490 SOUTH MAIN ST, MIDDLEBURY, VT 05753
TEL 978.314.7881
EMAIL CANDREWS@MIDDLEBURY.EDU
WEB HTTP://WWW.CS.MIDDLEBURY.EDU/~CANDREWS

CHRISTOPHER ANDREWS

INTERESTS

Visual analytics, embodied interaction, generative art, human computer interaction, interactive multimedia, large, high-resolution displays, visualization, graphics, computer science education

EDUCATION

Virginia Polytechnic Institute and State University — Ph.D., Computer Science, 2006 - 2011
Carnegie Mellon University — MS, Electrical and Computer Engineering, 2000 - 2002
Wesleyan University — BA, Computer Science and Theater, 1993 - 1997

ACADEMIC POSITIONS

MIDDLEBURY COLLEGE

VISITING ASSISTANT PROFESSOR OF COMPUTER SCIENCE, 2013 -
Courses taught:

- The Computing Age [F13, S14, F14]
- Computer Architecture [F13, F14]
- Generative Art [W14]
- Information Visualization [S14]

MOUNT HOLYOKE COLLEGE

VISITING ASSISTANT PROFESSOR OF COMPUTER SCIENCE, 2011 - 2013
Courses taught:

- Introduction to Computer Science [F11, F12]
- Data Structures [F11, F12, S13]
- Operating Systems [F11]
- Computer Systems & Assembly [S12]
- Computer Graphics [S12]

KNOX COLLEGE

ASSISTANT PROFESSOR OF COMPUTER SCIENCE, 2002-2006
Courses taught:

- Computer Science for Arts and Science [F02, S03, W04, S04, S05, F05]
- Introduction to Computer Science [F02, W03]
- Computer Organization and Assembly Language [W05, W06]
- Programming Language Concepts [F03, W05]
- Operating Systems and Networks [S05, S06]
- Graphics [W03, S04, S06]
- Operating Systems [W06]
- Compilers and Interpreters [W04]
- Database Systems [F03, F05]
- Human / Computer Interaction [S03, F04]
- Special topics: Fundamentals of Computer Engineering [F04]

EDUCATION STAFF, CARNEGIE MELLON UNIVERSITY 2002

Assisted with senior-level capstone course, Advanced Digital Design.

ACADEMIC ASSISTANTSHIPS

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

RESEARCH ASSISTANT 2006 - 2011

Visual analytics and large, high-resolution display research as part of the Gigapixel Lab.

Storytelling research in collaboration with the Discovery Analytics Center

Member of the interdisciplinary 4/16 Digital Library project, working to preserve media about the 4/16 tragedy

TEACHING ASSISTANT FALL 2009

Introduction to Object-Oriented Development I

CARNEGIE MELLON UNIVERSITY

RESEARCH ASSISTANT 2001-2002

Researched hardware/software codesign techniques as part of the MESH group

TEACHING ASSISTANT 2000-2001

Fundamentals of Computer Engineering [three semesters]

Digital Computation [one semester]

WESLEYAN UNIVERSITY

TEACHING ASSISTANT 1994-1997

Basic Production Techniques [six semesters]

Introduction to Computers [one semester]

OTHER POSITIONS

HEAD ELECTRONICS TECHNICIAN & PRODUCTION CREW, HIGH OUTPUT BOSTON, MA 1997-2000
SHOP ASSISTANT & PRODUCTION CREW, HIGH OUTPUT BOSTON, MA 1996-1997
FREELANCE ELECTRICIAN, GOODSPEED OPERA HOUSE EAST HADDAM CT 1994-1997
THEATER & A/V DEPARTMENT STAFF, WESLEYAN UNIVERSITY 1995-1997

SERVICE

- Major Advisor, Middlebury College: 8 students
- Thesis advisor, Middlebury College: 3 students
- Thesis advisor, Mount Holyoke College: 1 student
- Reviewer for SIGCHI, TVCG, Infovis, VAST, NordiCHI, UIST, Multimodal Interfaces, IJHCI, Tabletop, SIGCSE, ISSS
- Founding member of the Black Lab Committee [CHCI lab resources management] 2007-2011
- Thesis advisor, Knox College: 3 students
- Undergraduate advisor at Knox College [both CS majors and new students] 2003-2006
- ACM Programming Contest coach 2003-2006
- Knox College Cultural Events Committee 2004-2006 [Chair for 2005-2006]
- Knox College Computer Science Department liaison to the library 2003-2006
- Knox College Computer Science Department Linux system administrator

AWARDS

- 2001 Carnegie Mellon University ECE Department Teaching Assistant Award

PROFESSIONAL ORGANIZATIONS

Member of the Association for Computing Machinery, and the special interest groups for Human Computer Interaction (SIGCHI) and Computer Science Education (SIGCSE)

PUBLICATIONS

H. Chung, **C. Andrews**, C. North. A Survey of Software Frameworks for Cluster-Based Large High-Resolution Displays. IEEE Transactions on Visualization and Computer Graphics

A. Endert, SM. Hossain, N. Ramakrishnan, C. North, P. Fiaux, **C. Andrews**. The human is the loop: new directions for visual analytics. Journal of Intelligent Information Systems.

C. Andrews, C. North. The Impact of Physical Navigation on Spatial Organization for Sensemaking. IEEE Transactions on Visualization and Computer Graphics. 2013;19(12):2207 - 2216.

L. Bradel, A. Endert, K. Koch, **C. Andrews**, C. North. Large High Resolution Displays for Co-Located Collaborative Sensemaking: Display Usage and Territoriality. International Journal of Human-Computer Studies. 2013;71(11):1078-1088.

A. Endert, L. Bradel, J. Zeitz, **C. Andrews**, C. North, "Designing large, high-resolution display workspaces", AVI '12.

C. Andrews, C. North, "Analyst's Workspace: An Embodied Sensemaking Environment for Large, High-Resolution Displays", VAST '12.

C. Andrews, A. Endert, B. Yost, and C. North, "Information Visualization on Large, High-Resolution Displays: Issues, Challenges, and Opportunities", Information Visualization, vol. 10, issue 4, pp. 341-355, 2011.

C. Andrews, M. Hossain, S. Gad, N. Ramakrishnan, and C. North, "Analyst's Workspace: Protecting Vastopolis, *IEEE VAST Symposium,* 2011 [Award "Novel use of large screen workspace to support analysis"]

K. Vogt, L. Bradel, **C. Andrews**, C. North, and D. Hutchings, "Co-located Collaborative Sensemaking on a Large High-Resolution Display with Multiple Input Devices", Interact '11, pp. 589-604, 2011.

M. Hossain, **C. Andrews**, N. Ramakrishnan, and C. North, "Helping Intelligence Analyst's Make Connections", AAAI, 2011.

A. Singh, A. Endert, **C. Andrews**, L. Bradel, R. Kincaid, and C. North, "Supporting the Cyber Analytic Process Using Visual History on Large Displays", VizSec, 2011

A. Endert, **C. Andrews**, Y. Lee, and C. North, "Visual Encodings that Support Physical Navigation on Large Displays", Graphics Interface 2011

A. Endert, P. Fiaux, H. Chung, M. Stewart, **C. Andrews**, and C. North, "ChairMouse: Leveraging natural Chair Rotation for Cursor Navigation on Large, High-Resolution Displays", alt.chi 2011

H. Chung, S. Yang, N. Massjouni, **C. Andrews**, R. Kanna, and C. North, "VizCept: Supporting Synchronous Collaboration for Constructing Visualizations in Intelligence Analysis," in *IEEE VAST Symposium 2010*.

C. Andrews, A. Endert, and C. North, "Space to think: large high-resolution displays for sensemaking," in *CHI '10: Proceedings of the 28th international conference on Human factors in computing systems*, (New York, NY, USA), pp. 55–64, ACM, 2010. [Best paper honorable mention]

Abstract: A. Endert, **C. Andrews**, G. A. Fink, and C. North, "Professional analysts using a large, high-resolution display," in *IEEE VAST Symposium*, 2009. [Award "Special Contributions to the VAST Challenge Contest".]

D. Machaj, **C. Andrews**, and C. North, "Co-located many-player gaming on large high-resolution displays," *Computational Science and Engineering, IEEE International Conference on*, vol. 4, pp. 697–704, 2009.

L. Shupp, **C. Andrews**, M. Dickey-Kurdziolek, B. Yost, and C. North, "Shaping the display of the future: The effects of display size and curvature on user performance and insights," *Human-Computer Interaction*, vol. 24, pp. 230 – 272, January 2009.

E. A. Fox, **C. Andrews**, W. Fan, J. Jiao, A. Kassahun, S. chia Lu, Y. Ma, C. North, N. Ramakrishnan, A. Scarpa, B. Scarpa-friedman, S. D, D. Shoemaker, V. Srinivasan, and S. Yang, "A digital library for recovery … a digital library for recovery, research, and learning from april 16, 2007 at Virginia Tech," *Traumatology*, vol. 14, p. 20, April 2008.

Abstract: **C. Andrews**, C. Miller, T. Henry, and F. Quek, "Cardtable: An embodied tool for analysis of historical information," in *Second IEEE International Workshop on Horizontal Interactive Human-Computer Systems, TableTop 2007*, 2007.

J. M. Paul, **C. P. Andrews**, A. S. Cassidy, and D. E. Thomas, "System-level modeling of a network switch SoC," in *ISSS '02: Proceedings of the 15th International Symposium on System Synthesis*, (New York, NY, USA), pp. 62–67, ACM, 2002.