

# GHEORGHE MURESAN

School of Communication, Information and Library Sciences  
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## Career Goal

- To use my creativity, knowledge and skills and to contribute to pushing the limits of human knowledge, to the development of science and technology, and to making technology more user-friendly.
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## Research Interests and Skills:

- Information Retrieval (Personalization, Document Clustering, Language Models, Mediated/Assisted IR, User Behavior in Information-Seeking Environments, User Modeling, Adaptive Systems), Human-Computer Interaction (IR User Interfaces and Visualization of Information), Cognitive Psychology (Learning and Information Seeking Models), Machine Learning and Data Mining
  - Object-Oriented Technology, Design Patterns, Software Frameworks, Agile Methodologies, Java, C/C++, Python, R, SPSS, UML, XML, Internet Algorithms/Programming, Database Design
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## Education:

- 1996 - 2002  
School of Computer and Mathematical Sciences, Robert Gordon University, UK  
**PhD in Computer Science**  
Thesis: "Using Document Clustering and Language Modelling in Mediated Information Retrieval"; Adviser: David J. Harper; Sponsor: Ubilab, UBS, Zurich.
- 1987 - 1992  
Computer Science Department, Technical University of Cluj-Napoca, Romania  
**Diploma of Engineer, Computer Science**  
Grade 10/10 in diploma exam; GPA: 9.65/10  
Thesis: "Deductive System with Multiple Resolution Strategies"  
Major projects in Artificial Intelligence ("Scheduler for Transformations in the Blocks World"), Computer Aided Design ("Simulation of a Logical Circuit", "Simulation of an Electric Motor"), Compilers ("Optimisation of the Intermediate Code"), Computer Graphics ("Graphical Grammars for Simulating Plants Growth")
- 1982 - 1986  
Computer Science High School "Tiberiu Popoviciu", Cluj-Napoca, Romania  
**Baccalaureate - Mathematics and Computer Science**  
Grade 9.62/10 in diploma exam; GPA: 8.99/10

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## Work Experience

- 2002 - present  
Department of Library and Information Sciences, Rutgers University  
**Assistant Professor**  
Conducting research in Information Retrieval, supervising graduate students in research projects, teaching IR and Programming at PhD, MLIS and undergraduate level.
- 2001  
School of Computer and Mathematical Sciences, The Robert Gordon University  
**Part-time Lecturer**  
Taught *Computer Systems, Applications Software* and *Java Object-Oriented Programming* at undergraduate level.
- 1999 - 2000  
School of Computer and Mathematical Sciences, The Robert Gordon University  
**Research Assistant**  
Designed and built the WebCluster and ClusterBook prototypes, exploring the use of *Document Clustering* and *Language Models for Information Retrieval*
- 1996 - 1997  
School of Computer and Mathematical Sciences, The Robert Gordon University  
**Teaching Assistant**  
Gave lectures and tutorials in *Object-Oriented Programming with C++* to MSc and undergraduate students  
Designed and coded an Electronic Conferencing System and used it as support for tutoring *Design Patterns* and *Object-Oriented Databases* to MSc students
- 1994 - 1996  
School of Computer and Mathematical Sciences, The Robert Gordon University  
**System/Applications Programmer**  
Administered the School Novell and Sun networks  
Installed and configured various software packages in support for teaching and research
- 1994  
Department of Computer Science, University of Aberdeen  
**Teaching Assistant**  
Gave tutorials and practicals in *Assembly Language Programming, Data Communication, and Data Structures & Pascal Programming*  
Designed and implemented demonstration projects for the *Data Communication* and *Object-Oriented Analysis, Design & Programming* courses
- 1992 - 1993  
Dacia-Felix Bank, Cluj-Napoca, Romania  
**Computer Engineer**  
Designed and implemented banking software and databases  
Took part in implementing an IT strategy for the bank, its data communications and security  
Administered the computer network

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## Awards and grants

- 2005, 2006  
**FASIP Award** – Rutgers University.
- 2006 - 2007  
\$1800 Rutgers University **Research Council Grant** for the project “TREC – Jumping tracks”.
- 2006 - 2007  
\$1472 SCILS G2GG (Grant to Get Grants) for project “Using Relevance Feedback for an Adaptive Personalized Information Retrieval System”.
- 2005 - 2006  
\$2200 Rutgers University **Research Council Grant** for the project “The Cluster Hypothesis Revisited”.
- 2004 - 2005  
\$673 SCILS G2GG (Grant to Get Grants) - for project “An Analysis of Interactive TREC Queries”.
- 2004  
**Research Development Initiative Grant** from the Scottish Higher Education Funding Council for a summer Visiting Researcher position at the Robert Gordon University.
- 2004  
EU Sixth Framework Programme **travel grant** to attend SIGIR 2004.
- 2004  
\$1900 Rutgers University **Research Council Grant** for the project “Extracting topic models from search queries”.
- 2004  
\$1500 Rutgers University **Undergraduate Research Grant** for the project “XML-based integrated approach to user interaction modeling”.
- 1997-2001  
**PhD Sponsorship** from Ubilab, Union Bank of Switzerland, Zurich.
- 1996-1997  
**PhD Studentship** from the School of Computing and Mathematical Sciences, Robert Gordon University, UK
- 1993  
**Soros Studentship** for Summer School in Banking and Finance at London Guildhall University.
- 1991  
**Studentship** for a Course in Advanced Programming from Budapest Technical University.
- 1982-1992  
Various **awards** at local and national level of student Olympiads in Mathematics, Programming, Physics, Mechanics and French.
- 1986  
**Third prize** at the national level in the Romanian Student Symposium for the paper/demo "Computer Games - Strategy and Implementations".

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## Publications

### Ph.D. thesis

- **Gheorghe Muresan** (2002) *Using Document Clustering and Language Modelling in Mediated Information Retrieval*, Ph.D. thesis, School of Computing, Robert Gordon University, UK.

### Books, book chapters, proceedings

- **P. Kantor, G. Muresan, F. Roberts, D. Zeng, F.-Y. Wang, H. Chen, R.C. Merkle (eds)** (2005) Intelligence and Security Informatics, Proceedings of the IEEE International Conference on Intelligence and Security Informatics, ISI 2005, Atlanta, GA, USA, May 19-20, 2005, Springer, ISBN: 3-540-25999-6.
- **Ryen W. White, Gheorghe Muresan and Gary Marchionini (eds.)** (2006) Proceedings of the SIGIR Workshop on Evaluating Exploratory Search Systems (EESS 2006), Seattle, WA, August 2006.

### Journal publications (refereed)

- **Gheorghe Muresan and David J. Harper** *Topic Modelling for Mediated Access to Very Large Document Collections*, JASIST 55 (10): 892-910, Special Topics Issue: Document Search Interface Design for Large-Scale Collections and Intelligent Access, August 2004.

### Journal publications (not refereed)

- **Ryen W. White, Gheorghe Muresan and Gary Marchionini** (2006) *Workshop on Evaluating Exploratory Search Systems*, SIGIR Forum, 40(2): 52-60, December 2006, ACM Press.

### Refereed conference papers

- **Gheorghe Muresan and Dmitri Roussinov** (2006) *Where Do Good Query Terms Come From?*, Proceedings of the Annual Meeting of the American Society for Information Science and Technology (ASIST 2006), Austin, Texas, November 2006.
- **G. Muresan, C. L. Smith, M. Cole, L. Liu, N.J. Belkin** (2006) *Detecting Document Genre for Personalization in Information Retrieval*, in Proceedings of the Hawaii International Conference on System Sciences (HICSS-39), Kauai, Hawai'i, January 2006.
- **G. Muresan, M. Cole, C. L. Smith, L. Liu, N.J. Belkin** (2006) *Does Familiarity Breed Content ? Taking Account of Familiarity with a Topic in Personalizing Information Retrieval*, in Proceedings of the Hawaii International Conference on System Sciences (HICSS-39), Kauai, Hawai'i, January 2006.
- **N.J. Belkin, M. Cole, J. Gwizdka, Y.-L. Li, J.-J. Liu, G. Muresan, D. Roussinov, C. L. Smith, A. Taylor, X.-J. Yuan** (2005) *Rutgers Information Interaction Lab at TREC 2005: Trying HARD*, in Proceedings of TREC 2005, Gaithersburg, November 2005.
- **E. R. Muresan and G. Muresan** (2005) *Using Information Communication Technology (ICT) to Teach Business Finance Concepts*, in Proceedings of the National Seminar on Soft Computing, Intelligent Systems, and Information Technology (SIIT 2005), Surabaya, Indonesia, July 2005.

- **N.J. Belkin, I. Chaleva, M. Cole, Y.-L. Li, L. Liu, Y.-H. Liu, G. Muresan, C. L. Smith, Y. Sun, X.-J. Yuan, X.-M. Zhang** (2004) *Rutgers' HARD Track Experiences at TREC 2004*, in Proceedings of TREC 2004, Gaithersburg, November 2004.
- **David J Harper, Gheorghe Muresan, Bicheng Liu, Ivan Koychev, Dietrich Wettschereck, and Nirmalie Wiratunga** (2004) *The Robert Gordon University's HARD Track Experiments at TREC 2004*, in Proceedings of TREC 2004, Gaithersburg, November 2004.
- **Mingfang Wu, Gheorghe Muresan, Alistair McLean, Muh-Chyun (Morris) Tang, Ross Wilkinson, Yuelin Li, Hyuk-Jin Lee, Nicholas J. Belkin** (2004) *Human Versus Machine in the Topic Distillation Task*, in Proceedings of SIGIR 2004, Sheffield, England, July 2004.
- **N.J. Belkin, D. Kelly, H.-J. Lee, Y.-L. Li, G. Muresan, M.-C. Tang, X.-J. Yuan, X.-M. Zhang** (2003) *Rutgers' HARD and Web Interactive Track Experiments at TREC 2003*, in Proceedings of TREC 2003, Gaithersburg, November 2003.
- **N.J. Belkin, C. Cool, D. Kelly, G. Kim, J.-Y. Kim, H.-J. Lee, G. Muresan, M.-C. Tang, X.-J. Yuan** (2003) *Query Length in Interactive Information Retrieval*, in Proceedings of SIGIR 2003.
- **N.J. Belkin, C. Cool, D. Kelly, G. Kim, J.-Y. Kim, H.-J. Lee, G. Muresan, M.-C. Tang, X.-J. Yuan** (2002) *Interaction and Query Length in Interactive Retrieval*, in Proceedings of TREC 2003, Gaithersburg, November 2002.
- **Gheorghe Muresan and David J. Harper**(2001) *Document Clustering and Language Models for System-Mediated Information Access* in Proceedings of the 5th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2001), Darmstadt, pp.438-449, ISBN 3-540-42537-3.
- **David J. Harper, Mourad Mechkour and Gheorghe Muresan**(1999) *Document Clustering for Mediated Information Access* In Proceedings of the 21st BCS-IRSG Annual Colloquium on IR Research, Glasgow, Scotland, 19-20 April 1999.

#### **Refereed workshops or conference posters / demos**

- **Gheorghe Muresan** (2006) *An investigation of query expansion terms*, Proceedings of the Annual Meeting of the American Society for Information Science and Technology (ASIST 2006), Austin, Texas, November 2006 (short paper / poster).
- **Gheorghe Muresan** (2006) *An Integrated Approach to Interaction Modeling and Analysis for Exploratory Information Retrieval*, Workshop on Evaluating Exploratory Search Systems (EESS 2006) at SIGIR 2006, Seattle, WA, August 2006.
- **Ryen W. White, Gheorghe Muresan and Gary Marchionini** (2006) *Evaluating Exploratory Search Systems*, Workshop on Evaluating Exploratory Search Systems (EESS 2006) at SIGIR 2006, Seattle, WA, August 2006.
- **Gheorghe Muresan, Lu Liu, Michael Cole, Catherine L. Smith, Nicholas J. Belkin** (2005) *The Effect of Document Readability on Perceived Familiarity and Relevance*, Proceedings of the American Society for Information and Technology, ASIST'05, Charlotte, NC, Oct-Nov 2005 (short paper / poster).
- **N.J. Belkin, G. Muresan and X.-M. Zhang**, (2004) *Investigating the Effect of the Use of User's Context on IR Performance*, in Workshop on Information Retrieval in Context (IRiX) at SIGIR 2004, Sheffield, England, July 2004.

- **Nicholas J. Belkin and Gheorghe Muresan** (2004) *Measuring Web Search Effectiveness: Rutgers at Interactive TREC*, in Measuring Web Search Effectiveness: The User Perspective, workshop at WWW 2004, May 2004, New York.
- **David J. Harper and Gheorghe Muresan** (2002) *Mediated Access to Very Large Document Collections*, in Proceedings of the Workshop on Document Search Interface Design and Intelligent Access in Large-Scale Collections, JCDL '02, Portland, Oregon.
- **Gheorghe Muresan, David J. Harper and Ayse Goker** (2001) *ClusterBook, a Tool for System-Mediated Access via Clustered Collections*, ECDL '01, Darmstadt, Germany, September 2001 (Demo/poster).
- **Gheorghe Muresan, David J. Harper, Ayse Goker and Peter Lowit** (2000) *ClusterBook, a Tool for Dual Information Access* In Proceedings of ACM-SIGIR 2000, Athens, July 2000, (Demo).
- **Gheorghe Muresan, David J. Harper and Mourad Mechkour** (1999) *WebCluster, a tool for Mediated Information Access* In Proceedings of ACM-SIGIR'99, Berkeley, August 1999, (Demo).
- **Mourad Mechkour, David J. Harper and Gheorghe Muresan** (1998) *The WebCluster Project. Using Document Clustering for Mediating Access to the World Wide Web*. In Proceedings of ACM-SIGIR'98, Melbourne, Australia, 24-28 August 1998. (Poster)

### Book reviews

- **Gheorghe Muresan**, review of “TREC – Experiment and Evaluation in Information Retrieval”, edited by Ellen M. Voorhees and Donna K. Harman, The MIT Press, 2005, ISBN: 0-262-22073-3, Information Processing & Management, 43(1):285-287, January 2006.

### Work in progress

- **Gheorghe Muresan**, *An Integrated Approach to Interaction Design and Log Analysis*, chapter proposal accepted for the Handbook of Web Log Analysis, Idea Group Publishing.
- **Gheorghe Muresan**, *Exploring Interactive Information Retrieval: An Integrated Approach to Interface Design and Interaction Analysis*, submitted to RIAO 2007.
- **Gheorghe Muresan**, *Integrating Interaction Design and Log Analysis: Bridging the Gap with UML, XML and XMI*, submitted to the Journal of Web Engineering (JWE) special issue on Logging Traces of Web Activity.
- **Gheorghe Muresan**, *Man vs. Machine in a HARD Task – an Investigation of Query Expansion*. Targeted: Information Processing & Management.
- **Gheorghe Muresan & David J. Harper**, *Combining Evidence is HARD*. Targeted: Information Retrieval or JASIST.
- **Gheorghe Muresan, Hyuk-Jin Lee, Nicholas J. Belkin, David J. Harper**, *A User-Centered Evaluation of Mediated Access to the Web*. Targeted: JASIST.
- **Gheorghe Muresan**, *The Cluster Hypothesis Revisited*. Targeted: Information Processing & Management or Information Retrieval.

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## Research Supervision

### Co-supervised PhD theses:

- 2004 – Yang-woo Kim (PhD) – “Typology of User Uncertainty in Web-based Information Seeking: Insight into the Information Seeking Context of Scholarly Researchers in the Field of Science” – member of the thesis committee; primary advisor: Carol Kuhlthau.
- 2005 – Ulukbek Ibraev (PhD) – “Imposing Graph Structures on Space-Time Densities for Indexing and Retrieval” – member of the thesis committee; primary advisor: Paul Pantor.
- 2006 – Hyuk-Jin Lee (PhD) – “Mediated Information Retrieval for the Web Environment” – member of the thesis committee; primary advisor: Nicholas J. Belkin

### Supervised independent studies:

- Spring 2006 – Andrius Kirkyla (PhD) – “The Design and Evaluation of a Collaborative Bibliographic System”
- Fall 2004 – Dae-Joong Kim (MCIS) – “The Design and Evaluation of a New Web Browser”
- Spring 2004 – Lu Liu (PhD) – “A Comparison of Machine Learning Algorithms for Categorization”
- Fall 2003 - Spring 2004 – Sonya Barshikar, Daniel Portilla, Keiju Yeh, Jonathan Thomas, Matthew Ellis (ITI) – “XML-based Integrated Approach to User Interaction Modeling”, sponsored by the Rutgers Undergraduate Research Fellowships Program.

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## Relevant Professional Activities

### Invited talks

- Nov '06 – Invited lecture on *Mediated Information Retrieval: The WebCluster and MIR projects*, in the Computer Science Department, University of North Texas, Dallas, TX.
- Jul '06 – Invited lecture on *A brief look at research in Information Retrieval* in the Computer Science Department, Technical University of Cluj, Cluj-Napoca, Romania.
- Nov '05 – gave a presentation on *Collaboration via Mediated Information Access* at the New Jersey University Consortium for Homeland Security Symposium, organized by The New Jersey Institute of Technology (NJIT) in Newark, NJ.
- Oct '05 – presented the Rutgers Interactive IR research group's poster *The Effect of Document Readability on Perceived Familiarity and Relevance* at the Annual Meeting of the American Society for Information Science and Technology (ASIST 2005). July '04 – gave two invited talks, *Mediated Information Access to the World Wide Web* and *Personalized Information Retrieval*, at the National Seminar on Soft Computing, Intelligent Systems, and Information Technology (SIIT 2005), Surabaya, Indonesia.

- Nov '04 – presented Rutgers' poster at the TREC 2004 Conference and gave a presentation in the HARD track workshop.
- Apr '04 – poster, presentation and demo, *XML-based integrated approach to user interaction modeling*, at Rutgers Undergraduate Research Week.
- Mar '03 – presented poster, *Mediated Information Access*, at Rutgers SCILS Research Day.
- Nov '02 – gave talk on information Retrieval at New Jersey Institute of Technology.
- Nov '02 – presented poster and demo, *Rutgers Interactive Track at TREC 2002*, at TREC 2002 in Gaithersburg, MD.
- Aug '99 - gave talks and demos on WebCluster at the Information and Computer Science Department, University of California, Irvine, and the Information Sciences Institute, University of Southern California, Marina del Rey, CA.
- Aug '99 - presented a demo of WebCluster at SIGIR'99 in Berkeley, CA.
- Apr '99 - presented a paper at the 21<sup>st</sup> Annual Colloquium on IR Research in Glasgow.
- Dec '98 - gave a seminar on WebCluster at City University, London.
- Oct '98 - presented the first demo of WebCluster at the MIRA workshop in Dublin.
- Sep '98 - presented the WebCluster project at the 2<sup>nd</sup> BCS IR-HCI workshop in Glasgow.
- June '97 - gave a seminar on Document Clustering for Information Retrieval at the Institute for Information Technology, Ottawa.

### **Panel**

- Took part in panel on Evaluating Success in Search Systems and gave the presentation “*Measuring Search Effectiveness: Lessons from Interactive TREC*”, ASIST 2005.

### **Member of the Organizing Committee for:**

- International Conference in Asian Digital Libraries, Bali, Indonesia, 2008.
- Workshop on *Evaluating Exploratory Search Systems*, proposed for SIGIR 2006.
- New York Area Spring 2006 Database / Information Retrieval Day (<http://dbirday2006.rutgers.edu/>).
- The 19<sup>th</sup> Annual British Computer Society (BCS) Information Retrieval Special Interest Group (IRSG) Colloquium, Aberdeen, 1997.

### **Program Committee Co-chair for:**

- IEEE International Conference on Intelligence and Security Informatics (ISI): 2005, 2007

### **Program Committee member for:**

- European Conference on Information Retrieval (ECIR): 2007
- Annual ACM SIGIR Conference on Research and Development on Information Retrieval: 2003 – 2006
- IEEE International Conference on Intelligence and Security Informatics (ISI): 2005 – 2006
- Workshop on Intelligence and Security Informatics (WISI'06)

- Third International Workshop on Adaptive Multimedia Retrieval (AMR) 2005, Glasgow, UK, <http://www.dcs.gla.ac.uk/amr2005/>
- First International Symposium on Information Interaction in Context (IiX) 2006, Copenhagen, Denmark, <http://www.db.dk/IiX/>

**Reviewer for:**

- ACM Transactions on Information Systems (TOIS): 2002 – 2005
- Journal of Digital Information: 2002 – 2006
- Information Processing and Management (IP&M): 2003 – 2006
- Journal of the American Society for Information Science and Technology (JASIST): 2005
- Addison-Wesley: 2004 – 2005
- Scott-Jones: 2004 – 2005

**Guest Editor for:**

- Information Processing and Management (IP&M): Special topic issue on Evaluation of Exploratory Search Systems, Fall 2007

**External examiner for:**

- M.Sc. Thesis – Huang Zheng, “Interactive Video Retrieval”, supervisor Dr. Joemon Jose, Department of Computer Science, Glasgow University, UK, Oct-Nov 2005

**Professional Membership**

- ACM - Association for Computing Machinery
  - ACM SIGIR - Special Interest Group in Information Retrieval
  - ACM SIGCHI - Special Interest Group in Computer-Human Interaction
  - ACM KDD - Special Interest Group in Knowledge Discovery and Data Mining
- ASIST – American Association for Information Science and Technology
  - ASIST SIG HCI – Human Computer Interaction
  - ASIST SIG USE – Information Needs, Seeking and Use
  - ASIST SIG CR – Classification Research

**Other interests**

- Mountain marathons, orienteering, adventure racing, rock and ice climbing
- Traveling/expeditions - cycled across the Tian-Shan, Takla-Makan, Pamir and Himalaya, in Central Asia; traveled around India; traveled in South-East Asia; traveled around Europe
- Mountain biking, swimming, triathlon, tennis, squash, martial arts
- History and philosophy of science