CURRICULUM VITAE

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EDUCATION AND PROFESSIONAL EXPERIENCE

1963-1966	Princeton University, AB cum laude 1966 (mathematics)
1966-1968	Massachusetts Institute of Technology, MS 1968
1968-1970	IBM Corporation, Cambridge, MA. Research and development in computer processing of natural language.
1970-1973	IBM Watson Research Center, Yorktown Heights, NY, design of programming languages.
1973-1978	The University of Michigan, PhD 1978 (experimental psychology)
1976-1979	The University of Texas at Austin, Visiting Instructor, Department of Psychology
1979-1984	IBM Watson Research Center, Research Staff Member
1980-1984	IBM Watson Research Center, Manager of Human Factors
1982	IBM United Kingdom Laboratories, Hursley, Hants, England, Group leader, Software Human Factors
1984-1992	University of Colorado, Department of Computer Science, Associate Professor
1990-1991	Center for Advanced Decision Support in Water and Environment Systems, University of Colorado, Sabbatical visitor
1991-1992	University of Colorado, Institute of Cognitive Science, Acting Director
1992-present	University of Colorado, Department of Computer Science, Professor
1998	Visiting Scientist, Knowledge Media Institute, The Open University, Milton Keynes, England
1999-2003	Chair, Department of Computer Science, University of Colorado
2002	Faculty Partner, IBM Printing Systems Division (summer)
2004-11	Scientist in Residence, Coleman Institute for Cognitive Disabilities

2006-7	Sabbatical visitor, Assistive Technology Partners, Department of Rehabilitation Medicine, University of Colorado School of Medicine
2011- 2014	Consultant, National Institute on Disability and Rehabilitation Research
2014-2015	Interim Chair, Department of Mechanical Engineering, University of Colorado
2017	Fellow, Hanse-Wissenschaftskolleg, Delmenhorst, Germany
2018	Visiting advisor, DIAGRAM Center (January-July)
2018-2019	Coleman-Turner Professor of Computer Science
2019-	Institute Co-Director for Technology, Coleman Institute for Cognitive Disabilities
2021	Interim Director, University of Colorado President's Teaching Scholar Program

HONORS
National Merit Scholarship, 1963-1966
NSF Graduate Fellowship, 1966-68
Rackham Fellowship, 1975-1976
University of Colorado President's Teaching Scholar, 1989-
Outstanding Teacher Award: American Electronics Association Mountain States Council, 1990
Sullivan-Carlson Teaching Award, College of Engineering and Applied Science, 2002
Named to ACM CHI Academy, 2009
ACM CHI Social Impact Award, 2011
Strache Leadership Award, Center on Disabilities, California State University, Northridge, 2017

GRANTS

Co-Principal Investigator, Envisioning Workshops for Computing in Undergraduate Education**,** NSF, 2019-21, $748K.

Co-Principal Investigator, Formal Analysis of Man-Machine Interfaces to Cyber-Physical Systems, NSF, 2010-13, $450K.

Participant, Collaborative Research: Alliance Between Historically Black Universities and Research Universities for Collaborative Education and Research in Computing Disciplines, NSF, 2010-11, $18K.

Co-Principal Investigator, Google, CS4HS (Computer Science for High School) workshop, 2010, $20K.

Co-principal Investigator, Rehabilitation Engineering Research Center for Advancing Cognitive Technology. National Institute for Disability and Rehabilitation Research, 2009-2014, $5M.

Co-Principal Investigator, GK-12: Integrating Computer Science into Traditional Studies, NSF, 2009-2014, $3M.

Participant, Collaborative Research: Alliance Between Historically Black Universities and Research Universities for Collaborative Education and Research in Computing Disciplines, NSF, 2006-2009, $507K.

Principal investigator, CSCL Student Community Workshop. NSF, 2005, $19K.

Co-principal investigator (with J. Martin) Automated text simplification to increase access to Web information for people with cognitive disabilities. Google, 2005-6, $55K.

Investigator, Rehabilitation Engineering Research Center for Advancing Cognitive Technology. National Institute for Disability and Rehabilitation Research, 2004-2009, $5M.

Principal Investigator, Web services in a pilot CS Intro course, Microsoft Corporation, $16K, 2002.

Co-principal Investigator (with G. Nutt, D. Grunwald, R. King and W. Waite) The Digital Commonspace. National Science Foundation, 2000-2004 ($1.5M)

Principal Investigator. Technical and Theoretical Foundations of Learning Activities with Modeling. Center for Innovative Learning Technologies, 1999-2000 ($20,000)

Co-principal investigator (with N. Songer, M. Eisenberg), Enhancing Children's Understanding of Science through Collaborative Creation of Animated Pictorial Models, National Science Foundation, 1995-1998 ($1,060,342).

Co-principal investigator (with R. Reitsma, I. Zigurs), Group decision making, National Science Foundation, 1992-1995 ($286,611).

Co-principal investigator (with P. Polson), Exploration and learning in interactive systems. National Science Foundation, 1992-1995 ($386,867).

Co-principal investigator (with G. Domik), Direct display and manipulation of multi-dimensional data for visualization and data analysis, Colorado Advanced Software Institute, 1992-1994 ($63,000).

Project Leader (with five other investigators), CU-USWest Research Program, 1990-1993, ($746,969).

Member, Center for Space Construction, NASA, 1988-1991, (large multi-investigator grant).

Co-principal Investigator (with G. Fischer, W. Kintsch, P. Polson), Design principles for comprehensible systems, National Science Foundation, 1988-1991 ($1,171,246).

Co-principal Investigator (with P. Polson), Theory-based design of learnable systems, USWest Corporation, 1987-1988 ($50,000). Renewed 1988-1989 ($61,300). Renewed 1989-1990 ($80,000).

Principal Investigator, Explanation and learning in procedural skills, Office of Naval Research, 1985-1987 ($229,113). Renewed 1987-1988 ($108,890).

Co-investigator (with P. Smolensky, B. Fox, R. King), Computer-aided reasoned discourse. National Science Foundation, 1987-90 ($490,458).

Principal investigator, Cognitive processes in artificial intelligence and learning, Universal Energy Systems (prime contractor for USAF Human Resources Laboratory), 1986 ($142,000).

Co-principal investigator, "Problem-solving processes in algebra," Joint NIE-NSF Program on Cognitive Processes and the Structure of Knowledge in Science and Mathematics, 1978-1979.

ORGANIZATIONAL AND PROFESSIONAL ACTIVITIES
Member of Editorial Board, *Human-Computer Interaction*, 1986-

Member of Editorial Board, *ACM Transactions on Accessible Computing (TACCESS),* 2006-

Member of Senior Editorial Board, *Cognitive Science*, 1996-1999.

Member of Editorial Board, *Interactive Learning Environments*, 1990-97.

Member of Editorial Board, *Cognitive Science*, 1987-2003.

Member, Amazon Accessibility Advisory Council, 2014-

Doctoral Consortium, ACM Assets Conference, 2021.

Workshop Co-Organizer, CUE-NEXT Workshops on Envisioning the Future of Computing in Undergraduate Education, 2019-2021.

Program Co-Chair, Web4All Conference, 2020.

Program Committee, Psychology of Program Interest Group Workshop, 2020.

Doctoral Consortium, Psychology of Program Interest Group Workshop, 2020.

Doctoral Consortium, ACM Assets Conference, 2020.

Member, DIAGRAM Center General Advisory Committee, 2016-20

Workshop organizer, Coleman Conversational Agent Workshop, Coleman Conference on Cognitive Disabilities, Westminster, CO, October 16, 2019.

Mentoring Co-Chair, ACM Assets Conference, 2019.

Program committee member, ACM Assets Conference, 2019, 20.

Mentoring Chair, ACM Assets Conference, 2018.

Workshop organizer, Implications of Developments in Machine Learning for People with Cognitive Disabilities, Coleman Conference on Cognitive Disabilities, Broomfield, CO, October 2, 2018.

Study Group convener (with Tamer Amin and Benedek Lang): Modeling Conceptual Knowledge and Conceptual Change. Hanse-Wissenschaftskolleg, Delmenhorst, Germany, 2018-2021.

Workshop organizer (with Shaun Kane and Richard Ladner): Strategic Research on Improving Support for People with Disabilities Online. Washington, DC, September 24-25, 2015.

Workshop organizer, Planning a Public-Private Research Partnership on Access to Information for People with Cognitive Disabilities, Coleman Conference on Cognitive Disabilities, Broomfield, CO, October 9, 2014.

Doctoral consortium mentor, Psychology of Programming Interest Group Annual Conference, 2014.

General Chair, ACM ASSETS Conference 2013

Appointed Board Member, Rehabilitation Engineering and Assistive Technology Association of North America (RESNA), 2013-2014

Vice-chair, ACM SIGACCESS, 2013-2015

Co-chair, Technology and Assistive Technology Subcommittee, Interagency Committee on Disability Research. 2012-2014

Co-Chair, Doctoral Consortium, ACM ASSETS Conference, 2007, 2011.

Panel organizer, Cognitive Accessibility for the Web, Coleman Conference on Cognitive Disabilities, Broomfield, CO, October 24, 2006.

Chair, Student Research Competition, ACM ASSETS Conference, 2006.

Co-chair and mentor, Doctoral Consortium, International Conference on Computer Supported Cooperative Learning, Taipei, May 30, 2005.

Program Committee, VL/HCC'04: IEEE Symposium on Visual Languages and Human-Centric Computing.

Program Committee, Cognitive Science Society Annual Conference, 2003.

Program Review Visitor, National Science Council of Taiwan, May, 2002 and October, 2003.

Doctoral Consortium Co-Chair, CHI'98 Conference on Human Factors of Computing Systems, 1998

Technical Program Co-Chair, CHI'95 Conference on Human Factors of Computing Systems, 1995.

Program Committee, Vienna Conference of Human Computer Interaction, 1993.

Panels Chair, CHI'91 Conference on Human Factors of Computing Systems, 1991.

Organizer, NASA/SIGCHI Workshop on Success Cases in HCI, July 24-26, 1991 (with P. Polson, L. Gugerty, M. Rudisil).

Program Committee, AAAI Symposium on Intelligent User Interfaces, 1991.

Program Chair, CHI'89 Conference on Human Factors of Computing Systems, 1989.

Program Committee, SIGCHI Conference on Human Factors of Computing Systems, 1983, 1985, 1986, 1988, 1990, 1992, 1993.

Program Committee, Second Workshop on Empirical Studies of Programmers, 1987.

Occasional reviewer for Memory and Cognition, Journal of the Association for Computing Machinery, National Institute of Education, National Science Foundation, Cognition and Instruction, Cognitive Psychology, IJCAI, FJCC, Air Force Office of Scientific Research, Government of Sweden, Government of Canada, Government of Israel, United Kingdom Research Councils, National Science Council of Taiwan.

RESEARCH INTERESTS
Cognitive Assistive Technology
Human-Computer Interaction
Computers in education

Formal and computational models of mental processes

TEACHING EXPERIENCE
Game Design for Education, Issues and Methods in Cognitive Science, Introduction to Computer Science, Computer Science as a Field of Work and Study, Introduction to Artificial Intelligence, Principles of Programming Languages, User Interface Design and Evaluation, Human Learning and Memory, Experimental Psychology, Elementary Statistics, Computers in Psychological Research, and Applied Psychology.

SELECTED ACADEMIC COMMITTEE SERVICE
Department: Chair, Graduate Committee (chair), Undergraduate Committee, Personnel Committee (chair), Search Committee (chair), Executive Committee; Institute of Cognitive Science: Executive Committee; College of Engineering and Applied Science: College-wide Search Committee (Chair). First Level Review Committee (chair), Herbst Humanities Program Planning Committee, Engineering Management Program Steering Committee, Administrative Council; Campus: Linguistics Department Program Review Committee, Boulder Faculty Assembly Representative at Large, Alliance for Technology, Learning and Society Advisory Board, Information Science and Technology Exploratory Committee (co-chair); Faculty Affairs; Program Review Panel; CU System: President's Teaching Scholars Steering Committee, Selection Committee; Faculty Council Learning, Educational Technology, Teaching, and Scholarship Committee (co-chair), Committee on Privilege and Tenure (chair), Timmerhaus Ambassador Award Committee.

PAPERS IN REFEREED PROCEEDINGS AND JOURNALS

Basman, A., Lewis, C., & Clark, C. (2018, October). The open authorial principle: supporting networks of authors in creating externalisable designs. In *Proceedings of the 2018 ACM SIGPLAN International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software* (pp. 29-43). ACM.

Lewis, C. (2017) Methods in user oriented design of programming languages. In *Proc. PPIG 2017 Psychology of Programming Annual Conference*, Delft, Netherlands, 1-3 July 2017.

Smith, T., Lewis, C. and Moore, E. (2017) Description Strategies to Make an Interactive Science Simulation Accessible. *Journal on Technology & Persons with Disabilities*, **5** [22], 225-238.

Koushik, V. and Lewis, C. An Accessible Blocks Language: Work in Progress. In *Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '16). ACM, New York, NY, USA, 317-318.

Lewis, C., Kane, S. and Ladner, R. Promoting Strategic Research on Inclusive Access to Rich Online Content and Services. In *Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '16). ACM, New York, NY, USA, 275-276.

Smith, T., Lewis, C., and Moore, E. Demonstration: Screen Reader Support for a Complex Interactive Science Simulation. In *Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '16). ACM, New York, NY, USA, 319-320.

Koushik, V. and Lewis, C. Work in Progress: A Nonvisual Interface for a Blocks Language. *Proc. PPIG 2016 Psychology of Programming Annual Conference*, Cambridge, England, 7-10 September 2016.

Lewis, C. and Riemer, D. Nonvisual Access to an Interactive Electric Field Simulation: Work in Progress. In *Proceedings of the 17th International ACM SIGACCESS Conference on Computers & Accessibility* (ASSETS '15). ACM, New York, NY, USA, 437-438.

Moore, E. and Lewis, C. Opportunity: Inclusive Design for Interactive Simulations. In *Proceedings of the 17th International ACM SIGACCESS Conference on Computers & Accessibility* (ASSETS '15). ACM, New York, NY, USA, 395-396.

Basman, A., Clark, C., and Lewis, C. Harmonious Authorship from Different Representations (Work in Progress). In M. Coles and G. Ollis (Eds) *Proc. PPIG 2015 Psychology of Programming Annual Conference.* Bournemouth, England, 15th-17th July 2015.

Bias, R., Lewis, C., & Gillan, D. (2014). The tortoise and the (soft) ware: Moore's law, Amdahl's law, and performance trends for human-machine systems. *Journal of Usability Studies*, *9*(4), 129-151.

Lewis, C. Work in Progress Report: Nonvisual Visual Programming. In B. duBoulay and J. Good (Eds.) *Proc. PPIG 2014 Psychology of Programming Annual Conference*, 25th Anniversary Event. Brighton, England, 25th-27th June 2014.

Basawapatna, Ashok Ram, Alexander Repenning, and Clayton H. Lewis. "The simulation creation toolkit: an initial exploration into making programming accessible while preserving computational thinking." *Proceedings of the 44th ACM technical symposium on Computer science education*. ACM, 2013.

Debra Goldberg, Dirk Grunwald, Clayton Lewis, Jessica Feld, Kristin Donley, and Odette Edbrooke. 2013. Addressing 21st century skills by embedding computer science in K-12 classes. In *Proceeding of the 44th ACM technical symposium on Computer science education* (SIGCSE '13). ACM, New York, NY, USA, 637-638.

Ziyi Zhang, Scott McCrickard, Shea Tanis, and Clayton Lewis. (2012) Supporting employment matching with mobile interfaces. In Proceedings of the 14th international ACM SIGACCESS conference on Computers and accessibility (ASSETS '12). ACM, New York, NY, USA, 247-248.

Debra S. Goldberg, Dirk Grunwald, Clayton Lewis, Jessica A. Feld, and Sarah Hug (2012) Engaging computer science in traditional education: the ECSITE project. In Proceedings of the 17th ACM annual conference on Innovation and technology in computer science education (ITiCSE '12). ACM, New York, NY, USA, 351-356.

Sankaranarayanan,S., Homaei, H., and Lewis, C. (2011) Model-based dependability analysis of programmable drug infusion pumps. In Proceedings of the 9th international conference on Formal modeling and analysis of timed systems (FORMATS'11), Uli Fahrenberg and Stavros Tripakis (Eds.). Springer-Verlag, Berlin, Heidelberg, 317-334.

Basman, A., Lewis,C., and Colin B.D. Clark, C. (2011) To inclusive design through contextually extended IoC: infusion IoC, a JavaScript library and mentality for scalable development of accessible and maintainable systems. In Proceedings of the ACM international conference companion on Object oriented programming systems languages and applications companion (SPLASH '11). ACM, New York, NY, USA, 237-256.

Hoehl, J. and Lewis, C. (2011) Mobile web on the desktop: simpler web browsing. In The proceedings of the 13th international ACM SIGACCESS conference on Computers and accessibility (ASSETS '11). ACM, New York, NY, USA, 263-264.

Lewis, C. (2011) Issues in web presentation for cognitive accessibility. In Proceedings of the 6th international conference on Universal access in human-computer interaction: design for all and eInclusion - Volume Part I (UAHCI'11), Constantine Stephanidis (Ed.), Vol. Part I. Springer-Verlag, Berlin, Heidelberg, 244-248.

Sullivan, J., Lewis, C., and Hoehl, J. (2011) Implications of cloud computing for people with cognitive disabilities. In Proceedings of the 6th international conference on Universal access in human-computer interaction: users diversity - Volume Part II (UAHCI'11), Constantine Stephanidis (Ed.), Vol. Part II. Springer-Verlag, Berlin, Heidelberg, 372-381.

Lewis, C. and Ward, N. (2011) Opportunities in cloud computing for people with cognitive disabilities: designer and user perspective. In Proceedings of the 6th international conference on Universal access in human-computer interaction: users diversity - Volume Part II (UAHCI'11), Constantine Stephanidis (Ed.), Vol. Part II. Springer-Verlag, Berlin, Heidelberg, 326-331.

Hagood, K., Moore, T., Pierre, T., Messamer, P., Ramsberger, G., and Lewis, C. 2010. Naming Practice for People with Aphasia in a Mobile Web Application: Early User Experience. In *Proceedings of the 12th international ACM SIGACCESS Conference on Computers and Accessibility* (Orlando, Florida, USA, October 25 - 28, 2010). Assets '10. ACM, New York, NY, 273-274.

Lewis, C., Jackson, M.H., and Waite, W.M. (2010) Student and faculty attitudes and beliefs about computer science. *Commun. ACM* 53, 5 (May 2010), 78-85.

Chandler, S., Harris, J., Moncrief, A., and Lewis, C. (2009) Naming practice for people with aphasia as a mobile web application. In *Proceedings of the 11th international ACM SIGACCESS Conference on Computers and Accessibility* (Pittsburgh, Pennsylvania, USA, October 25 - 28, 2009). Assets '09. ACM, New York, NY, 247-248.

Lewis, C., Sullivan, J., and Hoehl, J. 2009. Mobile Technology for People with Cognitive Disabilities and Their Caregivers --- HCI Issues. In *Proceedings of the 5th international Conference on Universal Access in Human-Computer interaction. Addressing Diversity. Part I*: Held As Part of HCI international 2009 (San Diego, CA, July 19 - 24, 2009). C. Stephanidis, Ed. *Lecture Notes In Computer Science*, vol. 5614. Springer-Verlag, Berlin, Heidelberg, 385-394.

Lewis, C. and Menn, L. 2009. Access Tool? Accelerating Treadmill? Technology and the Aging Population. In *Proceedings of the 5th international Conference on Universal Access in Human-Computer interaction. Addressing Diversity. Part I*: Held As Part of HCI international 2009 (San Diego, CA, July 19 - 24, 2009). C. Stephanidis, Ed. *Lecture Notes In Computer Science*, vol. 5614. Springer-Verlag, Berlin, Heidelberg, 263-268.

Benjamin, C., Harris, J., Moncrief, A., Ramsberger, G., and Lewis, C. 2008. Naming practice on an open platform for people with aphasia. In *Proceedings of the 10th international ACM SIGACCESS Conference on Computers and Accessibility* (Halifax, Nova Scotia, Canada, October 13 - 15, 2008). Assets '08. ACM, New York, NY, 265-266.

LoPresti, E., Bodine, C., and Lewis, C. (2008) Assistive technology for cognition. *IEEE Engineering in Medicine and Biology Magazine*, 27,2, 29-39.

Lewis, C. (2007) Simplicity in cognitive assistive technology: A framework and agenda for research. *Universal Access in the Information Society*, 5, 4, 351-361. Online at http://www.springerlink.com/content/881h660p6u1766h4/

Lewis, C. 2007. Attitudes and beliefs about computer science among students and faculty. *SIGCSE Bull*. 39, 2 (Jun. 2007), 37-41.

Bucuvalas, S. and Lewis, C. 2007. Model-Driven Quality Assurance for End Users. *In Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing* (September 23 - 27, 2007). VLHCC. IEEE Computer Society, Washington, DC, 175-178.

Lewis, C. (2006) HCI and cognitive disabilities. *interactions* 13, 3 (May. 2006), 14-15.

Davies, S., Allen, S., Raphaelson, J., Meng, E., Engleman, J., King, R., and Lewis, C. 2006. Popcorn: the personal knowledge base. In *Proceedings of the 6th Conference on Designing interactive Systems* (University Park, PA, USA, June 26 - 28, 2006). DIS '06. ACM, New York, NY, 150-159.

Lewis, C. (2005) HCI for people with cognitive disabilities. *SIGACCESS Access. Comput.* , 83 (Sep. 2005), 12-17.

Lewis, C. (2005) Bridges for the mind: Opportunities for Research on Cognitive Disabilities (Abstract). Invited plenary paper, In Proc. Assets 2005, Seventh International ACM SIGACCESS Conference on Computers and Accessibility, New York: ACM, p 1.

Ioannidou, A., Repenning, A, Lewis, C., Cherry, G. and Rader, C. (2003), Making constructionism work in the classroom. *International Journal of Computers for Mathematical Learning*, **8**, 1,63-108.

Blackmon, M.H., Polson, P.G., Kitajima, M. and Lewis, C. (2002) Cognitive walkthrough for the Web. *Proc. CHI'02 Conference on Human Factors in Computing Systems* (Minneapolis, April 20-25), ACM, New York. pp. 463-470.

Zigurs, I., Reitsma, R., Lewis, C., Hubscher, R. and Hayes, C. (1999) Accessibility of computer-based simulation models in inherently conflict-laden negotiations. *Group Decision and Negotiation* 8: 511-533.

Rader, C., Cherry, G., Brand, C., Repenning, A., and Lewis, C. (1998) Principles to scaffold mixed textual and iconic end-user programming languages. *Proc. 1998 IEEE Symposium on Visual Languages* (Halifax, September 1998).

Lewis, C., Brand, C., Cherry, G., and Rader, C. (1998) Adapting user interface design methods to the design of educational activities. In *Proc. CHI'98 Conference on Human Factors in Computing Systems* (Los Angeles, April 18-23), ACM, New York, pp. 619-626.

Rader, C., Brand, C., and Lewis, CH. (1997) Degrees of comprehension: Children's understanding of a visual programming environment. In *Proc. CHI'97 Conference on Human Factors in Computing Systems* (Atlanta, March 22-27), ACM, New York.

Reitsma, R., Zigurs, I., Lewis, C., Wilson, V., and Sloane, A. (1996) Experiments with simulation models in water-resources negotiations. *Journal of Water Resources Planning and Management*, 122, 1, 64-70.

Joslyn, C., Lewis, C. and Domik, B. (1995) Designing glyphs to exploit patterns in multidimensional datasets. In *Conference Companion to CHI'95 Conference on Human Factors in Computing Systems* (Denver, May 7-11), ACM, New York, pp. 198-199.

Rehder, R., Lewis, C., Terwilliger, R., Polson, P., and Rieman, J. (1995) A model of optimal exploration and decision-making in novel interfaces. In *Conference Companion to CHI'95 Conference on Human Factors in Computing Systems* (Denver, May 7-11), ACM, New York, pp. 230-231.

Rieman, R., Lewis, C., Young, R. and Polson, P. (1994) Why is a raven like a writing desk? Lessons in interface consistency and analogical reasoning from two cognitive architectures. In *Proc. CHI'94 Conference on Human Factors in Computing Systems* (Boston, April 24-28), ACM, New York, pp. 438-444.

Bell, B., Citrin, W., Lewis, C., Rieman, J., Weaver, R., Wilde, N. and Zorn, B. (1994) Using the programming walkthrough to aid in programming language design. *Software Practice and Experience*, 24, 1, pp. 1-25.

Zigurs, I, Wilson, E.V., Sloane, A., Reitsma, R. and Lewis CH. (1994) Simulation models and group negotiation: Problems of task understanding and computer support. In *Proc. 27th Annual Hawaii International Conference on System Sciences*, IEEE, pp. 306-315.

Bell, B. and Lewis, CH. (1993) ChemTrains: A language for creating behaving pictures. In *Proc. VL '93, 1993 IEEE/CS Symposium on Visual Languages* (Bergen, Norway, August 24-27, 1993), pp. 188-195.

Stasko, J., Badre, A., and Lewis, CH. (1993) Do algorithm animations assist learning? An empirical study and analysis. In *Proc. INTERCHI'93* (Amsterdam, April 24-29, 1993) ACM New York, pp. 61-66.

Polson, P, Lewis, CH, Rieman, J., and Wharton, C. (1992) Cognitive walkthroughs: A method for theory-based evaluation of user interfaces. In *International Journal of Man-Machines Studies*, 36, pp. 741-773.

Lewis, CH, Rieman, J, and Bell, B. (1991) Problem-centered design for expressiveness and facility in a graphical programming system. *Human-Computer Interaction*, 6, pp. 319-355.

Bell, B, Rieman, J, and Lewis, CH. (1991) Usability testing of a graphical programming system: Things we missed in a programming walkthrough. In *Proc. CHI'91 Conference on Human Factors in Computing Systems* (New Orleans, April 28-May 2, 1991), ACM New York, pp. 7-12.

Gould, JD, Boies, SJ, and Lewis, CH. (1991) Making usable, useful, productivity-enhancing computer applications. In *Communications of the ACM*, 34, pp. 75-85.

Wehrend, S, and Lewis, CH. (1990) A problem-oriented classification of visualization techniques. In *Proc. of the First IEEE Conference on Visualization: Visualization'90*. IEEE Computer Society Press, Los Alamitos, CA, pp. 139-143.

Lewis, CH, Polson, P, Wharton, C, and Rieman, J. (1990) Testing a walkthrough methodology for theory-based design of walk-up-and-use interfaces. In *Proc. CHI'90 Conference on Human Factors in Computing Systems*, (Seattle, April 1-5), ACM New York.

Wilde, N, and Lewis, CH. Spreadsheet-based interactive graphics: From prototype to tool. In *Proc. CHI'90 Conference on Human Factors in Computing Systems*, (Seattle, April 1-5), ACM New York.

Polson, P, and Lewis, CH. (1990) Theory-based design of easily-learned interfaces. *Human-Computer Interaction*, 5, pp. 191-220

Lewis, CH. (1990) A research agenda for the nineties in human-computer interaction. *Human-Computer Interaction*, 5, pp. 125-143.

Lewis, CH, Hair, D, and Schoenberg, V. (1989) Generalization, consistency, and control. In *Proc. CHI'89 Conference on Human Factors in Computing Systems*, (Austin, April 30-May 4), ACM New York, pp. 1-5.

Lewis, CH. (1988) Why and how to learn why: Analysis-based generalization of procedures. *Cognitive Science*, 12, pp. 211-256.

Lewis, CH, Casner, S, Schoenberg, V, and Blake, M. (1987) Analysis-based learning in human-computer interaction. In *Proc. Interact'87, 2d IFIP Conference on Human-Computer Interaction*, September, pp. 275-280.

Casner, S, and Lewis, CH. (1987) Learning about hidden events in system interactions. In Proc. *CHI'87 Conference on Human Factors in Computing Systems* (Toronto, April 5-9), ACM New York, pp. 197-203.

Lewis, CH. (1986) A model of mental model construction. In *Proc. CHI'86 Human Factors in Computing Systems* (Boston April 13-17), ACM New York, pp. 306-313.

Lewis, CH. (1985) Extending the spreadsheet interface to handle approximate quantities and relationships. In *Proc CHI'85 Human Factors in Computing Systems*, (San Francisco April 14-18), ACM New York, pp. 55-59.

Carroll, JM, Mack, RL, Lewis, CH, Grischkowsky, NL, and Robertson, SR. (1985) Exploring exploring a word processor. *Human-Computer Interaction*, 1, pp. 283-307.

Gould, JD, Lewis, CH, and Barnes, V. (1985) Cursor movement during text editing. *ACM Transactions on Office Information Systems*, 3, pp. 22-34.

Gould, JD and Lewis, CH. (1985) Designing for usability: Key principles and what designers think. *Communications of the ACM*, 28, pp. 300-311.

Mack, RL, Lewis, CH, and Carroll, JM. (1983) Learning to use word-processors: Problems and prospects. *ACM Transactions on Office Information Systems*, 1, pp. 254-271.

Lewis, CH. and Mack, R. (1982) Learning to use a text processing system: Evidence from "thinking aloud" protocols. In *Proc. Conference on Human Factors in Computing Systems* (Gaithersburg, MD, March), ACM, New York.

Lewis, CH and Anderson, JR. (1976) Interference with real-world knowledge. *Cognitive Psychology*, pp. 311-335.

Kolers, PA and Lewis, CH. (1971) Bounding of letter sequences and the integration of visually presented words. *Acta Psychologica*, 36, 112-124.

BOOK

Lewis, C. (2017) *Representation, Inclusion, and Innovation: Multidisciplinary Explorations*. Morgan & Claypool.

EDITTED BOOK

Rudisill, M., Lewis, C., Polson, P., and McKay, T. (1996) *Human-Computer Interaction: Success Cases, Emerging Methods, and Real-world Context*. San Francisco: Morgan Kaufman.

BOOK CHAPTERS

Seeman, L. and Lewis, C. (2019) Policy and standards on Web Accessibility for Cognitive and Learning Disabilities. In Simon Harper and Yeliz Yesilada (Eds.) Web Accessibility: A Foundation for Research (2d Edition).

Lewis, C. and Seeman, L. (2019) Cognitive and learning impairments. In Simon Harper and Yeliz Yesilada (Eds.) Web Accessibility: A Foundation for Research (2d Edition).

Lewis, C. (2017) Causal Relations: Kant, Unity, and Diversity. In Susan E. F. Chipman (Ed.) *Oxford Handbook of Cognitive Science*, Oxford University Press.

Lewis, C. (2009) Cognitive disabilities. In C. Stephanidis (Ed.) *Universal Access Handbook*, CRC Press, 7.1-7.10.

Lewis, C. (2008) Cognitive and learning impairments. In S. Harper and Y. Yeilizada (Eds.) *Web Accessibility: A Foundation for Research*. Springer, 15-24.

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Lewis, C., Reitsma, R., Wilson, E.V., and Zigurs, I. (2001) Extending coordination theory to deal with goal conflicts. In G.M Olson, T.W. Malone and J.B. Smith (Eds) *Coordination Theory and Collaboration Technology*. Mahwah, New Jersey: Erlbaum, pp. 651-672.

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PRESENTATIONS

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Lewis, CH. Software human factors in the product development cycle. University of Michigan Summer Short Course on Human Factors, Ann Arbor, each August 1984-2020.

Lewis, C. (2020) Conversational Agents for People with Cognitive Disabilities. CSUN Assistive Technology Conference, Anaheim, CA, March 11, 2020.

Lewis, C. (2020) Conversational Agents for People with Cognitive Disabilities. Apple, Cupertino, CA, March 5, 2020.

Lewis, C. (2019) Why can't programming be like sketching? Salon des Refusés 2019, Genoa, April 2, 2019.

Lewis, C. (2018) Interplay of symbolic and sub-symbolic processes: Notes for HWK Study Group - Modeling Conceptual Knowledge and Conceptual Change. Paper presented at the Study Group on Modeling Conceptual Knowledge and Conceptual Change, Hanse-Wissenschaftskolleg, Delmenhorst, Germany, November 28-30, 2018.

Lewis, C. (2018) Phenotropic programming? Psychology of Programming Interest Group Workshop, London, England, September 7, 2018.

Lewis, C. (2018) Exploring the implications of machine learning for people with cognitive disabilities. PARC Forum, Palo Alto, CA, May 10, 2018; Google, Mountain View, CA, April 17, 2018; Stanford EE Computer Systems Colloquium, Stanford, CA, April 18, 2018.

Lewis, C. (2018) Research frontiers in inclusive design for learning. COWY Ahead Meeting, Boulder, CO, April 5, 2018.

Lewis, C. (2018) The epistemological value of computer programs. Paper presented at the Study Group on Modeling Conceptual Knowledge and Conceptual Change, Hanse-Wissenschaftskolleg, Delmenhorst, Germany, February 6-7, 2018.

Lewis, C. (2017) Toward Amodal Representations for Interactive Simulations. Institute of Cognitive Science, University of Colorado Boulder, Boulder, CO, November 10, 2017.

Lewis, C. (2017) Designing for People with Cognitive Limitations: Talking Points. A11y Bay Camp, San Francisco, CA, October 21, 2017.

Lewis, C. (2017) New representations of information for people with disabilities: Multidisciplinary perspectives. Department of Computer Science, University of Bremen, Bremen, Germany, July 6, 2017.

Lewis, C. (2017) Toward Amodal Representations for Interactive Simulations. Codesign Symposium, University of Bremen, Bremen, Germany, June 7, 2017.

Lewis, C. (2016) Keynote: Expanding Accessibility Research: Open Problems. University of Washington-Microsoft Research Summer Institute 2016 on Expanding Accessibility Research. Union, Washington, July 6-8, 2016.

Lewis, C. (2014) Panel presentation: Designing an inclusive digital world. Center for Information Technology Policy, Princeton University, Princeton, NJ, December 9, 2014.

Lewis, C. (2014) Panel presentation: Accessibility for Interactive Games and Simulations. UNESCO International Conference: From Exclusion to Empowerment - The Role of Information and Communication Technologies for Persons with Disabilities, New Delhi, India, November 26, 2014.

Lewis, C. (2014) Cognitive access. Amazon Corporation, Seattle, WA, November 6, 2014.

Lewis, C. (2014) Panel presentation: Planning a public-private research partnership on Access to Information for People with Cognitive Disabilities. Coleman Conference on Cognitive Disabilities, Broomfield, CO, October 9, 2014.

Lewis, C. (2014) The future of cognitive Web accessibility. Keynote talk at ICCHP 2014: 15th International Conference on Computers Helping People with Special Needs. St. Denis, France, July 11, 2014.

Lewis, C. (2014) Non visual visual programming. PPIG 2014 Psychology of Programming Annual Conference, 25th Anniversary Event. Brighton, England, June 26, 2014.

Lewis, C. (2014) Panel presentation: W3C Cognitive Accessibility Task Force. CSUN Annual International Technology and Persons with Disabilities Conference. San Diego, CA, March 21, 2014.

Lewis, C. (2014) Nonvisual Visual Programming and CS Education. Future Directions in CS Education Summit, Orlando, FL, January 8, 2014.

Lewis, C. (2013) Creating an accessible MOOC. Colorado Learning and Teaching with Technology Conference (COLTT), Boulder, CO, August 6, 2013.

Lewis, C. (2013) Cloud-based Accessibility: Implications for the Workplace and Employment. Webinar, National Employment Conference, July 24, 2013.

Lewis, C. (2013) "The future of inclusive design online). Accessibility & Innovation Initiative Speaker Series. Federal Communications Commission, Washington, DC, July 16, 2013.

Lewis, C. (2013) "Emerging Perspectives on Access and Cognitive Access". DEEP 2013 Conference on designing enabling economies and policies, OCAD University, Toronto, July 13, 2013.

Lewis, C. (2013). Pushing the Raman principle. William Loughborough Memorial Lecture, Web4All Conference, Baja de Tijuca, Brazil, May 13, 2013.

Lewis, C. (2013) Cloud computing and people with disabilities. Faster Administration of Science and Technology Education and Research, FASTER; The Networking and Information Technology Research and Development (NITRD) Program. Arlington, VA, March 26, 2013.

Lewis, C. (2013) Panel presentation, 1st International Conference on Technology for Helping People with Special Needs (ICTHP-2103) Imam University, Riyadh, KSA, February 19, 2013.

Lewis, C. (2013) Cloud Computing and People with Disabilities. Department of Computer Science, Virginia Polytechnic Institute and State University, Blacksburg, VA, February 8, 2013.

Lewis, C. (2012) "Usability, Personalization, Independence." Workshop on Fostering Independence, Participation,and Healthy Aging through Technology, Institute of Medicine – National Research Council Forum on Aging, Disability, and Independence, Washington, DC, December 19, 2012.

Lewis, C. (2012) "Cloud-based accessibility: Implications for the Workplace and Employment". National Employment Conference, Arlington, VA, December 6, 2012.

Lewis, C. (2012) Presentation in "Easy to Read on the Web" webinar for W3C Web Accessibility Initiative, December 3, 2102.

Lewis, C. (2012) NIDRR Cloud Computing Initiative. Coleman Institute Conference, Broomfield, CO, November 2, 2012.

Lewis, C. (2012) Cloud Computing for People with Developmental Disabilities. Reinventing Quality: Annual Conference of National Association of State Directors of Developmental Disabilities Services. Baltimore, August 7, 2012.

Panel organizer and moderator, Forum: Cloud-based Accessibility Technology. Rehabilitation Society of North America Annual Conference, Baltimore, July 2, 2012.

The Global Public Inclusive Infrastructure, (GPII) offering accessibility on any device, anytime, anywhere, will open up new opportunities for all accessibility stakeholders, internationally. (Panel presentation) Annual International Technology and Persons with Disabilities Conference (CSUN), San Diego, March 1, 2012.

Jeffery Hoehl and Clayton Lewis, SimpleWebAnywhere: Mobile Web on the Desktop. Annual International Technology and Persons with Disabilities Conference, San Diego, March 1, 2012.

Lewis, C. (2011) Session Chair: Innovator's Session - Mobile Apps and Services for Learning and Cognitive Disabilities. m-Enabling Summit, National Harbor, MD, December 6, 2011.

Lewis, C. (2011) Roundtable presentation. Accessibility Reaching Everywhere: AEGIS International Conference, Brussels November 29, 2011.

Lewis, C. and Tobias, J. (2011) Global Public Inclusive Infrastructure: Input from Higher Education. Accessing Higher Ground Conference, Westminster, CO, November 16, 2011.

Lewis, C. (2011) Moderator: Coleman-Silicon Flatirons Roundtable on Roundtable on Implications of Cloud Computing for Residential Supports and Services. Wolf Law Building, Boulder CO, October 12, 2011.

Lewis, C. (2011) Moderator: Residential and Community Services and Cloud Computing. Coleman Institute National Conference, Broomfield,CO, October 13, 2011.

Lewis, C. (2011) GPII – Making Web Applications More Accessible For People Supported and Families. ANCOR Conference, Broomfield, CO, October 14, 2011.

Lewis, C. (2011) Walking Through Boulder History: A Walking Tour of the Boulder Creek Path. CU on the Weekend program, University of Colorado Continuing Education, August 27, 2011.

Lewis, C. (2011) eCSite: Computing in Other Disciplines in the HS Curriculum. Workshop presentation: CS4HS – Computational Thinking and Computational Doing for High School Teachers, University of Colorado, Boulder, June 18, 2011.

Lewis, C. (2011) Accessing and Visualizing Data from the Web. Workshop presentation: CS4HS – Computational Thinking and Computational Doing for High School Teachers, University of Colorado, Boulder, June 18, 2011.

Lewis, C. (2011) A Computational Math Example. Workshop presentation: CS4HS – Computational Thinking and Computational Doing for High School Teachers, University of Colorado, Boulder, June 18, 2011.

Lewis, C. (2011) Computational thinking and representations. Workshop presentation: CS4HS – Computational Thinking and Computational Doing for High School Teachers, University of Colorado, Boulder, June 17, 2011.

Lewis, C. (2011) Accessing and Visualizing Data from the Web. Workshop presentation:Computer Science Teachers' Days, Google, Boulder, June 10, 2011.

Lewis, C. (2011) Computational thinking and representations. iDreams Project Teacher Workshop, University of Colorado, Boulder, June 1, 2011.

Basman, A. and Lewis, C. (2011) Building Accessible User Interfaces with JavaScript and jQuery. JASIG Spring Conference, Westminster, CO, May 22, 2011.

Lewis, C. (2011) Technology, Diversity, Flexibility. CHI Social Impact Award presentation, CHI 2011, Vancouver, May 12, 2011.

Lewis, C. (2011) Computer Science Options in College. Computer Science Teachers Association, Denver Chapter, University of Colorado at Denver, April 26, 2011.

Lewis, C. (2011) Panel presentation: Need for and Benefits of a Global Public Inclusive Infrastructure (GPII). CSUN Conference, San Diego, March 16, 2011.

Kringen, S. and Lewis, C. (2011) Development of Uniform Standards for Cognitive Technologies. Roundtable presentation, Assistive Technology Industry Association Annual Conference, Orlando, FL, January 28. 2011.

Lewis, C. (2010) Personalization. In Webinar on Global and National Inclusive Infrastructure, Assistive Technology Industry Association, December 1, 2010.

Lewis, C. (2010) Game Design for Education: Not So Easy. Colloquium, Department of Mathematical and Computer Sciences, Colorado School of Mines, November 19, 2010.

Lewis, C. (2010) Dreconstructing higher education. Presentation, Integrated Teaching and Learning Laboratory, College of Engineering and Applied Science, University of Colorado, Boulder, February 19, 2010.

Lewis, C. (2010) Game Design for Education: Not So Easy. Colloquium, Department of Computer Science, New Mexico State University, November 3, 2010.

Lewis, C. (2010) Game Design for Education: Not So Easy. Colloquium, Discipline Based Educational Research Interest Group, University of Colorado, Boulder, November 9, 2010.

Lewis, C. (2010) Cognitive, language, and learning: Requirements and gaps in research and practice. Interagency Committee on Disability Research Interagency Dialogue: Cloud Computing and Auto-Personalization of Information and Technologies in Education, Employment, Health, and Daily Living, U.S. Access Board, Washington, DC, September 15, 2010.

Lewis, C. (2010) Work and performance for people with cognitive disabilities. Workshop on Expanding Performance, Center for the Integrated Study of Work, University of Colorado, Boulder, August 13, 2010.

Lewis, C. (2010) Introduction. Roundtable on Implications of Cloud Computing for People with Cognitive Disabilities, Coleman Institute for Cognitive Disabilities, Silicon Flatirons Center for Law, Technology and Entrepreneurship, University of Colorado, Boulder, July 30, 2010.

Lewis, C. (2010) HCI ways of knowing. Panel presentation at Human Computer Interaction Consortium, Granby, CO, February 28, 2010.

Lewis, C. (2010) Dreconstructing higher education. Colloquium, Institute of Cognitive Science, University of Colorado, Boulder, Febuary 19, 2010.

Lewis, C. (2010) Designing programs as representations. Paper presented at Studying Professional Software Design Workshop, University of California at Irvine, February 8, 2010.

Lewis, C. (2010) Dreconstructing higher education. Colloquium, Discipline Based Educational Research Interest Group, University of Colorado, Boulder, January 19, 2010.

Lewis, C. (2009) How I Found the CS Research Path (and other amusing stories). Panel presentation, STARS Celebration, Tallahassee, FL, August 11.

Lewis, C. (2009) Accessibility and Assistive Technology on Smart Phones. RESNA 2009 Annual Conference, New Orleans, June 26.

Lewis, C. (2009) Symposium Wrap Up and Next Steps. Panel presentation, RESNA 2009 Annual Conference, New Orleans, June 26.

Lewis, C. (2009) Mainstream Information and Communication Technology and People with Cognitive Disabilities: An Agenda. Panel presentation, CSUN 24th Annual International Technology and Persons with Disabilities Conference, Los Angeles, March 19.

Lewis, C. (2009) Twenty Years of Theory-Based Design. Panel presentation, Human-Computer Interaction Consortium Annual Workshop, Granby, CO, February 5, 2009.

Lewis, CH. Frontiers in Cognitive Accessibility and the Web. Association of University Centers on Disabilities Annual Conference, Washington, DC, November 10, 2008.

Lewis, C. Smart Phones for People with Cognitive Disabilities:
Some Current Projects. In Workshop on Options for Accessing Telephones for People with Disabilities, RESNA Annual Conference, Arlington, VA, June 28, 2008.

Lewis, C. Cognitive Technology on a Mobile Platform: Android Applications. Google Tech Talk, Mountain View, CA, May 27, 2008. Recording available at http://www.youtube.com/watch?v=2U_iDtA0LA0.

Lewis, C. and Vanderheiden, G. Designing Web Content that is Accessible To Users With Cognitive Disabilities. Webcast by National Center on Disability and Access to Education, May 7, 2008.

Lewis, C. Mobile ICT for people with cognitive disabilities. Joint ITU-T & G3ict Forum 2008: The Convention on the Rights of Persons with Disabilities: Challenges and Opportunities for ICT Standards, Geneva, April 21, 2008.

Lewis, C. Computation and representation. Argonne National Laboratory, December 19, 2007.

Lewis, C. Building accessibility into higher ed software: The Fluid Project. Accessing Higher Ground Conference, Boulder CO, November 8, 2007.

Lewis, C. Opening Up Computer Science Education. STARS Alliance Celebration, UNC Charlotte, August 14, 2007.

Lewis, C. Student Software Projects in Accessibility. STARS Alliance Celebration, UNC Charlotte, August 14, 2007.

Clark, C. and Lewis, C. An introduction to the Fluid project. JA-SIG Summer Conference, Denver, June 25, 2007.

Lewis, C. Cognitive accessibility on the Web. Alliance 2007 June Summit, Colorado Communities United for People with Developmental Disabilities, Vail, CO, June 20, 2007.

Lewis C. Advancing cognitive technology. National Assistive Technology Technical Assistance Partnership (NATTAP) Annual Conference, Denver, May 22, 2007.

Lewis, C. Human-centered computing and the future of Computer Science. Faculty of Information Studies, University of Toronto, April 23, 2007.

Lewis C. Cognitive challenges and mobile technology. Nokia Innovation Summit on Accessibility, Batvik, Finland, April 11, 2007.

Lewis. C. Cognitive impairment and accessibility. Presentation to TEITAC (Telecommunications and Electronic and Information Technology Advisory Committee of the US Access Board), Washington, DC, February 7, 2007.

Bohman, P. and Lewis, C. Cognitive disabilities and the web: What we think we know. Webcast by National Center on Disability and Access to Education, January 31, 2007.

Lewis, CH. Human-Centered Computing. Bennett College, Greensboro NC, November 15, 2006.

Shea, MA, and Lewis, CH. Launching and leveraging a System-wide SOTL Program. Poster presentation, International Society for the Scholarship of Teaching and Learning, Third Annual Conference, Washington, DC, November 11, 2006.

Lewis, CH. Cognitive assistive technology. IEEE Engineering in Medicine and Biology Society, Denver Chapter, November 2, 2006.

Lewis, CH. Technology and education. Invited presentation, ATLAS Building Launch, October 13, 2006.

Repenning, A. and Lewis, C., Workshop: Gamelet Design for Education. In Annual Games, Learning & Society Conference (GLS 2006), (Madison, Wisconsin, June 15, 2006).

Lewis, CH. Computing and cognition. Panel presentation, Festschrift for James Greeno: From Mathematical Modeling to Cognitive Science (with R. Bjork, W. Estes, and R.E. Mayer). 18th Annual Convention of the American Psychological Society, New York, May 28, 2006.

Lewis, CH. Including people with cognitive disabilities in user testing of technology (with Cathy Bodine and Edmund LoPresti). Workshop, RESNA, Atlanta, June 26, 2006.

Lewis, CH. Human-Computer Interaction and Education, invited talk, National Central University, Taiwan, October 17, 2003.

Lewis, CH. Panel presentation: The networked society, Telluride Tech Fest, Telluride, CO, August 8, 2003.

Lewis, CH. Where we have been and where we are going. Invited plenary talk, IEEE Conference on Human Centric Computing, Arlington, VA, September 3-5, 2002.

Lewis, CH. Distance Education in the USA: Positive and Negative Forces. Invited presentation, Workshop on Higher Education at Distance, Colegio de las Americas, Unisul, Florianopolis, Brasil, May 15, 2002.

Lewis, CH The Colorado Institute of Technology: An Experiment in Public-Private Partnership in Technology Education. Invited presentation, Workshop on Higher Education at Distance, Colegio de las Americas, Unisul, Florianopolis, Brasil, May 16, 2002.

Lewis CH. PhD Reform. Keynote talk for the Responsive PhD Initiative, Graduate School, University of Colorado, Boulder, October 26, 2001.

Lewis, CH. Software human factors in the product development cycle. University of Michigan Summer Short Course on Human Factors, Ann Arbor, each August 1984-2002.

Lewis, CH. The intellectual effects of building models. Invited address, Psychology of Programming Interest Group, Corigliano, Calabria, Italy, April 10, 2000.

Lewis, CH. A Colorado Yankee at the Open University: The meaning of the Open University for conventional higher education. Teaching with Technology, Golden, CO, July 15, 1999.

Lewis, CH. The intellectual effects of building models. Center for Innovative Learning Technology (CILT) Annual Conference, San Jose, CA, May 29, 1999.

Lewis, CH. Brand, C., Rader, C. and Carlone, H. (1998) Impact of model creation on children's ideas. Annual Meeting of the National Association for Research in Science Teaching, San Diego, April 21, 1998.

Carlone, H., Garcia, C., and Lewis, C. (1998) Models in elementary school science. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, April 15-18.

Lewis, CH. Knowing and modeling in elementary school science. Panel presentation, Annual Meeting of the National Academy of Education, Boulder, September 26, 1997.

Lewis, CH. Computer modeling for kids in elementary school science. Department of Information and Computer Science, University of California at Irvine, May 19, 1997.

Lewis, CH, Rader, C., Brand, C. and Carlone, H. Models children build: Content, logic, and educational impact. Annual Meeting of the National Association for Research in Science Teaching, Chicago, March 22, 1997.

Lewis, CH. Discussant for panel "Universal design: Everyone has special needs." CHI'96 Conference on Human Factors in Computing Systems, Vancouver, BC, April 16, 1996.

Lewis, CH. Confessions about time and stress. Teaching Excellence Program, Boulder, Annually 1993-99.

Lewis, CH and Polson, P. The cognitive walkthrough method. ACM-Rank Xerox Symposium on Human-Computer Interaction, Gdansk, Budapest, and Prague, September, 1993.

Lewis, CH. Teaching the process of writing computer programs. Graduate Teacher Program, Boulder, January 29, 1993.

Lewis, CH. Effective and applicable research in human-computer interaction. Invited address at annual meeting of Joint Councils Initiative in Cognitive Science and Human-Computer Interaction, Imperial College, London, United Kingdom, March 31, 1992.

Lewis, CH. Addressing the psychology of programming in programming language design. Invited keynote address at Psychology Programming Interest Group Annual Meeting, Loughborough University of Technology, United Kingdom, January 2, 1992.

Lewis, CH. User interfaces. CADSWES Advanced Decision Support System Forum, Boulder, CO, April 2, 1991.

Lewis, CH. Research infrastructure. NSF Workshop on Research in Human-Computer Interaction, George Washington University, March 5, 1991.

Lewis, CH and Polson, PG. The cognitive walkthrough method. Tutorial at CHI'91 Conference on Human Factors in Computing Systems, April 29, 1991.

Lewis, CH. Confronting cognitive issues in programming language design. Georgia Institute of Technology, April 12, 1991.

Lewis, CH. The Human Operator interface in Lunar Base Construction. Annual Symposium of the University of Colorado Center for Space Construction, Boulder CO, October 17, 1990.

Lewis, CH. User interface support. Annual Symposium of the University of Colorado Center for Space Construction, Estes Park CO, October 12, 1989.

Lewis, CH. Research Agenda in Human-Computer Interaction. Invited presentation, Hewlett-Packard Laboratories 1989 European Scientific Symposium, Paris, September 20-21, 1989.

Lewis, CH. Understanding in practice and theory. Panel presentation, 11th Annual Conference of the Cognitive Science Society, Ann Arbor, August 18, 1989.

Lewis, CH. Inner and outer theory in HCI. Invited presentation at Workshop on Cognitive Theory and Design in HCI, Chappaqua NY, June 20-22, 1989.

Lewis, CH. Software usability. Invited presentation at IBM Corporation, Rochester MN, May 24-25, 1989.

Lewis, CH. Invited discussant, Workshop on Empirical Studies of Programmers, Austin TX, April 30, 1989.

Lewis, CH. New approaches to programming. Invited presentation at 14 Simposium Internacional de Sistemas Computacionales, Instituto Tecnologico y de Estudios Superiores de Monterrey, Monterrey, Mexico, April 13, 1989.

Lewis, CH. Software usability. Invited presentation at Chemical Abstracts, Columbus OH, January 27, 1989.

Lewis, CH. Information system interfaces for casual users. Professional Development Seminar, Central Ohio Chapter of ASIS, Columbus OH, November 17, 1988.

Lewis, CH. Overview of artificial intelligence. Panel presentation, Colorado Institute of Artificial Intelligence Workshop on AI in Tourism, Denver CO, November 1, 1988.

Lewis, CH and Polson, P. Theory-based design of easily-learned systems. US West Advanced Technologies, Englewood CO, October 21, 1988.

Lewis, CH. Causality and control. ONR Contractor's Meeting, Palo Alto CA, October 6, 1988.

Lewis, CH. Beyond empirical testing. Invited panel presentation, National Communications Forum, Chicago IL, October 4, 1988.

Lewis, CH. Making interactive graphics accessible. Panel presentation, CHI'88 Human Factors in Computing Systems, Washington DC, May 1988.

Lewis, CH. Creating usable software. University of Colorado at Colorado Springs, April 11, 1988.

Lewis. CH. Invited discussant, Second Workshop on Empirical Studies of Programmers, Washington DC, December 1987.

Lewis, CH. Creating usable software. ACM Professional Development Seminar, Boulder CO, November 10 and 13, 1987.

Lewis, CH. NoPumpG. IBM Watson Research Center, Yorktown Heights NY, October 30, 1987.

Lewis, CH. EXPL: Explanation and learning in human-computer interaction. USWest Advanced Technology, Englewood CO, October 23, 1987.

Lewis, CH. Invited panelist, The future of AI in environmental research. Conference on AI Research in Environmental Science, Boulder CO, September 17, 1987.

Lewis, CH. NoPumpG demonstration (video recording). Presented at Interact'87, 2d IFIP Conference on Human-Computer Interaction, September, 1987.

Lewis, CH. Emergent issues in Artificial Intelligence (tutorial). Presented at the 2d Rocky Mountain Artificial Intelligence Conference, Boulder CO, June 1987.

Lewis, CH. Design issues in user interfaces. National Oceanic and Atmospheric Administration, Boulder CO, May 27, 1987.

Lewis, CH. Analysis-based generalization of procedures. ONR Contractors' Meeting, Ann Arbor MI, May 1987.

Lewis, CH. Usable software. Boulder ACM, March 10, 1987.

Lewis, CH. Some human factors issues in expert systems. National Research Council Workshop on Human Factors Aspects of Expert Systems, Washington DC, December 3-5, 1986.

Lewis, CH. Learning curves may not reflect learning mechanisms. Department of Psychology, Stanford CA, November 14, 1986.

Lewis, CH. Analysis-based generalization of procedures. MCC, Austin TX, August 18, 1986.

Lewis, CH. Software Usability. Rocky Mountain Institute of Software Engineering, Boulder CO, July 1986.

Lewis, CH. User interface issues in the THEO solar flare forecasting system. Conference on Expert Systems: The user interfaces, Institute for Advanced Computer Studies, University of Maryland MD, June 16-18, 1986.

Lewis, CH. Overview of research at University of Colorado, Boulder. Rocky Mountain Conference on Artificial Intelligence, Boulder CO, June 13-14, 1986.

Lewis, CH. Invited discussant, Workshop on Empirical Studies of Programmers, Washington DC, June 5-6, 1986.

Lewis, CH. Invited panelist, User Interface Design, Conference on AI Research in Environmental Science, Boulder CO, May 28, 1986.

Lewis, CH. Explanation and learning in human-computer interaction. AAAS Southwestern Annual Regional Meeting, Boulder CO, April 4, 1986.

Lewis, CH. Causal analysis in human-computer interaction. Berkeley CA, March 24, 1986.

Lewis, CH. Human-computer interaction: Where should the field go? Carnegie-Mellon University, Pittsburgh PA, March 14, 1986.

Lewis, CH. Causal analysis in human-computer interaction. Carnegie-Mellon University, Pittsburgh PA, March 13, 1986.

Lewis, CH. Explanation and learning in procedural skills. ONR Contractors' Meeting, Palo Alto CA, March 3, 1986.

Lewis, CH. Tutorial on Software Usability. IEEE International Conference on Cybernetics and Society, Tucson AZ, November 12-15, 1985.

Lewis, CH. Causal analysis in human-computer interaction. Martin Marietta, Denver CO, October 24, 1985.

Lewis, CH. Tutorial on software Human Factors. Battelle Columbus Laboratories, August 15, 1985.

Lewis, CH. Software Usability. Rocky Mountain Institute of Software Engineering, Aspen CO, July 1985.

Lewis, CH. System design. Department of Psychology, Michigan State University April 2, 1985.

Lewis, CH. Usable software. Dansk Datamatik Seminar, Holte, Denmark, August 30-31, 1984.

Lewis, CH. The "Thinking-aloud" method in interface evaluation. CHI'83 Conference on Human Factors in Computing Systems, Boston, December 1983.

Gould, JD and Lewis, CH. Principles of system design. CHI '83 Conference on Human Factors in Computing Systems, Boston, December 1983.

Lewis, CH. Thinking about word processors and thinking about mathematics. Annual meeting of the Society for Computers in Psychology, San Diego, November 1983.

Lewis, CH. Learnable systems. Presented at University of California at San Diego, Information Sciences institute, Carnegie-Mellon University, New York chapter of ASIS, AT&T Bell Laboratories, and University of Michigan in 1983.

Lewis, CH. Basic principles of "user-friendly" software. Symposium on Human Factors of Molecular Graphics Systems, IBM Scientific Centre, Winchester, Hants, England, May 1982.

Lewis, CH. The role of abduction in learning to use a computer. Medical Research Council Applied Psychology Unit, Cambridge, England, February 1982.

Bernard, JE and Lewis, CH. The psychology of equation solving. National Council of Teachers of Mathematics Annual Meeting, Seattle, April 1980.

Lewis, CH. Kinds of knowledge in algebra. American Educational Research Association Annual Meeting, Boston, April 1980.

Lewis, CH. Equation solving. Conference on Cognitive Processes in Algebra, University of Pittsburgh, September 1978.

Lewis, CH. Practicing mental tasks. Southwestern Psychological Association, Fort Worth, April 1977.

Lewis, CH and Greeno, JG. Spatial focussing in visual information processing. Midwestern Psychological Association, Chicago, May 1976.