertainty for Recognition of Structures in Aerial Images*, NATO International Scientific Exchange Program 1998-2000.
- Anca L. Ralescu (PI), *Research Topics in Fuzzy Logic and Applications*, International Programs – Long Term Visit to Japan – National Science Foundation 1991-1993.
- Anca L. Ralescu (PI), *Modeling Imprecision with Support Logic Programming*, National Science Foundation 1986-1987.
- Anca L. Ralescu (PI), *Modeling Imprecision with Support Logic Programming*, National Science Foundation - Research Experience for Undergraduates 1986-1987.
- Anca L. Ralescu (PI), *A Support Logic Calculus with Imprecise Quantifiers*, National Science Foundation US-UK Cooperative Science Program, 1986-1987.

Edited Books and Journals

1. Modeling with Words (Jonathan Lawry, James G. Shanahan, **Anca Ralescu**, eds.), Lecture Notes in Artificial Intelligence, Springer Verlag (October 2003).
2. Fuzzy Logic in Artificial Intelligence (**Anca Ralescu**, James G. Shanahan, eds.), Lecture Notes in Artificial Intelligence, **LNAI 1566**, Springer Verlag, 1999.

3. Fuzzy Logic in Artificial Intelligence (T. P. Martin, **Anca Ralescu**, eds.), Lecture Notes in Artificial Intelligence. **LNAI 1188**, Springer Verlag, 1996.
4. Fuzzy Logic in Artificial Intelligence (**Anca Ralescu**, editor), Lecture Notes in Artificial Intelligence. **LNAI 847**, Springer Verlag, 1994.
5. Fuzzy Logic in Artificial Intelligence (D. Driankov, P. Eklund, **Anca Ralescu** eds.), Lecture Notes in Artificial Intelligence. **LNAI 833**, Springer Verlag 1993.
6. Applied Research in Fuzzy Technology - Three years of research at the Laboratory for International Fuzzy Engineering (**Anca Ralescu**, ed.), Yokohama, Japan - Kluwer Academic Publishers, 1994.
7. Advances in Visual Information management Systems, Special Issue of the Journal of Intelligent Information Systems, (**Anca Ralescu**, Ramesh Jain, eds.), vol. 3, no. 3/4, July 1994.
8. Special Issue of the *International Journal for Fuzzy Sets and Systems* on Digital Signal Processing, (**Anca Ralescu**, J. G. Shanahan eds.), January 1996.

Other Professional Activities

1. **Conference Chair**, NAFIPS 2009, to be held at the University of Cincinnati, June 2009.
2. **Conference Chair and Program Chair**, the Nineteenth Midwestern Conference on Artificial Intelligence and Cognitive Science, MAICS 2008, held at the University of Cincinnati, April 2008.
3. **Area Chair for Panels**, IEEE Conference on Fuzzy Systems, FUZZ-IEEE 2007, Imperial College, London, UK, July 23-26, 2007.
4. **Founding Chair**, Berkeley Initiative in Soft Computing (BISC) Special Interest Group *Soft Computing and the Law*, Spring 2007 to present.
5. **Organizer and Session Chair**, Session on Intelligent Information Processing, IMPU 2006, Paris, France, July 2-7, 2006.
6. **Organizer and Session Chair**, Session on Intelligent Information Processing, IMPU 2004, Paris, France, July 4-9, 2004.
7. **Conference Chair and Program Chair**, the Fourteenth Midwestern Conference on Artificial Intelligence and Cognitive Science, MAICS 2003, University of Cincinnati, April 2003.
8. **Organizer and Session Chair**, Session on Intelligent Information Processing, IMPU 2004, Paris, France, July 1-5, 2002.
9. **Organizer and Chair**, Fuzzy Logic Day at the University of Cincinnati, March 1997.
10. **Initiator and Chair**, IJCAI Fuzzy Logic in AI Workshops:
 - 1991: Sydney, Australia.
 - 1993: Chamberry, France.
 - 1995: Montreal Canada.
 - 1997: Nagoya Japan.
11. **Reviewer** for various journals including (IEEE Transactions on Fuzzy Systems, International Journal on Fuzzy Sets and Systems, International Journal for Uncertainty, Fuzzy sets, and Knowledge based Systems.
12. **Reviewer** for various conferences, including MAICS, IPMU, FUZZ-IEEE.
13. Member of the editorial board of the International Journal for Advanced Intelligence Paradigms.

Selected Publications (out of over 130)

1. Chunsheng Fang, **Anca L. Ralescu**, Online Mixed Gaussian Model for Concept Modeling and Discovery, *International Journal of Intelligent Technologies and Applied Statistics*, Vol. 1, No. 2, September 2009.
2. Sofia Visa, **Anca Ralescu**, Data-driven fuzzy sets for classification, *International Journal of Advanced Intelligence Paradigms*, Volume 1, No. 1, October 2008, 3-30.
3. **Anca L. Ralescu**, Dan A. Ralescu, Yoko Yamakata, Inference by Aggregation of Evidence with Applications to Fuzzy Probabilities, *International Journal of Information Sciences* 177(2):378 - 387(2007).
4. Pando Georgiev, **Anca Ralescu**, Dan Ralescu, Cross-cumulants measure for the independence, *Journal of Statistical Planning and Inference*, 137: 1085 - 1098(2006).
5. Isabelle Bloch, **Anca Ralescu**: Directional Relative Position between Objects in Image Processing: A Comparison between Fuzzy Approaches, *Pattern Recognition*, 36(2003) 1563-1582.
6. **A. L. Ralescu**, J. G. Shanahan, Perceptual Organization for Inferring Object Boundaries, *Pattern Recognition*, 32.11(1999):1923-1933.
7. **Anca Ralescu**, Riad Hartani, Fuzzy Modeling based Approach to Facial Expression Understanding. *Journal of Advanced Computational Intelligence*, 1.1(1997):45-61.
8. J. Gasos, **A. Ralescu**, Using Imprecise Environment Information for Guiding an Image Recognition System, *International Journal of Fuzzy Sets and Systems*, 86.5(1997):265-288.
9. **A. Ralescu**, D. A. Ralescu, Extensions of Aggregations, *International Journal to Fuzzy Sets and Systems*, 86.3(1997):321-330.
10. N. Horseman, S. Engle, **A. Ralescu**, The Logic of Signaling from the Cell Surface to the Nucleus. *Trends Endocrinology and the Metabolism*, 8(1997):123-129.
11. Jorge Gasos, **Anca Ralescu**, Adapting Query Representation to Improve Retrieval in a Fuzzy Database. *International Journal of Uncertainty, Fuzziness and Knowledge-based Systems*, 3.1(1995):57-78.
12. **A. Ralescu**, Image Understanding = Verbal Description of the Image Contents, *The Journal of the Japanese Society for Fuzzy Theory and Systems*, August 1995.
13. S. Fukushima, **Anca Ralescu**, Improved Retrieval from a Fuzzy Database from Adjusted User Input, *Journal of Intelligent Information Systems*, 5.3(November 1995):249-274.
14. J. Gasos, **Anca Ralescu**, The Direct and Inverse Problem of Matching Fuzzy Sets Depending on Fuzziness, *Kybernetes*, 24.1(1995):9-17.
15. K. Miyajima, **A. Ralescu**, Spatial Organization in 2D Segmented Images: Representation and Recognition of Primitive Spatial Relations, *International Journal of Fuzzy Sets and Systems* 65(1994):225-236 .
16. H. Narazaki, **A. Ralescu**, Iterative Induction of a Category Membership Function, *International Journal of Uncertainty, Fuzziness and Knowledge-based Systems*, 2.1(March 1994):91-100.
17. K. Miyajima, **A. Ralescu**, M. Asada, Linguistic Description of Spatial Relations between Complex Objects, (in Japanese) *Journal of the Japan Society for Fuzzy Theory and Systems* 6.5(October 1994): 935-943.
18. H. Narazaki, **Anca Ralescu**, An alternative Method for Inducing a Membership Function of a Category. *International Journal of Approximate Reasoning*, 11(1994):1-27.

19. H. Narazaki, **Anca Ralescu**, An Improved Synthesis Method for Multi-layered Neural Networks using Qualitative Knowledge, *IEEE Transactions on Fuzzy Systems*, 1.2(May 1993):125-137.
20. Hiroshi Narazaki, **Anca Ralescu**, A Connectionist Architecture for Rule-base Inference using an Improved Relaxation Method, *IEEE Transactions on Neural Networks* 3.5(September 1992): 741-751.
21. **Anca Ralescu**, Dan Ralescu, Probability and Fuzziness. *Information Science* 34(1984):85-92.
22. **Anca Ralescu**, Takeshi Ishino, and Michihiko Minoh, Fuzzy Sets in Concept Representation using Conceptual Spaces, Proceedings of FUZZ-IEEE 2007, Hong Kong, June 1-6, 2008.
23. Pando Georgiev, **Anca Ralescu**, Fuzzy Skeletons and Statistical Learning Theory, Proceedings of the conference on Information Processing and Management of Uncertainty, IPMU 2008, Malaga, Spain, June 23-27, 2008.
24. **Anca Ralescu**, Stefana Popovici, Dan Ralescu, On Evaluating the Proximity between Heterogeneous Data, Proceedings of the Nineteenth Midwest Artificial Intelligence and Cognitive Science Conference, MAICS-2008, Cincinnati, Oh, USA, April 12-13, 2008.
25. **Anca Ralescu**, Michihiko Minoh, Measuring Proximity between Heterogeneous Data, Proceedings of FUZZ-IEEE 2007, Imperial College, London, UK, July 23-26, 2007.
26. Mircea Ionescu, **Anca Ralescu**, Sofia Visa, Fuzzy Similarity Measure between Heterogeneous Data, Proceedings of NAFIPS 2007, San Diego, California, June 24-27, 2007.
27. James Logan Mayfield, **A. Ralescu**, Computation with Two Dimensions of Uncertainty - Fuzzy Computers, Proceedings of NAFIPS 2007, San Diego, California, June 24-27, 2007.
28. **Anca Ralescu**, Sofia Visa, Obtaining Fuzzy Sets from Data using the Mass Assignment Theory - Consistency with Interpolation, Proceedings of NAFIPS 2007, San Diego, California, June 24-27, 2007.
29. Sofia Visa, **Anca Ralescu**, Mircea Ionescu, Investigating Learning Methods for Binary Data, Proceedings of NAFIPS 2007, San Diego, California, June 24-27, 2007.
30. Mircea Ionescu, **Anca Ralescu**, Multidimensional Conceptual Spaces for Summarization, Proceedings of FUZZ-IEEE 2006, July 16-19, 2006, Vancouver, Canada, pages not yet available.
31. Mircea Ionescu, **Anca Ralescu**, Implementation of Concepts Space with Applications to Image Retrieval, Proceedings of IPMU-2006, July 2-7, 2006, Paris, France, pages not yet available.
32. Mircea Ionescu, **Anca Ralescu**, Extension of the Concept Representation in Conceptual Spaces, NAFIPS 2006, June 3-6, 2006, Montreal, Canada, pages not yet available.
33. James L. Mayfield, **Anca Ralescu**, Parameterized Quantum Gates and Multidimensional Uncertainty of Information, NAFIPS 2006, June 3-6, 2006, Montreal, Canada, pages not yet available.
34. James L. Mayfield, **Anca Ralescu**, Universal Amplitude/Phase Gates for Quantum Algorithm Design, Proceedings of the Seventeen Midwest Artificial Intelligence and Cognitive Science Conference, MAICS-2005, Valparaiso, Indiana, April 3-4, 2006.
35. Sofia Visa, **Anca Ralescu**, Bayes classifiers - a particular case of fuzzy classifiers, Proceedings of IPMU-2006, July 2-7, 2006, Paris, France, pages not yet available.
36. Sofia Visa, **Anca Ralescu**, On the relation between Bayes and fuzzy classifiers, Proceedings of FUZZ-IEEE 2006, July 16-19, Vancouver, Canada.
37. Sofia Visa, **Anca Ralescu**, Fuzzy classifiers versus cost-based Bayesian classifiers - a preliminary study, NAFIPS 2006, June 3-6, 2006, Montreal, Canada, pages not yet available.

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3. Fuzzy Logic in Artificial Intelligence (T. P. Martin, **Anca Ralescu**, eds.), Lecture Notes in Artificial Intelligence. **LNAI 1188**, Springer Verlag, 1996.
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8. Special Issue of the *International Journal for Fuzzy Sets and Systems* on Digital Signal Processing, (**Anca Ralescu**, J. G. Shanahan eds.), January 1996.

Lectures and other Presentations

1. **Living in a Global World**, Institute for Language and Culture, Konan University, Kobe, Japan, July 13, 2007.
2. **Fuzzy Classifiers versus Bayes Classifiers; System Identification for Estimation of the Remaining Lifetime of a Diesel Engine**, Omron Research Center, Kyoto, Japan, July 9, 2007.
3. **Fuzzy Classifiers versus Bayes Classifiers**, Graduate School of Engineering Kobe University, July 2, 2007.
4. **Conceptual Spaces for Information Exploitation**, Minoh Laboratory, Academic Center for Computing and Multimedia Studies, Kyoto University, Kyoto, Japan, November 2, 2006.
5. **Fuzzy Classifiers**, LIP 6, Université Pierre et Marie Curie, Paris, France, September 11, 2005.
6. **Context sensitive measures of similarity**, CS Department, University of Malta, La Valleta, Malta, April 6, 2005.
7. **Weighted Euclidean distance, generalized Hamming distance and applications**, Department Images, Ecole Nationale Supérieure des Telecommunications, Paris, France, April 1, 2005.
8. **Context sensitive measures of similarity**, ECE Department, University of Cyprus, Nicosya, Cyprus, March 30, 2005.
9. **Treatment of generalized quantifiers using fuzzy sets**, Workshop on Computing with Words, University of California, Berkeley, CA, March 9-11, 2005.
10. **Fuzzy Logic-based Qualitative Modeling**. Presented at The Brain Science Institute (Mathematical Neuroscience Laboratory), RIKEN, Japan, on May 31, 2001.
11. **Context-dependent Pattern Extraction from Micro-array Data**. Presented at:

- The Seminar on Artificial Intelligence and Decision Processes, Laboratoire d'Informatique de Paris 6, *Université Pierre et Marie Curie*, Paris, France, on September 13, 2001.
 - The Brain Science Institute (Mathematical Neuroscience Laboratory), RIKEN, Japan, on May 23, 2001.
12. **On Geometric and Statistic Measures of Divergence.** Presented at The Brain Science Institute (Mathematical Neuroscience Laboratory), RIKEN, Japan, on May 24, 2001.
 13. **Overview of the LIFE Project in Japan.** Key note speech at the panel on the LIFE Project, IFAC'96, San Francisco, June 30-July 3 1996.
 14. **Incremental Fuzzy Modeling of Numerical Data.** Presented at The International Conference on Information Processing and Management of Uncertainty, Granada July 1-5, 1996.
 15. **Towards Incremental Fuzzy Modeling using an Abductive Mechanism.** Presented at EUFIT-96, Aachen, September 1996.
 16. **Computing with Fuzzy Quantifiers.** Presented at the First International Workshop on Soft Computing and Logic programming. Bonn, September 6 1996.
 17. **Fuzzy Methods in Image Understanding.** Presented at the Institute Blaise Pascal, University Paris VI (Jussieu), Paris, France, June 115 1995.
 18. **Issues in Fuzzy Modeling - Application to Facial Information Processing.** Presented at:
 - FSL Automation, Copenhagen, Denmark, July 14 1995;
 - Imperial College - Dept. of Computer Science, August 3, 1995.
 - Technical University of Vienna, Christian Doppler Laboratory, August 14, 1995;
 - Shell Central Research Laboratory, The Hague, September 6 1995.
 19. **Fuzzy Modeling of the Human Perception of Face Photographs.** Presented in December 1994 at:
 - Air Force Institute of Technology, Dayton, Ohio;
 - National Institutes of Standards and Technology, Bethesda Maryland;
 - Army Research Laboratory, Adelphi, Maryland;
 - Navy Research Laboratory, Arlington, Virginia.

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1. **Conference Chair**, NAFIPS 2009, to be held at the University of Cincinnati, June 2009.
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11. **Reviewer** for various conferences, including MAICS, IPMU, FUZZ-IEEE.