

Debopriyo Roy

Assistant Professor
Technical Communication & Usability
Center for Language Research
Office # 264
University of Aizu
Aizu-Wakamatsu City
JAPAN

E-mail: droy@u-aizu.ac.jp
Website: <http://www.u-aizu.ac.jp/~droy>
Office Ph (direct): (81) - 242-37-2585
Office Fax: (81) - 242-37-2599

Nationality: Indian
Date of Birth: 27th September, 1974

Education

- Ph.D. in Communication & Rhetoric** 2005
Rensselaer Polytechnic Institute, Troy, New York, USA
Primary Area: Technical Communication
Dissertation: *Mental animation for dynamic systems: Testing the efficacy of surgical procedural instruction for patients*
Committee: Robert Krull, Chair; Bill Hart-Davidson; Roger Grice; Junho Choi; Brett Fajen
- M.A. in Communication Studies** 2001
University of Louisiana, Monroe, Louisiana, USA
Primary Area: Computer Mediated Communication
Thesis: *A comparative study of computer-mediated communication in virtual teams between groups of academicians and business employees: A quantitative analysis*
Committee: Patrick Herbert, Chair; Carl Thamelng; Mara Loeb
- M.A. in Economics** 1999
Delhi School of Economics, New Delhi, India
Specializations: Industrial Organization, Public Finance, and Agriculture Economics
- B.S. in Economics (Honors)** 1996
Calcutta University, Kolkata, India

Academic Positions

- Assistant Professor**, Technical Writing, Center for Language Research 2007- Present
University of Aizu, Aizu-Wakamatsu City, Fukushima, JAPAN
Research Areas: User-Centered Design, Technical Writing and ESP, Usability Testing
- Assistant Professor**, Technical Writing, Department of English 2005-2007
University of North Texas, Denton, Texas, USA
Research Areas: Curriculum Design, E-learning, Technical Writing, Usability
- Visiting Professor**, Department of English 2004-2005
Hartwick College, Oneonta, New York, USA
- Research / Teaching Assistant**, Department of Communication 2001-2005
Rensselaer Polytechnic Institute, Troy, New York, USA

Teaching Assistant, Department of Communication
University of Louisiana, Monroe, Louisiana, USA

2000-2001

Corporate Experience

Documentation Manager, Power Engineering Corporation, Kolkata, India 1996-1999

- Designed and managed the development of the user interface for technical products and websites
- Performed audience and needs analysis
- Prepared low and high fidelity prototypes and storyboarding for engineering product manuals
- Consulted with Subject Matter Experts on technical design issues
- Organized usability testing followed by statistical and qualitative analysis
- Authored company white papers, press releases, and other documents

Publications

Journal Publications (Refereed and Listed in Thomson-ISI master journal list)

Roy, D and Grice, R. Using Concept Maps for Teaching Technical Writing to Computer Science Majors: Case Study in a Japanese Technical University. *IEEE Transactions on Professional Communication* (Status: In review).

Roy, D. Readers' Situational Learning Approaches with Spatial Text -Graphic Instructions: A Case Study with Procedural Patient Education Modules. *Technical Communication* (Status: In Review)

Roy, D and Grice, R. Off-shoring Technical Writing Projects to India: Studying the Potential in an Emerging Market. *Technical communication* (Status: In review)

Roy, D. Designing Text-Graphics Procedural Instructions for Surgical Patient Education Modules: An Experimental Study. *Technical Communication Quarterly*. (Forthcoming July 2008)

Roy, D. 2007. Significance of Configuration and Subassemblies in Sequential Procedural Instructions: An Experimental Study. *IEEE Transactions on Professional Communication*, 50 (2). 147-162.

Roy, D. 2006. Using Graphic Indicators to Facilitate Mechanical Reasoning in Procedural Graphics. *Technical Communication*. 53 (4). 1-17.

Krull, R, D'Souza, S, Roy D and Sharp, D, M. 2004. Designing Procedural Instructions. *IEEE Transactions on Professional Communication*. 47 (1). 15 - 26.

Roy, D and Grice, R. 2004. Towards Text-Visual Connectivity for Sequential Procedural Instruction: Developing Reader Comprehension. *Technical Communication*. 51 (4). 517-525.

Book

Roy, D. Spatial Perspectives in Text-Graphics and Reader's Mental Models: Testing the Efficacy of Surgical Procedural Instruction for Patients. ProQuest / UMI. March 18, 2006. (Published Dissertation)

International Conference Publications (Refereed)

- Roy, D. (2008). Using Concept Maps for Information Conceptualization and Schematization in Technical Reading Courses: A Case Study for Computer Science Majors in Japan. *Proceedings of the IEEE IPCC, Montreal, CA* (Forthcoming).
- Roy, D. (2008). Designing Instructional Graphics for Surgical Education. *Proceedings of the IASTED International Conference on Internet and Multimedia Systems and Applications*, Innsbruck, Austria (Forthcoming).
- Roy, D & Brine, J. (2008). Structured Authoring of Technical Documents through Systematic Collaboration in Using Open-Source Technologies. *Proceedings of the 7TH IASTED International Conference on Web-based Education*, Innsbruck, Austria (Forthcoming)
- Roy, D. and Brian, J. 2007. Using Open Source Systems to Teach Technical Document Production in a Japanese University. *Proceedings of the IEEE PCSJ Seminar*, Aizu-Wakamatsu city, Japan.
- Roy, D and Johnson, N. 2007. Using Knowledge Models for Designing Problem-solving Activities in a Technical Writing Course. *Proceedings of the IEEE PCSJ Seminar*, Aizu-Wakamatsu city, Japan.
- Brine, J, Wilson, I and Roy, D. 2007. Technology-Mediated EFL in a Japanese IT University. *Proceedings of the 7th IEEE International Conference on Computers and Information Technology* Aizu-Wakamatsu city, Japan.
- Roy, D. 2007. Designing an Experimental Study to Explore Spatial Representations in English Software Manuals for Non-native Speakers. *Proceedings of the IEEE IPCC*, Seattle, WA.
- Roy, D. 2006. Text-Graphic Instructions that Help Readers Mentally Animate Procedures: A Case Study with Surgical Patient Education Modules. *Proceedings of the IEEE IPCC*, Saratoga Springs, NY.
- Roy, D. 2004. A Self-Paced Approach to Hypermedia Design for Patient Education. *Proceedings of ACM SIGDOC Annual Conference*, Memphis, TN, pp. 27-32.
- Krull, R., Roy, D., D'Souza, S., and Morgan, M. 2003. User Perceptions and Point of View in Technical Illustrations. *Proceedings of the Society for Technical Communication*, Dallas, TX, pp. 19-26.
- Roy, D., & Grice, R. 2003. Content Management Strategy and Heuristic Evaluation of a Model Electronic Portfolio. *Proceedings of the IEEE IPCC*, Orlando, FL. pp. 117-131.
- Roy, D., & Sharp, D. M. 2003. Reader Perceptions in Sequencing Procedural Graphics of Complex Machines. *Proceedings of the IEEE IPCC*, Orlando, FL, pp. 230-238.
- Krull, R., Sharp, D, M., & Roy, D. 2003. Canonical Views in Procedural Graphics. *Proceedings of the IEEE IPCC*, Orlando, FL, pp. 22-28.
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Conference Presentations

- Roy, D. (2008). Using Concept Maps for Information Conceptualization and Schematization in Technical Reading Courses: A Case Study for Computer Science Majors in Japan. *Paper presented at the IEEE IPCC, Montreal, CA (Forthcoming)*.
- Roy, D. (2008). Designing Instructional Graphics for Surgical Education. Paper presented at the IASTED International Conference on Internet and Multimedia Systems and Applications, Innsbruck, Austria (Forthcoming).
- Roy, D & Brine, J. (2008). Structured Authoring of Technical Documents through Systematic Collaboration in Using Open-Source Technologies. *Paper presented at the 7TH IASTED International Conference on Web-based Education, Innsbruck, Austria (Forthcoming)*
- Brine, J. and Roy, D. 2007. Using Open Source Systems to Teach Technical Document Production in a Japanese University. *Paper presented at the IEEE PCSJ Seminar, Aizu-Wakamatsu city, Japan.*
- Roy, D and Johnson, N. 2007. Using Knowledge Models for Designing Problem-solving Activities in a Technical Writing Course. *Paper presented at the IEEE PCSJ Seminar, Aizu-Wakamatsu city, Japan.*
- Brine, J, Wilson, I and Roy, D. 2007. Technology-Mediated EFL in a Japanese IT University. *Paper presented at the 7th International Conference on Computers and Information Technology Aizu-Wakamatsu city, Japan.*
- Roy, D. 2007. Designing an Experimental Study to Explore Spatial Representations in English Software Manuals for Non-native Speakers. Paper presented at the IEEE IPCC conference, Seattle, WA.
- Roy, D. 2006. *Text-Graphic Instructions that Help Readers Mentally Animate Procedures: A Case Study with Surgical Patient Education Modules*. Paper presented at the IEEE IPCC conference, Saratoga Springs, NY.
- Roy, D. 2006. *Text-Graphics Instructions for Surgical Procedures*. Paper presented at the Southwest Texas PCA / ACA conference, Albuquerque, NM.
- Roy, D. 2004. *Role of Technical Communication in Minimally Invasive Surgical Training*. Paper presented at the HumaniTech Graduate conference of University at Albany. Albany, NY.
- Roy, D. 2004. *Designing Text-Graphics Instruction for Minimally Invasive Surgical Training*. Paper presented at the Symposium at Syracuse University, Syracuse, NY.
- Roy, D. 2003. *A Self-Paced Approach to Hypermedia Design for Patient Education*. Paper presented at the ACM SIGDOC conference, Memphis, TN.
- Roy, D., & Grice, R. 2003. *Content Management Strategy and Heuristic Evaluation of a Model Electronic Portfolio*. Paper presented at the IEEE IPCC conference, Orlando, FL.
- Roy, D and Sharp, D, M. 2003. *Reader Perceptions in Sequencing Procedural Graphics of Complex Machines*. Paper presented at the IEEE IPCC conference, Orlando, FL.
- Roy, D. 2003. *Reader Perceptions in Sequencing Procedural Graphics of Complex Machines - A Case with Random and Partially Random Design*. Paper presented at the International Visual Literacy Association conference, Providence, RI.

Roy, D. 2003. *Text Variety for Spatial Visualization of Procedural Sequential Graphics: A Case Demonstrating Minimally Invasive Surgery Techniques*. Poster presented at the SBRL conference at RPI, Troy, NY.

Krull, R., Roy, D., D'Souza, S., and Morgan, M. 2003. *User Perceptions and Point of View in Technical Illustrations*. Paper presented at the Proceedings of the Society for Technical Communication, Dallas, TX.

Krull, R., Sharp, D, M., & Roy, D. 2003. *Canonical Views in Procedural Graphics*. Paper presented at the Proceedings of the IEEE IPCC, Orlando, FL.

Teaching Experience

Assistant Professor, University of Aizu, JAPAN

Interface Design & Usability Testing in English (Elective)	Spring 2008
English Writing & Speaking for Computer Science	Spring 2008
Thesis Writing (Undergraduate)	Fall 2007
Technical Writing: (Undergraduate)	Spring 2007
Technical Reading (Undergraduate)	Spring, Fall 2007
Academic Writing (Undergraduate)	Spring, Fall 2007

Assistant Professor, University of North Texas, Denton, TX, USA

- Designing Web-Based Training: (Graduate) *Complete Course Design and Teaching* Spring 2007
- Technical Procedures and Manuals (Undergraduate) *Complete Course Design and Teaching* Fall 2005
Spring 2006
Fall 2006
- Technical Writing (Undergraduate) *Complete Course Design and Teaching* Fall 2005
Spring 2006
Fall 2006 (2 Sections)
- Technical Presentations (Graduate) *Complete Course Design and Teaching* Spring 2006

Visiting Professor, Hartwick College, Oneonta, NY

- Business Writing (Undergraduate) *Complete Course Design and Teaching* Spring 2005 (2 Sections)
- Public Speaking and Writing (Undergraduate) *Complete Course Design and Teaching* Fall 2004
Spring 2005

- English Composition (Undergraduate) Fall 2004
Complete Course Design and Teaching

Teaching & Research Assistant, Rensselaer Polytechnic Institute, Troy, NY

- Organizational Communication (Undergraduate) Spring 2004
Complete Course Design and Teaching
- Communication Theory (Undergraduate) Fall 2002
Lecturing Discussion Sections and Grading; Student Advising
- Foundations of HCI Usability (Graduate / Undergraduate) Fall 2003
Lecturing Discussion Sections and Grading; Student Advising (Online-Chat)
- Communications & Information Technology (Undergraduate) Fall 2001
Lecturing Discussion Sections and Grading; Student Advising

Teaching Assistant, University of Louisiana, Monroe, LA

- Communication Theory and Practice (Undergraduate) Spring 2000
Complete Course Design and Teaching Fall 2000
Spring 2001

Grants

- Kakenhi Research Grant of 1107,000 yen (Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT)] – External Funding 2007-2009
 Study Ongoing: Designing Screenshot affordances for Collaborative use of Open-source technologies: Research on Patterns of Technology Use
- Competitive Research Grant of 841,000 yen from University of Aizu, Japan 2007
 Study Ongoing: Designing Screenshot affordances for Software User Manuals
- Intramural research grant of \$5000 from University of North Texas 2006
 Study Completed; *Project on Designing Spatial Orientation for Surgical Education (Principal Investigator)*
- Faculty Summer Research Grant of \$5000 from University of North Texas 2006
 Study Completed; *Project on Outsourcing Design Project to India (Principal Investigator)*
- Travel Grant of \$350, Modern Language Association 2005
- Extramural research grant of \$1000 from Society of Technical Communication – 2004
 Study Completed; *Dissertation on Designing Surgical Instructions (Principal Investigator)*

Research Projects

- Use of Specialized Concept Maps for Information Conceptualization (In progress)
- Use of Collaborative Technologies in Technical Communication classes (In progress)

- Developing online instructions for surgical simulators and patient education modules
- What Americans think about off-shoring Technical Design Projects to India (In Progress)
- Visualizing and Verbalizing a Mechanical Process: Gap in Usability Methods (In Progress)
- Developing print and online instructions for physical tasks
- Design and development of online materials for corporate training projects
- Designing multimedia, modality, and congruity principles for online patient education modules
- Application of intelligent graphics for complex online illustrations for flight manuals
- Developing instructions for online manuals demonstrating complex machines
- Developing heuristic evaluation techniques for documentation
- Computer mediated communication for academic and corporate virtual teams

Professional and Departmental Service

Vice-Chair, IEEE Professional Communication Society, Japan	2008
Member, Curriculum Design Committee, Univ. of Aizu, Japan	2007
Program Chair, IEEE PCSJ Seminar, Univ. of Aizu, Japan	2007
Instructor, Faculty Summer Seminar for Instructors in Fukushima Prefecture	2007
Instructor and Coordinator, <i>UNT/SABRE</i> Project, University of North Texas, TX	2006-2007
Elected Member of the Graduate Faculty (category II), University of North Texas, TX	2006-2007
Departmental Representative for the Commencement Ceremony	2006
<i>Technical Communication</i> , Reviewer	2006
Chair of the session on Distance Learning and Internet Classroom, SW/TX PCA/ACA	2006-2007
Panel Chair, Session on Technical Writing, SW/TX PCA/ACA	2006
Student Advising for Research Projects, University of North Texas, TX	2006
Judge, Lone Star Community, Society of Technical Communication, Dallas, TX	2005-2006
Summer Assistant, Writing Center Electronic Portfolio Designer, Troy, NY	2004
Member, Society of Technical Communication University Committee, Troy, NY	2003-2004
Writing Center Tutor, Rensselaer Polytechnic Institute, Troy, NY	2003
Judge, Spelling Bee Local Inter-School Competition, Monroe, LA	2001
Learning Center Consultant, University of Louisiana, Monroe, LA	2000-2001
Copy Editor (University Newspaper), University of Louisiana, Monroe, LA	2000-2001
Member, Theta Theta Chapter of the National Communication Association, Monroe, LA.	2000-2001
Member, International Student Association, University of Louisiana, Monroe, LA	2000-2001

Consulting on Technical Documentation Projects

Sabre Airlines Passenger Reservation Systems

- Supervised the evaluation, development and recommendations for a SABRE APS Training Course.
- Coordinated the design and production of a new course curriculum that uses a blended learning methodology.
- Coordinated with Subject Matter Experts to structure the course content for web-based training.
- Mentored the creation of online FOCUS reference materials for Sabre Airline Solutions.
- Directed the re-design of an online training for Sign-in authorizations and system access parameters.
- Managed the Design of Sabre online reports (statistics regarding passenger bookings, boardings, system usage, and other information).
- Presented a recommendation report on the ID theories and processes adopted and future course of action.

Bank of America / Wells Fargo / North Star Bank of Texas / First Bank

- Supervised the design of an online handbook for customer training on financial investments like mutual funds, certificate of deposits, stocks, options etc.
- Directed the design of an online handbook for customer training on first time home buying in Texas.
- Coordinated with Subject Matter Experts for audience analysis, needs analysis and subsequent storyboarding of the information.

Hotels.com / Expedia / Travelocity / Price line

- Designed an online version of travel brochure.
- Supervised the design and development of production-ready storyboards and scripts for print and online services relating to customer information about a specific destination of choice.
- Collaborated with potential customers to determine learning objectives, and performance measurements.
- Facilitated brainstorming sessions, providing strategic instructional direction.

Nokia / Samsung / Motorola

- Supervised the design of an online user manual for customers who do not know how to use a mobile phone in general.
- Directed the design of an online user manual for customers who are unable to use a specific model without direction.
- Presented specific directions on how to think about these specific projects in terms of audience, needs, situations analysis, task priority, ease of learning, text design, illustrations design, organization, formatting, layout etc.
- Managed Rapid prototyping for usability testing.
- Supervised the use of an iterative model for project management.

University of North Texas

- Supervised the design of an online instructional handbook to promote the technical writing program at University of North Texas.
- Directed and mentored the use of the *ADDIE* Model to complete the project.

KYPhoto.com

- Coordinated the redesigning of the content and presentation of old print camera manuals (for companies like Olympus, Canon, Kodak etc) from print to online version.
- Provided specific directions on webpage design for complex procedural sequential information.
- Worked on iterative design format to structure audience, needs and situation analysis etc and subsequent storyboarding.
- Worked with team members to explore the opportunities for creative treatment and content scope for new design of the similar information.

Honors and Awards

UNT Junior Research Fellowship Grant	2006
Society of Technical Communication's (STC) National Graduate Student Grant	2004-2005
School of Humanities & Social Sciences Fellowship	2004-2005
Honorary award for outstanding service by the School of Liberal Arts	2001
Honorary award for outstanding service by the International Student Association	2000-2001

Technical Skills

- Usability Engineering & Research: Contextual Inquiry, User & Task Analysis, Usability Observations in Lab & Natural Settings, Focus Group Research, Interviewing, Questionnaire Survey, User Interface Analysis & Design, User Interface Evaluation Techniques, Rapid Prototyping, User Interface/Web Development
- Statistical Packages: SPSS, Stat View
- Operating System: Window 95/98/2000/NT/XP
- Web Technology / Authoring Programs: Dreamweaver, FrontPage, XML, Framemaker 7.2, Camtasia, Snag IT, Captivate
- Graphic Design: PhotoShop, Poser 4

Other Education

Foundation Program, Institute of Chartered Accountants in India, Kolkata, India	1996
Computer Course, National Institute of Information Technology, Kolkata, India	1994

Professional Society Affiliations

Society of Technical Communication (STC)
Institute of Electrical and Electronics Engineers (IEEE)
Association of Teachers of Technical Writing

Languages

Bengali: Completed undergraduate higher secondary level at Calcutta University, Kolkata, India
Hindi: Completed undergraduate secondary level at South Point High School, Kolkata, India
Urdu: Conversational Skills