

## John M. Carroll

### Address:

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### Education:

Lehigh University, Bethlehem, Pa. (1968-1972)  
B.A. Mathematics (1972)  
B.A. Information Sciences (1972)

Columbia University, New York, N Y. (1972-1976)  
M.A. Psychology (1974)  
M.Phil. Psychology (1975)  
Ph.D. Psychology (1976)

### Honors and Awards:

Phi Beta Kappa -- Lehigh University (1971)  
Suma Cum Laude with Interdisciplinary Honors -- Lehigh University (1972)  
Faculty Fellow, Graduate School of Arts and Science -- Columbia University (1972-1976)  
Summer Linguistics Institute Fellow -- University of Massachusetts (1974)  
Sigma Xi -- Columbia University (1976)  
National Science Foundation (NSF) Award for Doctoral Dissertation Research (NSF-BNS 76-04334), Columbia University (1976)  
Listing in *American Men and Women of Science* (1978, 1998)  
*Who's Who in Frontier Science and Technology* (1983)  
*Who's Who in the East* (1983); *Who's Who in the South and Southwest* (1996)  
*Who's Who in Science and Engineering* (1996)  
*Who's Who in the World* (1996); *Who's Who in America* (2001)  
N.S.F. National Needs Fellowship in Linguistics, NSF-SPI 79-14000 (1979)  
Association for Computing Machinery (ACM) Recognition of Service Award (1987)  
ACM Special Interest Group on Documentation (SIGDOC), Rigo Award (1994)  
National Society for Performance and Instruction, Outstanding "Performance Improvement Quarterly" Article of the Year Award (1995)  
Society for Technical Communication, Frank R. Smith Award for Outstanding Journal Article (1996)  
Upsilon Pi Epsilon — Virginia Tech (1997)  
Silver Core Award, International Federation for Information Processing (1998)  
ACM Special Interest Group on Computer-Human Interaction (CHI) Academy (2002)  
ACM Special Interest Group on Computer-Human Interaction (CHI) Lifetime Achievement Award (2003)

## **Employment:**

Research Associate, IBM Thomas J. Watson Research Center (1976-1977)

Research Staff Member, IBM Thomas J. Watson Research Center (1977-1994)

### *Adjunct Faculty:*

Department of Psychology, Marymount College, Tarrytown, N.Y. (1977-1978)

Department of Psychology, State University of New York, Purchase (1978-1980)

IBM Systems Research Institute, New York, N.Y. (1979-1980)

### *Sabbatical Visiting Faculty:*

Department of Linguistics and Philosophy, Massachusetts Institute of Technology,  
Cambridge, MA (1980-1981)

Department of Computer Science, Yale University, New Haven, CT (1987-1988)

Department of Communication, Computing and Technology in Education, Teachers  
College, Columbia University, New York, NY (1988)

Department of Ergonomics, University of Twente, Enschede, The Netherlands (1993)

Xerox Research Centre Europe, Cambridge Laboratory, Cambridge, England (2000)

### Industrial Research Manager (IBM Thomas J. Watson Research Center):

Senior Manager, User Interface Institute (1984-1986)

Technical Manager, Advisory Interfaces (1985-87)

Technical Manager, User Interface Theory and Design (1988-1994)

### Senior Faculty/Academic Administrator (Virginia Polytechnic Institute and State University):

Professor of Computer Science (since 1994)

Professor of Psychology (since 1994)

Computer Science Department Head (1994-1998)

Chair of Blacksburg Electronic Village Research Advisory Group (1994-2000)

Director of Virginia Tech Center for Human-Computer Interaction (since 1995)

Professor of Education (Teaching and Learning) (since 1998)

## **Membership in Professional Societies:**

Linguistic Society of America (1974-85)

American Psychological Association (1979-82)

Psychonomics Society (since 1979)

Cognitive Science Society (since 1979)

Association for Computational Linguistics (1980-82)

Association for Computing Machinery (since 1984)

American Association for Artificial Intelligence (1986-1992)

Institute of Electrical and Electronics Engineers, Senior Member (since 1990)

Computer Professionals for Social Responsibility (since 1991)

Human Factors and Ergonomics Society (since 1999)

## **Editorial Service:**

### *Editorial Boards:*

ACM Transactions on Computer-Human Interaction (founding Associate Editor, 1992-)

ACM Transactions on Information Systems (Associate Editor, 1991-1993)

Advances in Human-Computer Interaction Series, Ablex Press (since 1993)

Behavioral and Brain Sciences (Editorial Associate, since 1990)  
Behaviour and Information Technology (since 1986)  
Handbook of Computer Science and Engineering, CRC Press (Editorial Advisor for  
Human-Computer Interaction and Organizational Informatics, 1994-1996)  
Handbook of Human-Computer Interaction, North-Holland (Associate Editor, 1994-1997)  
Handbook of Human-Computer Interaction, Erlbaum (Editorial Advisor, 2000-2002)  
Handbook of User Interface Design, John Wiley & Sons (1994-1997)  
Human-Computer Interaction Series, Cambridge University Press (1990-2000)  
Human-Computer Interaction (since 1990)  
Interacting With Computers (since 2000)  
International Journal of Human Computer Interaction (founding member, since 1988)  
International Journal of Human-Computer Studies (1985-2000); Advisory Editor since  
2002  
Le Travail Humain (1990-2000)  
Kluwer Series in Human-Computer Interaction (founding board member, since 2001)

*Occasional editorial review:*

Cognition (since 1973)  
Journal of Verbal Learning and Verbal Behavior (since 1978)  
Journal of Psycholinguistic Research (since 1979)  
Journal of Structural Learning (since 1979)  
International Journal of Man-Machine Studies (since 1980)  
Science (since 1980)  
Journal of Experimental Psychology: Learning, Memory, and Cognition (since 1981)  
IBM Systems Journal (since 1981)  
Developmental Psychology (since 1981)  
Behavioral and Brain Sciences (since 1981)  
Human Learning: Journal of Practical Research and Application (since 1982)  
Behaviour and Information Technology (since 1982)  
Cognitive Science (since 1983)  
Psychological Review (since 1983)  
Language and Speech (since 1983)  
IEEE Computer (since 1984)  
Cognition and Instruction (since 1984)  
Communications of the ACM (since 1985)  
Human Factors (since 1984)  
Behaviour and Information Technology (since 1985)  
IEEE Software (since 1985)  
Memory & Cognition (since 1986)  
IBM Journal of Research and Development (since 1986)  
Human-Computer Interaction (since 1986)  
IEEE Transactions on Systems, Man and Cybernetics (since 1987)  
ACM Transactions on Information Systems (since 1987)  
International Journal of Human Computer Interaction (since 1988)  
European Journal of Cognitive Psychology (since 1988)  
Software - Practice & Experience (since 1989)

Information Processing and Management (since 1994)  
Applied Psychology: An International Review (since 1994)  
Acta Psychologica (since 1995)

**Government Service:**

*Committee member:*

National Research Council's Committee on Human Factors (appointed 1999)

*Site visitor:*

NSF Science and Technology Center Initiative (1988)  
British Joint Councils Initiative in Cognitive Science and Human-Computer Interaction  
(June 2-8, 1996).  
American Association for the Advancement of Science Advisory Panels (June, 1999, and  
November 2001)

*Invited participant/consultant*

NATO Workshop on User-Computer Interaction, Loughborough, England (1984)  
National Research Council Workshop on Methodology in Software Human Factors  
(1984)  
National Research Council Workshop on Mental Models in Software Human Factors  
(1985)  
Office of Naval Research and Naval Research Laboratory Workshop on R&D in Naval  
Human-Computer Interactive Systems (1986)  
National Science Foundation Workshop "An Agenda for Human-Computer Interaction  
Research," sponsored by CISE directorate (1991)  
National Science Foundation Workshop "Enhanced Human-Computer Interfaces,"  
sponsored by four directorates (1991)  
National Science Foundation/ARPA Workshop "New Directions in HCI Education  
and Research," sponsored by several agencies and NSF directorates, February xx,  
1994, Washington, D.C.  
National Science Foundation Workshop on the World-Wide Web in support of Computer  
Science Research and as a means for NSF to Disseminate Information, sponsored  
by the IRIS Program Managers, October 31, 1994, Arlington, VA.  
National Science Foundation Educational Technology Workshop, sponsored by CISE and  
EHR directorates, 29 September-2 October, 1995, Vienna, VA.  
National Science Foundation Workshop on Educational Research, sponsored by EHR,  
June 2-4, 1999, Arlington, VA.  
Learning Federation Workshops on Question Generation and Answering Systems for  
Technology Enabled Learning Systems (for the National Science Foundation),  
October 3-4, 2002, Memphis, TN, and April 10-11, 2003, Bedford, MA.

Occasional grant reviewing and review panel service for National Science Foundation,  
Directorates of Computer and Information Science and Engineering, Education and  
Human Resources, and Social, Behavioral and Economic Sciences— also Canadian  
Natural Sciences and Engineering Research Council, Australian Research Council Large

Grant Program, and British Engineering and Physical Sciences Research Council (EPSRC) and Economic and Social Research Council (ECSRC)

### **University Service & Teaching:**

Taught graduate courses in “Scenario-Based Design” in Fall 1994 and 1999; “Digital Cities, Community Networks, and Internet Communities” in Fall 1995 and 2002; “Theories and Frameworks for Human-Computer Interaction” in Fall 1996, 1997, 1998, 2001, and Spring 2001.

Taught upper level undergraduate courses in “Design of Information” in Fall 1998, Spring 2001, 2002, 2003; “Usability Engineering”, Spring 2003; “Professionalism in Computer Science” in Spring 1999.

*Ph.D. Students:* Laughton, S. 1996. *The design and use of Internet-mediated communication applications in education: An ethnographic study.* Ph.D. Dissertation, Computer Science Department, Virginia Tech, Blacksburg, VA. Seven PhD students underway: Craig Ganoe, Dennis Neale, Con Rodi, Kibum Kim, Umer Farooq, Lu Xiao, Gregorio Convertino.

#### *Member of Advisory Boards at other institutions:*

Rutgers University Center for Cognitive Science (1991-1996)

University of Maryland Human-Computer Interaction Laboratory (1992-2002)

#### *Tenure/Promotion Committees at other institutions:*

University of Iowa (1981), City University of New York (1982), Massachusetts Institute of Technology (1985), Wesleyan University (1986), Columbia University (1987, 2001), University of Maryland (1988, 1999), University of Oregon (1988, 1996), University of Colorado (1990), Rutgers University (1991), University of Michigan (1993, 1995, 2002), University of California (1994), Carnegie-Mellon University (1994, 1996), Educational Testing Service (1995), University of Washington (1996), Oxford University (1996), Staffordshire University (1996), Georgia Tech (1998), University of Oklahoma (1999) Catholic University (2000), Drexel University (2001), Northeastern University (2001), Rensselaer Polytechnic Institute (2002), University of Minnesota (2003).

#### *Doctoral Thesis Committees at other institutions:*

Columbia University (1980), Rutgers University (1982), Yale University (1983), Carnegie-Mellon University (1986), Yale University (1986), Rutgers University (1993), Linkoping University (Sweden) (2002).

*Lecturer in British HCI Summer School:* Heriot-Watt University, Edinburgh, 1990; Queen Mary and Westfield College, University of London, 1991 (ESRC/MRC/SERC Joint Councils Initiative in Cognitive Science and HCI)

#### *Technical Advisor for Doctoral Student Consortiums at conferences:*

ACM CHI'86 Conference on Human Factors in Computing Systems (1986)

ACM CHI'91 Conference on Human Factors in Computing Systems (1991)

British Computer Society's HCI'91 Conference (1991)

## **Professional Service:**

Member, International Commission on Human-Computer Aspects in Computing (Geneva, Switzerland), since 1989

Vice Chair, IFIP Working Group 13.2 "Methodology for User Centered System Design" (since 1991, re-elected in 1995)

Member of Governing Board of Human-Computer Interaction Consortium (representing Virginia Tech), since 1994

Member of ACM SIGCHI career award committee (this committee made the first SIGCHI career award in 2000, and appointed the first group of SIGCHI Fellows in 2001), 1999-2002

### *Member of Conference Boards/Organizing Committees/Conference Committees*

Technical Program Co-Chair for CHI+GI'87, Joint Meeting of ACM SIGCHI Conference on Human Factors in Computing Systems and Canadian Man-Computer Communications Society Graphics Interface Conference, April 5-9, 1987, Toronto, Canada

Member of Executive Conference Board, HCI International '89, Third International Conference on Human Computer Interaction, September 18-22, 1989, Boston, MA

Technical Papers Associate Chair for Design Process, ACM CHI'92 Conference on Human Factors in Computing Systems, May 3-7, 1992, Monterey, CA

Chair of Organizing Committee, Research Symposium, ACM CHI'92 Conference on Human Factors in Computing Systems, May 3-7, 1992, Monterey, CA

Technical Papers Associate Chair for INTERCHI'93 Conference on Human Factors in Computing Systems, April 24-29, 1993, Amsterdam, The Netherlands

Member of Executive Conference Board, HCI International '93, Fifth International Conference on Human Computer Interaction, September xx-xx, 1993, Orlando, FL

Member of Organizing Committee, DIS'95: First ACM Symposium on Designing Interactive Systems: Processes, Practices, Methods and Techniques, August 23-25, 1995, Ann Arbor, MI

Technical Notes Associate Chair, ACM CHI'97 Conference on Human Factors in Computing Systems, March 22-27, 1997, Atlanta, GA

Member of Organizing Committee, DIS'97: ACM Symposium on Designing Interactive Systems, August 18-20, 1997, Amsterdam, The Netherlands

Technical Papers Associate Chair for CHI'98 Conference on Human Factors in Computing Systems, April 18-23, 1998, Los Angeles

Technical Papers Associate Chair for CHI'99 Conference on Human Factors in Computing Systems, May 15-20, 1999, Pittsburgh

Technical Paper Associate Chair for CHI'00 Conference on Human Factors in Computing Systems, April 1-6, 2000, The Hague

### *Member of Program Committees:*

ACM CHI'83 Conference on Human Factors in Computing Systems, December 12-15, 1983, Boston, MA

ACM CHI'85 Conference on Human Factors in Computing Systems, April 14-18, 1985, San Francisco, CA

ACM CHI'86 Conference on Human Factors in Computing Systems, April 13-17, 1986, Boston, MA

CHI+GI'87 Conference on Human Factors in Computing Systems and Graphic Interface, April 5-9, 1987, Toronto, Canada

ACM CHI'88 Conference on Human Factors in Computing Systems, May 15-19, 1988, Washington, D.C.

ACM CHI'89 Conference on Human Factors in Computing Systems, April 30 - May 4, 1989, Austin, TX

ACM CHI'90 Conference on Human Factors in Computing Systems, April 1-5, 1990, Seattle, WA

HCI International'91 Conference on Human-Computer Interaction, September 2-7, Stuttgart, Germany

ACM CHI'91 Conference on Human Factors in Computing Systems, April 27-May 2, 1991, New Orleans, LA

ACM CHI'92 Conference on Human Factors in Computing Systems, May 3-7, 1992, Monterey, CA

AVI'92 International Workshop on Advanced Visual Interfaces, June 1-4, 1992, Bari, Italy

INTERCHI'93 Research Symposium, April 23-24, 1993, Amsterdam, The Netherlands

INTERCHI'93 Conference on Human Factors in Computing Systems, April 24-29, 1993, Amsterdam, The Netherlands

AVI'94 International Workshop on Advanced Visual Interfaces, June 1-4, 1994, Bari, Italy

ACM CHI'94 Conference on Human Factors in Computing Systems, April 24-28, 1994, Boston, MA

ACM CHI'95 Conference on Human Factors in Computing Systems, May 7-11, 1995, Denver, Colorado.

INTERACT'95: IFIP Conference on Human-Computer Interaction, June 27-29, 1995, Lillehammer, Norway.

HCI International '95, Sixth International Conference on Human Computer Interaction, July 9-14, 1995, Yokohama, Japan.

CIC95: Third International Conference on Computing in Context, August 14-18, 1995, Aarhus, Denmark.

DIS'95: ACM Symposium on Designing Interactive Systems, August 23-25, Ann Arbor, Michigan

ESP 6: Sixth Workshop on Empirical Studies of Programmers, January 5-7, 1996, Alexandria, Virginia

IFIP Working Groups 8.1 and 13.2 Joint Conference on Domain Knowledge for Interactive System Design, May 9-12, 1996, Montreux, Switzerland.

IDS-3: The Third International Workshop on Interfaces to Databases, July 8-10, 1996, Edinburgh, Scotland.

PDC'96: Fourth Biennial Conference on Participatory Design, November 13-15, 1996, Cambridge, Massachusetts.

International Workshop on Representations in Interactive Software Development, July 2-4, 1997, University of London, United Kingdom

INTERACT'97: IFIP Conference on Human-Computer Interaction, July 14-18, 1997, Sidney, Australia.

DIS'97: ACM Symposium on Designing Interactive Systems, August 18-20, 1997, Amsterdam, The Netherlands

Designing Usable Multimedia Systems: IFIP/CEPIS Conference on Multimedia User Interface Design, September 14-16, 1998, Stuttgart, Germany

APCHI'98: Third Asia Pacific Computer Human Interaction Conference, July 15-17, 1998, Kamakura, Japan

PDC'98: Fifth Biennial Conference on Participatory Design, November 12-14, 1998, Seattle, Washington

WWW8: Eighth World-Wide Web Conference, May 11-14, 1999, Toronto, Canada

HCI International'99: 8th International Conference on Human-Computer Interaction, August 22-27, 1999, Munich, Germany

INTERACT'99: Seventh IFIP Conference on Human-Computer Interaction, August 30 - September 3, 1999, Edinburgh, Scotland

DIS'00: ACM Symposium on Designing Interactive Systems, August 17-20, 2000, New York

ACM Conference on Universal Usability, November 16-17, 2000, Washington, DC

DIS'02: ACM Symposium on Designing Interactive Systems, June 25-28, London

IFIP HOIT 2003: Conference on Home-Oriented Informatics and Telematics, April 6-8, Irvine, CA.

ACM CHI'03 Conference on Human Factors in Computing Systems, April 6-10, 2003, Orlando, Florida.

Information Resources Management Association (IRMA) International Conference 2003, May 18-21, 2003, Philadelphia, PA.

INTERACT'03: IFIP Conference on Human-Computer Interaction, September 1-5, 2003 – Zürich, Switzerland.

International Conference on Communities and Technologies: ICCT 2003, 19 - 21 September 2003, Amsterdam

IEEE International Workshop of Wireless and Mobile Technologies in Education: WMTE 2003, December 8-10, 2003, National Central University, Taiwan.

*Occasional reviewer for assorted conferences:* ACM Symposium on User Interface Software and Technology (UIST), Cognitive Science Society, ACM SIGGRAPH

*Nominating Committees for International Prizes:*

1987 Kyoto Prize in Basic Science (the Inamori Foundation, Tokyo, Japan)

1994 (Tenth) Japan Prize (Science and Technology Foundation of Japan),

1995 (Eleventh) Japan Prize (Science and Technology Foundation of Japan),

1996 Kyoto Prize in Advanced Technology (the Inamori Foundation, Tokyo, Japan)

1996 (Twelfth) Japan Prize (Science and Technology Foundation of Japan)

2002 (Eighteenth) Japan Prize (Science and Technology Foundation of Japan)

*Workshop Organizer:*

Organizer and Chair of Symposium on "Computer Tool and Topic" for Society for Computers in Psychology, San Diego, November, 1983

Co-Manager, IBM Europe Institute: Workshop on Software Human Factors, Davos, Switzerland,



6-10 August 1984

Organizer of Kittle House Workshop on HCI Theory and Design, Chappaqua NY, June 1989

Co-organizer of Workshop on Design Rationale, ACM CHI'91 Conference on Human Factors in Computing Systems, New Orleans LA, May 1991

Organizer of Kittle House Workshop on Scenario-based design, Chappaqua NY, June 1993

Co-organizer of workshop on Design Rationale, ACM CHI'94 Conference on Human Factors in Computing Systems, Boston, MA, May 1994

Organizer of Society for Technical Communication's Workshop on Minimalism since the *Nurnberg Funnel*, Blacksburg, VA, November 17-19, 1995

Co-organizer of Dagstuhl Seminar on Scenario Management, Schloss Dagstuhl Internationale Begegnungs und Forschungszentrum fur Informatik, February 9-13, 1998

Organizer of NSF Workshop on Methods, Theories, and Frameworks for HCI, Blacksburg, VA, November 2000.

Co-organizer of Workshop on Advanced Scenario-Based Design Practices in Industry, CHI'2003: ACM Conference on Human Factors in computing Systems, April 6, 2003

*Miscellaneous:*

Session Chair, National Bureau of Standards Conference on Human Factors of Computing Systems, Gaithersburg, MD, March, 1982

Session Chair, Advisory Systems Session, ACM CHI'86 Conference on Human Factors in Computing Systems, Boston, 1986

Panel Moderator — Role of Laboratory Experiments in HCI: Help, Hindrance or Ho-Hum? ACM CHI'89 Conference on Human Factors in Computing Systems, Austin TX, May

Session Chair of Symposium on Artifact Analysis, at IFIP Interact'90 Conference, Cambridge UK, August 1990

MiniTrack Chair, Hawaii International Conference on System Sciences, Maui, Jan 5-8, 1999

Guest Editor of Special Issue on Scenario-Based Design, *Interacting with Computers*, October 2000

Guest Editor of Special Issue on HCI in the New Millennium, *ACM Transactions of Computer-Human Interaction*, March and June issues 2000

Session Chair for paper session on Pattern Languages at *Shaping the Network Society: Patterns for Participation, Action and Change, DIAC-02: Directions and Implication of Advanced Computing Symposium*, Seattle, Washington, May 16-19

**Theses and Books:**

Carroll, J.M. 1971. *LEPAM: A Computer Model of Human Short-Term Verbal Memory*. Lehigh University Undergraduate Honors Thesis, School of Arts and Science.

Carroll, J.M. 1973. *Computability and Competence: An Introduction to Cognitive Representation*. Columbia University M.A. Thesis, Department of Psychology.

Carroll, J.M. 1976. *The Interaction of Structural and Functional Variables in Sentence Perception*. Columbia University Ph.D. Dissertation.

Carroll, J.M. 1980. *Toward a Structural Psychology of Cinema*. The Hague: Mouton.

Bever, T.G., Carroll, J.M., & Miller, L.A. (Eds.) 1984. *Talking Minds: Philosophical, Psychological and Computational Foundations of Cognitive Science*. Cambridge, MA: MIT Press.

Carroll, J.M. 1985. *What's in a Name: An Essay in the Psychology of Reference*. New York: W.H. Freeman.

Carroll, J.M. (Ed.) 1987. *Interfacing thought: Cognitive aspects of human-computer interaction*. Cambridge, MA: Bradford Books/MIT Press.

Carroll, J.M. & Tanner, P.P. (Eds.) 1987. *CHI+GI'87: Joint Conference on Human Factors in Computing Systems and Graphics Interface*. New York: Association for Computing Machinery. (Outside of the United States and Canada this book appears as *Human Factors in Computing Systems IV*. Amsterdam: North Holland.)

Carroll, J.M. & Olson, J.R. (Eds.) 1987. *Mental models in human-computer interaction: Research issues about what the user of software knows*. Washington, DC: National Academy Press. (Seed paper appeared as *IBM Research Report RC 10616*).

Carroll, J.M. 1990. *The Nurnberg Funnel: Designing minimalist instruction for practical computer skill*. Cambridge, MA: MIT Press.

Carroll, J.M. (Ed.) 1991. *Designing Interaction: Psychology at the human-computer interface*. New York: Cambridge University Press.

Carroll, J.M. (Ed.) 1995. *Scenario-based design: Envisioning work and technology in system development*. New York: John Wiley & Sons.

Moran, T.P. & Carroll, J.M. (Eds.) 1996. *Design rationale: Concepts, methods and techniques*. Hillsdale, NJ: Erlbaum.

Carroll, J.M. (Ed.) 1998. *Minimalism beyond "The Nurnberg Funnel"*. Cambridge, MA: M.I.T. Press

Carroll, J.M. 2000. *Making use: Scenario-based design of human-computer interactions*. Cambridge, MA: MIT Press.

Carroll, J.M. (Ed.) 2001. *Human-Computer Interaction in the New Millennium*. Reading, MA: Addison-Wesley.

Rosson, M.B. & Carroll, J.M., 2002. *Usability engineering: Scenario-Based Development of Human-Computer Interaction*. San Francisco: Morgan-Kaufmann.

Carroll, J.M. (Ed.) 2003. *HCI Models, theories, and frameworks: Toward a multidisciplinary science*. San Francisco: Morgan-Kaufmann.

## Technical Papers:

### 1974

Carroll, J.M. 1974. Linguistic Performance and Diachronic Analogy. Linguistic Society of America, Summer Meetings, (Amherst, MA, August). Abstract in Proceedings.

### 1975

Carroll, J.M. 1975. The perceptual principle of 'Gobbling': A case study in functional linguistic explanation. Northeast Linguistic Society (Montreal, Canada, October). Abstract in Proceedings.

Carroll, J.M. 1975. On The Historical and Synchronic Interaction of Verbal Systems: Diachronic Analogy, in Wojcik, R. (Ed.) *Columbia University Working Papers in Linguistics I*, 29-66.

Carroll, J.M. & J.S. Hennessey. 1975. Coordination reduction and the English comparative/superlative: A psycholinguistic perspective. In C. Cogen, H. Thompson, G. Thurgood, K. Whistler & J. Wright (Eds.) *Proceedings of the first annual meeting of the Berkeley Linguistic Society*. Berkeley: The University of California, pages 25-37.

Carroll, J.M. & M.K. Tanenhaus. 1975. Prolegomena to a functional theory of word formation. In Grossman, R., J. San & T. Vance (Eds.) *Papers from the Parasession on Functionalism, Chicago Linguistic Society*. Chicago: The University of Chicago, pages 47-63.

Carroll, J.M. & M.K. Tanenhaus. 1975. Functional Clauses are the Primary Units of Sentence Segmentation, distributed by the Indiana University Linguistics Club, Bloomington, Indiana.

Tanenhaus, M.K. & J.M. Carroll. 1975. The clausal processing hierarchy and ... nouniness. In Grossman, R., J. San, & T. Vance (Eds.) *Papers from the Parasession on Functionalism, Chicago Linguistic Society*. Chicago: The University of Chicago, pages 499-512.

### 1976

Bever, T.G., J.M. Carroll, & R.R. Hurtig. 1976. Analogy: Or ungrammatical sequences that are utterable and comprehensible are the origins of new grammars in language acquisition and linguistic evolution. In Bever, T., J. Katz, & T. Langendoen (Eds.) *An integrated theory of linguistic ability*. New York: Thomas Y. Crowell, pages 149-183.

Carroll, J.M. & T.G. Bever. 1976. Segmentation in cinema perception. *Science*, 191, 1053-1055.

Carroll, J.M. & T.G. Bever. 1976. Sentence comprehension: A case study in the relation of knowledge to perception. In E. Carterrette & M. Friedman (Eds.) *The handbook of perception, Vol. 7, Speech and language*. New York: Academic Press, pages 299-344.

Carroll, J.M. & M.D. Lasher. 1976. Fronted Adjectives and Adjectives Left, in Wojcik, R. (Ed.) *Columbia University Working Papers in Linguistics, II*, 1-15.

Carroll, J.M., & M.K. Tanenhaus. 1976. Functional completeness and sentence segmentation. Eastern Psychological Association (New York, April). Abstract in Proceedings.

Carroll, J.M., M.K. Tanenhaus, & T.G. Bever. 1976. The perception of relations: Functional and contextual factors in the segmentation of speech. XXI th International Congress of Psychology, Symposium on Speech and Language (Paris, France, July). Abstract in Proceedings.

Tanenhaus, M.K., J.M. Carroll, & T.G. Bever. 1976. Sentence-picture verification models as theories of sentence comprehension. *Psychological Review*, 83 310-317.

## 1977

Carroll, J.M. 1977. A program for cinema theory. *The Journal of Aesthetics and Art Criticism*, 35, 337-351.

Carroll, J.M. 1977. Linguistics, psychology and cinema theory. *Semiotica*, 20:1/2 173-195.

Carroll, J.M. 1977. Review of Rosenberg Sentence production. *Asha*, 19, 931.

Thomas, J.C., D. Lyon, L.A. Miller, & J.M. Carroll. 1977. Structured and unstructured aids to problem solving. American Psychological Association (San Francisco, August). Abstract in Proceedings.

## 1978

Carroll, J.M. 1978. Creative neologism as a dynamic process in language evolution: A case study from English. In J. Jaeger & A. Woodbury (Eds.), *Proceedings of the fourth annual meeting of the Berkeley Linguistics Society*. Berkeley: The University of California, pages 397-417. (Appeared originally as *IBM Research Report RC 7088*.)

Carroll, J.M. 1978. Names and naming: An interdisciplinary review. Only available as *IBM Research Report RC 7370*.

Carroll, J.M. 1978. On coordination reduction. *Lingua*, 46, 49-60. (Appeared originally as *IBM RC 6260 and 6530*.)

Carroll, J.M. 1978. Sentence perception units and levels of syntactic structure. *Perception and Psychophysics*, 23, 506-514. (Appeared originally as *IBM Research Report RC 7049*.)

Carroll, J.M. & M.K. Tanenhaus. 1978. Functional clauses and sentence segmentation. *The Journal of Speech and Hearing Research*, 21, 793-808. (Appeared originally as *IBM Research Report RC 6307*.)

Carroll, J.M., M.K. Tanenhaus, & T.G. Bever. 1978. The perception of relations: The interaction of structural, functional and contextual factors in the segmentation of sentences. In W.J.M. Levelt & G.B. Flores d'Arcais (Eds.) *Studies in the perception of language*. London: John Wiley, Ltd., pages 187-218. (Appeared originally as *IBM Research Report RC 6542*.)

Thomas, J.C., A. Malhotra, & J.M. Carroll. 1978. An experimental investigation of the design process. Only available as *IBM Research Report RC 6702*. Interim Technical Report, ONR Contract N00014-72-C-0419.

## 1979

Carroll, J.M. 1979. Why 'Psycholinguistics Circle'? Some studies of naming. New York Psycholinguistics Circle; New York, NY. Abstract in *Journal of Psycholinguistic Research*, 8, 587.

Carroll, J.M. 1979. 'Mere length' and sentence comprehension units: An argument from ambiguity bias. *Papers in Linguistics*, 12:3-4, 443-450.

Carroll, J.M. 1979. Functional completeness as a determinant of processing load during sentence comprehension. *Language and Speech*, 22, 347-369. (Appeared originally as *IBM Research Report RC 7317*.)

Carroll, J.M. 1979. Natural strategies in naming. Only available as *IBM Research Report RC 7533*.

Carroll, J.M. 1979. Review of Halle, Bresnan, & Miller *Linguistic Theory and Psychological Reality*. *Asha*, 21, 617.

Carroll, J.M. 1979. Complex compounds: Phrasal embedding in lexical structures. *Linguistics*, 17, 863-877. (Appeared originally as *IBM Research Report RC 7665*.)

Carroll, J.M., J.C. Thomas, & A. Malhotra. 1979. A clinical-experimental analysis of design problem solving. *Design Studies*, 1, 84-92. (Appeared originally as *IBM Research Report RC 7317*.)

Thomas, J.C., & J.M. Carroll. 1979. The psychological study of design. *Design Studies*, 1, 5-11.

## 1980

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Chewar, C., McCrickard, D.S. & Carroll, J.M. submitted. Persistent virtual identity in community networks: A social capital value chain analysis.

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Kim, K., Isenhour, P.I., Carroll, J.M. & Rosson, M.B. 2003 in press. TeacherBridge: Knowledge management in community networks. *Proceedings of HOIT 2003: Home Oriented Informatics and Telematics, The Networked Home and the Home of the Future*. PAGES.

MacLean, A., Rosson, M.B. & Carroll, J.M. submitted. Knowledge Management and CHI: Opportunities for Mutual Engagement. *INTERACT*

Ramakrishnan, N., Rosson, M.B. & Carroll, J.M. submitted. Explaining Scenarios for Information Personalization. *User Modeling and User-Adapted Interaction: The Journal of Personalization Research*

Rosson, M.B. & Carroll, J.M. 2003. Scenario-based design. In J. Jacko & A. Sears (Eds.), *The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications*. Mahwah, NJ: Lawrence Erlbaum Associates, pp. 1032-1050.

Rosson, M.B. & Carroll, J.M. 2003 in press. Fun for all: Promoting participation and engagement in community programming. In M. Blythe et al. (Eds.), *Funology: From Usability to Enjoyment*. London: Kluwer.

Rosson, M.B. & Carroll, J.M. submitted. Case Studies for Teaching Scenario-Based Usability Engineering *ACM Journal of Educational Resources in Computing*

Rosson, M.B., Seals, C.D., Carroll, J.M. & Gortner, J. Submitted. Cross-Generational Learning and Collaboration in Simulation Programming. *International Conference on Community and Technology*

Sutcliffe, A.G. & Carroll, J.M. in preparation. Reusing claims via domains in interactive system design.

Xiao, L. & Carroll, J.M. 2003. Wireless Community Support for Community Network. *IWSAWC 2003: 3rd International Workshop on Smart Appliances and Wearable Computing*

(Workshop at the 23rd International Conference on Distributed Computing Systems (ICDCS 2003), May 19-22, 2003, Providence, Rhode Island USA)

**Plenary conference addresses/distinguished lectures:**

Carroll, J.M. The cognitive interface: Some research directions. 21st GUIDE Annual Conference, Brussels, Belgium, 6 June 1980.

Carroll, J.M. The film experience as a cognitive structure. Division 10 Address, American Psychological Association, Washington, D.C., 10 August 1982. (Paper available as *IBM Research Report RC 9483*.)

Carroll, J.M. Psychology and the user interface: Science is soft at the frontier. Joint Conference of Canadian Man-Computer Communications Society, Graphics Interface '86, and Canadian Image Processing and Pattern Recognition Society, Vision Interface '86, Vancouver, Canada, 30 May 1986.

Carroll, J.M. Psychology and the user interface. Fourth Symposium on Empirical Foundations of Information and Software Science (EFISS), Atlanta, Georgia, 22 October 1986.

Carroll, J.M. The ecology of computing: What is HCI? IBM Corporate Human Factors/Product Usability Interdivisional Technical Liaison meeting, Thornwood, New York, 8 June 1988.

Carroll, J.M. Taking artifacts seriously. ACM Software Ergonomie'89 (German national conference on human factors of computing systems). Hamburg, Federal Republic of Germany, 30 March 1989. (Distributed earlier as IBM RC 14452.)

Carroll, J.M. Usability in the 1990s: A preview. IBM Rochester Laboratory "Usability Day". May 24, 1989.

Carroll, J.M. Feeding the interface eaters. HCI'89. (British Computer Society's conference on human factors of computing systems). Nottingham, England, 6 September 1989.

Carroll, J.M. Making a science IN design. Online Computer Library Center, Distinguished Seminar Series, Columbus, Ohio, 12 November 1990.

Carroll, J.M. Communicating more by saying less: Techniques for minimalist documentation and user interface design. 8th Annual Florida Technical Writing Conference (Society for Technical Communication), 6 March 1992.

Carroll, J.M. Balancing HCI on the scales of science and design. IBM Carey Laboratory, IBM Corporate On-Line Information Interdivisional Technical Liaison, 7 April, 1992.

Carroll, J.M. Artifacts and their abstractions: Narrative and causal theories of designed situations. STIMDI'92 (Swedish National Conference on Human-Computer Interaction). Linkoping, Sweden, 22 April 1992.

Carroll, J.M. Balancing HCI on the scales of science and design. SOFT-9 (Swedish National Joint Conference on Software). Linkoping, Sweden, 23 April 1992.

Carroll, J.M. Creating a design science of human-computer interaction. 25th Anniversary Conference of the Institut National de Recherche en Informatique et en Automatique (INRIA) on Computer Science and Control, Paris, December 8-11, 1992.

Carroll, J.M. Use-oriented design representations: Toward a broad view of computer science and technology. The Fifth Workshop of the Psychology of Programming Interest Group (PPIG5). Paris, December 10-12, 1992.

Carroll, J.M. Techniques for minimalist documentation and user interface design. Invited talk for Conference on Quality of Technical Documentation, University of Twente, Enschede The Netherlands, May 5-7, 1993.

Carroll, J.M. Binding metaphors to scenarios of use. FRIEND21 '94 International Symposium on Next Generation Human Interfaces. Tokyo, Japan, February 2-4, 1994.

Carroll, J.M. Putting metaphors to work. Invited plenary talk for Graphics Interface '94, Conference of the Canadian Human Computer Communications Society, Banff, Alberta, Canada, May 16-20, 1994.

Carroll, J.M. Making history, Giving reason: Technical communicators at the Great Divide. Plenary talk (acceptance of 1994 Rigo Award for career contribution to computer documentation), ACM SIGDOC'94: ACM Conference on Computer Documentation, Banff, Alberta, Canada, October 3-6, 1994.

Carroll, J.M. Making more of Minimalism: Scaling up to complex domains. Keynote address for Society for Technical Communication's Currents 1995 Conference, Atlanta, GA, February 25.

Carroll, J.M. History as a tool in design team cognition. Banquet Speech for Third Annual Mid-Atlantic Human Factors and Ergonomic Society Conference, Blacksburg, VA, March 27.

Carroll, J.M. History as tool and application: The journey from HCI'91. Invited keynote address for HCI'95: Conference on Human-Computer Interaction of the British Computer Society. University of Huddersfield, UK. 29 August - 1 September 1995

Carroll, J.M. How to avoid designing digital libraries: A scenario-based approach. Invited talk at 37th Allerton Institute, University of Illinois at Urbana-Champaign October 29-31, 1995.

Carroll, J.M. History systems. Invited keynote address for OZCHI'95: Conference of the Computer Human Interaction Special Interest Group of the Ergonomics Society of Australia, Wollongong, Australia. November 27-29, 1995.

Carroll, J.M. Overview of minimalism. Invited panel presentation for “Reconstructing minimalism: New developments in the application of minimalist principles for the education and information of users.” ACM SIGDOC’97: ACM Conference on Computer Documentation, Salt Lake City, Utah, October 22, 1997.

Carroll, J.M. Democracy, community, privacy, and the Internet. Invited panel presentation for 1999 Communitarian Summit (Washington, 27-28 February)

Carroll, J.M. Thinking Small: Digital Libraries and Community Computing. Rutgers Symposium on Digital Libraries, Rutgers Distributed Laboratory for Digital Libraries, New Brunswick, NJ, March 26, 1999.

Carroll, J.M. Scenarios and Design Methods. Invited Plenary Address for ACM DIS'2000: Symposium on Designing Interactive Systems, New York, August 17, 2000.

Carroll, J.M. Scenarios and Human-Computer Interaction. Plenary talk for User Interface 2000, Boston, MA, October 30-Nov 1.

Carroll, J.M. Scenarios and Scenario-Based Design. Invited Plenary Address for OZ-CHI'2000. Sydney, Australia, December 4, 2000.

Carroll, J.M. Scenarios and Design Cognition. Keynote talk for RE 02 (IEEE Joint International Requirements Engineering Conference). Essen, Germany, September 12. (This conference incorporates both the former IEEE International Conference on Requirements engineering (ICRE) and the IEEE International Symposium on Requirements Engineering (RE)).

Carroll, J.M. Scenarios and scenario-based design. Keynote talk for APCHI 02 (Asian-Pacific Conference on Computer-Human Interaction). Beijing, China, November 1-4, 2002. Hosted by the Institute of Software of the Chinese Academy of Science.

Carroll, J.M. Assessing the Blacksburg Electronic Village. Keynote talk for *HOIT 2003: Home Oriented Informatics and Telematics, The Networked Home and the Home of the Future*. Irvine, California, April 6-8, 2003.

Carroll, J.M. Community computing is human-computer interaction. Closing keynote talk for the First Latin American Conference on Human-Computer Interaction (CLIHC 2003), to be held in Rio de Janeiro, Brazil, August 17-20.

**Misc: videotapes/workshops/tutorials/conference demonstrations/discussant talks:**

McKendree, J., Schorno, S., & Carroll, J.M. April, 1985. Video - Personal Planner: The Scenario Machine as a research tool. ACM CHI'85, Conference on Human Factors in Computing Systems, San Francisco. Distributed in *SIGGRAPH Video Review, Issue 19*.

Carroll, J.M. Toward a realistic theory paradigm for HCI: Debate with Allen Newell. Office of Naval Research-Naval Research Laboratory User Interface Workshop, Washington, D.C., July 21-22, 1986.

Carroll, J.M. Minimalism as a design perspective for HCI. University of Colorado Workshop on User Interfaces, Breckenridge, Colorado, January 13, 1987.

Carroll, J.M. Minimalist information. International Workshop on Complex Learning, Grange-over-Sands, United Kingdom, 21-24 April, 1987.

Carroll, J.M. 1987. Discussant comments, "Learning" Session, CHI+GI'87, Joint Meeting of ACM SIGCHI Conference on Human Factors in Computing Systems and Canadian Man-Computer Communications Society Graphics Interface Conference, Toronto, April.

Carroll, J.M. & Herder, R.E. 1987. Tutorial on design of minimalist instruction and documentation. Technical Writers' Institute, Rensselaer Polytechnic Institute, June 11.

Carroll, J.M. & Aaronson, A.P. People ask questions by suggesting an answer. Seventh International Congress on Personal Construct Psychology, Memphis State University, Tennessee, 4-7 August, 1987.

Herder, R.E., Carroll, J.M., Brown, P.O., Gursky, M., Canetti, S. & Kelley, J.F. 1987. TaskMapper. September. Interact'87 Conference, Stuttgart, Federal Republic of Germany.

Carroll, J.M. Taking artifacts seriously as a minimalist design strategy. Conference on Software Development and Reality Construction, Eringerfeld Castle, Geseke, Germany, 29 September, 1988.

Carroll, J.M. 1988. Tutorial on intelligent advisory systems. Danish Datamatik Center, Lyngby, Denmark, September 18.

Aaronson, A.P., Carroll, J.M., Kelley, J.F., & Canetti, S. SmartHelp. Videotape demonstration of intelligent help utility. May, 1988.

Kirson, D.S., Carroll, J.M., Eckhoff, R., Kelley, J.F. & Canetti, S. 1988. Specialist help with multiple media. May. CHI'88 Conference on Human factors in Computing Systems Distributed in *SIGGRAPH Video Review, Issue 30*.

Carroll, J.M. 1988. Tutorial on design of minimalist instruction and documentation. Fifth Annual Conference on Writing for the Computer Industry, MIT, Cambridge, MA, 13 August.

Carroll, J.M. 1989. Tutorial on design of minimalist instruction and documentation. University of Minnesota, Institute for Technical Communication, 13 July.

- Bellamy, R.K.E., Rosson, M.B. & Carroll, J.M. 1989. Demonstration - A Minimalist curriculum for Smalltalk programming. OOPSLA'89 Conference on Object-oriented Programming Systems and Languages.
- Carroll, J.M. 1989. Tutorial on design of minimalist instruction and documentation. University of Maryland Satellite Course on Issues in Human-Computer Interaction, December 7.
- Bellamy, R.K.E., Rosson, M.B. & Carroll, J.M. Demonstration - A Minimalist curriculum for Smalltalk programming. CHI'90 Conference on Human factors in Computing Systems
- Carroll, J.M. & Rosson, M.B. 1990. Tutorial on design of minimalist instruction and documentation. CHI'90 Conference on Human factors in Computing Systems, Seattle, April 1.
- Carroll, J.M. & Kellogg, W.A. Integrating reality with cyberspace, and conversely. First Conference on Cyberspace, University of Texas, Austin, 4-5 May, 1990.
- Carroll, J.M. Using questions to design by scenario. Conference on Question Generation and Information Systems, Rochester University, Michigan, 14-16 June, 1990.
- Carroll, J.M. & Rosson, M.B. Tutorial workshop on the task-artifact framework for HCI design. British HCI Summer School at Heriot-Watt University in Edinburgh (sponsored by the ESRC/MRC/SERC Joint Councils Initiative in Cognitive Science and HCI), August 21, 1990.
- Carroll, J.M. & Rosson, M.B. 1990. Tutorial workshop on the task-artifact framework for HCI design. Toronto Metropolitan Chapter of ACM SIGCHI (sponsored by University of Toronto and IBM Canada), December 11.
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### **Recent Career Narrative**

John M. Carroll was a founder of human-computer interaction, the youngest of the 9 core areas of Computer Science identified by the Association for Computing Machinery (ACM). He served on the program committee of the 1982 Bureau of Standards Conference on the Human Factors of Computing Systems that in effect inaugurated the field, and was the direct predecessor of the field's flagship conference series, the ACM CHI Conferences.

Through the past two decades, Carroll has been a leader in the development of the field of Human-Computer Interaction. In 1984 he founded the User Interface Institute at the IBM Thomas J. Watson Research Center, the most influential corporate research laboratory during the latter 1980s. In the 1994, he joined Virginia Tech as Department Head of Computer Science in order to establish an internationally renowned HCI focus in research and teaching. In 1995, Carroll led the effort to form the university's Center for Human-Computer Interaction. That year, Virginia Tech was invited to join the Human-Computer Interaction Consortium, a group of the leading corporate and academic HCI research organizations in the world.

Carroll has served on the editorial boards of every major HCI journal — *International Journal of Human-Computer Interaction*, *International Journal of Human-Computer Studies*, *Human-Computer Interaction*, *Transactions on Computer-Human Interaction*, *Transactions on Information Systems*, *Interacting with Computers*, *Behaviour and Information Technology*. He was a founding associate editor of the field's premier journal, *ACM Transactions on Computer-Human Interaction*, and a founding member of editorial boards of *Transactions on Information Systems*, *Behaviour and Information Technology*, and *International Journal of Human-Computer Interaction*. He is current on the Senior Editorial Advisory Board for the field's oldest journal, *International Journal of Human-Computer Systems*.

He served on the editorial board of all three editions of the *Handbook of Human-Computer Interaction*, and was associate editor for the section on Human-Computer Interaction in the *Handbook of Computer Science and Engineering*. He has served on more than 50 program committees for international HCI conferences, serving as chair or associate chair 12 times. He has been nominated to become the next Editor-in-Chief of the *ACM Transactions on Computer-Human Interaction*. He is currently serving his second term on the National Research Council's Committee on Human Factors.

Carroll is strongly identified with theory and foundations in human-computer interactions. His 1987 (MIT) and 1991 (Cambridge) edited collections were the first significant resources produced for graduate and professional education in the science and theory of HCI. In 1994 he spoke at the 25th Anniversary Celebration of INRIA in Paris on the significance of HCI for research in computing. In 1997, he wrote an invited paper for the *Annual Review of Psychology* on HCI considered as a subfield of psychology. More recently, he edited a double special issue of *ACM Transactions on Computer-Human Interaction* on the future research agenda of HCI, as well as a book, *Human-Computer Interaction in the New Millennium* (Addison-Wesley, 2001).

He also was recently asked to write articles for the *Encyclopedia of Cognitive Science*, the *McGraw-Hill Sourcebook of Science and Technology*, and the new *Encyclopedia of Human-Computer Interaction*. He has just edited a new collection of papers on theory and foundations of HCI (2003, Morgan-Kaufmann).

Carroll is a leader in HCI research. In the late 1970s and early 1980s, his empirical studies of software designers and of the learning problems of new users helped define usability engineering. His psycholinguistic theory of command language structures and the problem of naming software objects was one of the first examples of theory in HCI. He developed the concepts of usability specification and user interface metaphor, and originated the minimalist model of information design. His work on scenario-based design has had impacts beyond HCI in design studies, requirements engineering, human factors, and home-oriented informatics. His argument that science and theory in HCI must be situated in the materials and practices of HCI design and development work has had a major impact on discussions of the foundations of HCI. Most recently, he has contributed to the concepts and methods of community computing, developing and assessing new technology in the context of Blacksburg Electronic Village.

Carroll was one of the first investigators of scenario-based design, and has been a leader for more than a decade. He has developed tools and methods, including long-term participatory design methods that leverage the accessibility of scenario representations to end-users. He developed a structural schema for scenario representations to facilitate integration across technical activities and disciplinary perspectives of the system development lifecycle (requirements engineering, systems engineering, object-oriented analysis, software engineering, usability engineering, design rationale, collaborative work, management) as well as reuse by subsequent designers. He created a World-Wide Web case study library of scenario-based design case studies. He developed a framework for HCI theory in which scenario-based design rationales provide grounding for principles. His empirical work has demonstrated and validated these concepts in field studies of design. Carroll's monograph, *Making Use*, summarizing much of this work, is widely acclaimed in many design research disciplines.

Carroll has published 13 books, and more than 250 technical papers, and produced more than 70 miscellaneous reports (videotapes, workshops, tutorials, conference demonstrations and discussant talks). An extensive series of papers of naming and reference was integrated in a monograph (Freeman, 1985). The primary research work on the minimalist model of information design was also synthesized into a research monograph (MIT, 1990), followed by the publication of a collection of papers by senior researchers who adopted and further developed this theory (MIT, 1998). The initial development of scenario-based design was also anthologized (Wiley, 1995); subsequently, several related books were published: a collection of papers on design rationale (with T.P. Moran; Erlbaum, 1996), a research monograph (MIT, 2000), and a textbook (with M.B. Rosson; Morgan-Kaufmann, 2002).

Carroll has presented more than 30 plenary or distinguished lectures, including keynote addresses at international HCI conferences in Australia (twice), Brazil, Canada (twice), China, Germany, Japan, and the United Kingdom (twice), as well as at international conferences in interactive system design, user interface design, requirements engineering, and home-oriented

informatics. In 1996, he served on a British government advisory panel to assess human-computer interaction research in the United Kingdom.

Carroll has received the Rigo Career Achievement Award from ACM (SIGDOC) for contributions to research and practice in technical information. He received the Silver Core Award from IFIP for contributions to design methods. In 2002, he was elected to the ACM CHI Academy, a small group of pioneers whose research enabled the development of personal computing. In 2003, he became the fifth recipient of the CHI Lifetime Achievement Award, the most prestigious research award in HCI (<http://sigchi.org/documents/awards.html>).

Carroll has been a leader in HCI education. He led the design of a six-course package of undergraduate and graduate HCI courses in computer science that have been extremely successful not only among computer science students but among students throughout Virginia Tech. In 1999, he led the effort to establish an interdisciplinary graduate certificate program in HCI. Though this program has not been promoted by the university or provided with any administrative resource, there are about a dozen students pursuing certification. Carroll collaborated on an undergraduate textbook for HCI (Morgan-Kaufmann, 2002). This book has been very successful; the National Science Foundation recently awarded \$300,000 to support further development and dissemination of its case-based learning approach. In fall 2000, Carroll led an NSF-supported workshop involving 12 international leaders in the scientific foundations of HCI who jointly wrote a textbook for a graduate course in HCI models, theories, and frameworks (CS 5724 at Virginia Tech). This book will be published in April 2003 (Morgan Kaufmann, 2003).