

# Catherine L. Smith

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## **EDUCATION**

- Ph.D.** Information Science, January 2010  
Graduate Certificate in Cognitive Science, August 2009  
*Rutgers University*, New Brunswick, NJ
- M.B.A.** *Simmons College*, Boston, MA, 1987
- B.A.** *Bard College*, Annandale-on-Hudson, NY, 1977

## **ACADEMIC APPOINTMENTS**

*Associate Professor*, 2018–present  
*Assistant Professor*, 2010–2018  
School of Information (iSchool), Kent State University

*Post-doctoral Research Associate*, School of Communication and Information, Rutgers University, September 2009–June 2010

*Instructor*, School of Communication and Information, Rutgers University, Fall 2007–Spring 2008

*Teaching Assistant*, School of Communication and Information, Rutgers University, Fall 2003–Summer 2006 and Spring 2007

## ***RESEARCH***

## **RESEARCH INTERESTS**

The psychology of information seeking and query formulation in skilled information searching using computer systems. This includes the processes involved in learning to search and the design of interactive retrieval systems that enrich the information literacy of their users.

## **PUBLICATIONS**

### **Refereed journal articles:**

- **Smith, C. L., & Matteson, M. L.** (2018). Information literacy in the age of machines that learn: Desiderata for machines that teach. *Libri International Journal of Libraries and Information Studies*, 68(2), 71-84.
- **Smith, C. L., Gwizdka, J., & Feild, H.** (2017). The use of query auto-completion over the course of search sessions with multifaceted information needs. *Information Processing & Management*, 53(5), 1139–1155.

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- **Smith, C. L.** (2017a). Domain-independent search expertise: Gaining knowledge in query formulation through guided practice. *Journal of the Association for Information Science and Technology*, 68(6), 1462–1479.
- **Smith, C. L.** (2017b). Investigating the role of semantic priming in query expression: A framework and two experiments. *Journal of the Association for Information Science and Technology*, 68(1), 168–181.
- **Smith, C. L.** (2016). Privacy and trust attitudes in the intent to volunteer for data-tracking research. *Information Research*, 21(4). Retrieved from <http://www.informationr.net/ir/21-4/paper726.html>
- **Smith, C. L.** (2015). Domain-independent search expertise: A description of procedural knowledge gained during guided instruction. *Journal of the Association for Information Science and Technology*, 66(7), 1388–1405.
- **Smith, C. L., & Roseberry, M. I.** (2013). Professional education in expert search: A content model. *The Journal of Education for Library and Information Science*, 53(4), 255–269.

### Refereed conference papers (*full conference presentation*):

- **Smith, C.L., & Rieh, S.Y.** (2019, March). Knowledge-context in search systems: Toward information-literate actions. In proceedings of the 4<sup>th</sup> *International ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR '19)*, Glasgow, Scotland. Paper received an honorable mention.
- **Smith, C. L., Gwizdka, J., & Feild, H.** (2016, March). Exploring the use of query auto completion: Search behavior and query entry profiles. In proceedings of the 1<sup>st</sup> *International ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR '16)*, Chapel Hill, NC.
- **Smith, C. L., & Wacholder, N.** (2010, October). Developing a detailed view of query reformulation: One step in an incremental approach. In proceedings of the *American Society for Information Science and Technology Annual Meeting (ASIS&T '10)*, Pittsburgh, PA.
- **Smith, C. L., & Kantor, P. B.** (2008, July). User adaptation: Good results from poor systems. In proceedings of the 31<sup>st</sup> *Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '08)*, Singapore, 147–154.

### Refereed short papers (*published in conference or workshop proceedings*):

- **Smith, C. L.** (2016, March). Process-learning as a factor in evaluation. In proceedings of the *Workshop on System and User Centered Evaluation Approaches in Interactive Information Retrieval (SAUCE '16)*, Chapel Hill, NC.
- **Smith, C. L., & Kantor, P. B.** (2015, August). Semantic priming in search and discovery. In proceedings of the *SIGIR NeuroIR Workshop (NeuroIR '15)*, Santiago, Chile.
- **Dickerhoof, A., & Smith, C. L.** (2014, October). Looking for query terms on search engine results pages. In proceedings of the *Association for Information Science and Technology Annual Meeting (ASIS&T '14)*, Seattle, WA.
- **Smith, C. L.** (2013, November). Factors affecting conditions of trust in participant recruiting and retention: A position paper. In proceedings of the *2013 Workshop on Living Labs for Information Retrieval Evaluation (LivingLab '13)*, San Francisco, CA.
- **Smith, C. L.** (2012, October). Exploring and describing search expertise. In proceedings of the *American Society for Information Science and Technology Annual Meeting (ASIS&T '12)*, Baltimore, MD.

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- **Smith, C. L.** (2011, October). Conditions of trust for completely-remote methods: A proposal for collaboration. In proceedings of the *5th Symposium on Human-Computer Interaction and Information Retrieval (HCIR '11)*, Mountain View, CA.
- **Smith, C. L.**, & Wacholder, N. (2010, February). Why do users neglect suggestions? Effects of semantic relatedness and task on word recognition. In proceedings of the *2010 iConference*, Urbana-Champaign, IL.
- **Smith, C. L.** (2008, October). Searcher adaptation: A response to topic difficulty. In proceedings of the *American Society for Information Science and Technology Annual Meeting (ASIS&T '08)*, Columbus, OH.
- Muresan, G., Cole, M., **Smith, C. L.**, Liu, L., & Belkin, N. (2006, January). Does familiarity breed content? Taking account of familiarity with a topic in personalizing information retrieval. In proceedings of the *39<sup>th</sup> Annual Hawaii International Conference on System Sciences (HICSS '06, track 1)*, Kauai, HI.
- Muresan, G., **Smith, C. L.**, Cole, M., Liu, L., & Belkin, N. (2006, January). Detecting document genre for personalization of information retrieval for personalization of information retrieval. In proceedings of the *39<sup>th</sup> Annual Hawaii International Conference on System Sciences (HICSS '06, track 1)*, Kauai, HI.
- Muresan, G., Liu, L., Cole, M., **Smith, C. L.**, & Belkin, N. (2005, October). The effect of document readability on perceived familiarity and relevance. In proceedings of the *American Society for Information Science and Technology Annual Meeting (ASIS&T '05)*, Charlotte, NC.

### Editorials and workshop reports:

- Capra, R., Freund, L., **Smith, C. L.**, Smucker, M. D., & White, R. W. (2013, December). HCIR 2013: The seventh international symposium on human-computer interaction and information retrieval. *SIGIR Forum* 47(2), 33–40.
- White, R., Capra, R., Golovchinsky, G., Kules, B., **Smith, C. L.**, & Tunkelang, D. (2013, September). Editorial: Introduction to special issue on human-computer information retrieval. *Information Processing & Management*, 49(5), 1053–1057.
- Tunkelang, D., Capra, R., Golovchinsky, G., Kules, B., **Smith, C. L.**, & White, R. (2013, March). Symposium on human-computer information retrieval. *Big Data*, 1(1), 65–70.
- Capra, R., Kules, B., Golovchinsky, G., **Smith, C. L.**, Tunkelang, D., & White, R. (2012, December). HCIR 2012: The sixth international symposium on human-computer interaction and information retrieval. *SIGIR Forum* 46(2), 42–49.
- Capra, R., Kules, B., Golovchinsky, G., Russell, D., **Smith, C. L.**, Tunkelang, D., & White, R. (2011, December). HCIR 2011: The fifth international workshop on human-computer interaction and information retrieval. *SIGIR Forum* 45(2), 102–107.
- Capra, R., Kules, B., **Smith, C. L.**, Tunkelang, D., & White, R. W. (2010, December). HCIR 2010: The fourth international workshop symposium on human-computer interaction and information retrieval. *SIGIR Forum* 44(2), 73–77.

### OTHER RESEARCH WORKS

#### Posters:

- Chen, Z. & **Smith, C.L.** (2018, March). Accuracy of Bilingual Chinese-speakers Using Search Systems. Poster presented at the *2018 iConference*, Sheffield, U.K.

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- **Smith, C. L.** (2016, January). The conceptualization and development of learning tasks for search expertise. Poster presented at the *Association for Library and Information Science Education Annual Conference (ALISE '16)*, Boston, MA.
- **Smith, C. L., & Wacholder, N.** (2010, October). Why users don't take suggestions: Preliminary results. Poster presented at the *Association for Library and Information Science Education Annual Conference (ALISE '10)*, Boston, MA.
- **Smith, C. L.** (2009, January). Sensitivity to the results list: A response to poor system performance. Poster presented at the *Association for Library and Information Science Education Annual Conference (ALISE '09)*, Denver, CO.
- **Smith, C. L.** (2008, October). What might the system teach its user? In proceedings of the *2<sup>nd</sup> Symposium on Human-Computer Interaction and Information Retrieval (HCIR '08)*, Redmond, WA.
- Barrett, L. P., de Richemond, J., Gal, C. S., Kantor, P. B., & **Smith, C. L.** (2008, May). Assessing the impact of IAIMS on the UMDNJ "Information Workspace." Poster presented at the *Annual Meeting of the Medical Library Association (MLA '08)*, Chicago, IL.
- Barrett, L. P., de Richemond, J., Gal, C. S., Kantor, P. B., & **Smith, C. L.** (2007, November). Assessing the impact of IAIMS on the UMDNJ "Information Workspace." Poster presented at the *American Medical Informatics Association 2007 Annual Symposium, IAIMS Program and Poster Session*, Chicago, IL.

### Technical reports:

- **Smith, C. L.** (2016). *Development of 14 dichotomous scale items measuring attitudes in the intent to participate in research*. Retrieved from [http://faculty-lslis.kent.edu/~seaed/Dichotomous\\_Item\\_Development\\_Technical\\_Report\\_Smith\\_2016.pdf](http://faculty-lslis.kent.edu/~seaed/Dichotomous_Item_Development_Technical_Report_Smith_2016.pdf)
- Diaz, F., **Smith, C. L.**, Stumpf, S., & Toms, E. (2013, March). *Bringing search into task: Identifying task primitives*. *NSF Task-Based Information Search Systems Workshop*, invited participation. Retrieved from <https://ils.unc.edu/taskbasedsearch/reports.html>
- **Smith, C. L., & Wang, G.** (2012). *Kent State University/Lemur Remote Toolkit (KLRT): A toolkit for remote collection of client-side search logs*. Retrieved from [http://faculty-lslis.kent.edu/~seaed/KLRT\\_Technical\\_Report\\_Smith\\_Wang\\_2012.pdf](http://faculty-lslis.kent.edu/~seaed/KLRT_Technical_Report_Smith_Wang_2012.pdf)
- Belkin, N., Cole, M., Gwizdka, J., Li, Y.-L., Liu, J.-J., Muresan, G., Roussinov, D., **Smith, C. L.**, Taylor, A., & Yuan, X.-J. (2005). Rutgers' information interaction lab at TREC 2005: Trying hard. Paper presented at the *Fourteenth Text Retrieval Conference (TREC 2005)*, Gaithersburg, MD.
- Belkin, N., Chaleva, I., Cole, M., Li, Y.-L., Liu, L., Liu, Y.-H., Muresan, G., **Smith, C. L.**, Sun, Y., Yuan, X.-J., & Zhang, X.-M. (2004). Rutgers' HARD track experiences at TREC 2004. Paper presented at the *Thirteenth Text Retrieval Conference (TREC 2004)*, Gaithersburg, MD.

### Dissertation:

- **Smith, C. L.** (2010). *Adaptive search behavior: A response to query failure*. (Unpublished doctoral dissertation). Rutgers, The State University of New Jersey, New Brunswick, NJ.

### INVITED TALKS AND ROUNDTABLES

- **Smith, C. L., & Matteson, M.** (2016, October). *Search expertise in student library workers: Making complex information systems more useable*. Roundtable discussion at the Academic Library Association of Ohio Conference (ALAO).

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- **Smith, C. L.** (2016, February). *Why don't you use suggestions?* Invited short talk at the winter meeting of the Northeast Ohio Chapter of ASIS&T (NORASIS&T).
- **Smith, C. L.** (2012, November). *Exploring & describing search expertise.* Invited talk at the Northeast Ohio Chapter of ASIS&T (NORASIS&T).
- **Smith, C. L.** (2009, November). *Why users don't take suggestions: Visual and semantic processing in the uptake of suggested query-terms.* Brown bag lunch at Rutgers University Library & Information Science Department.
- **Smith, C. L., & Wacholder, N.** (2009, October). *Why users don't take suggestions: Semantic processing during the search process.* Invited talk at Syracuse University School of Information Studies, brown bag lunch.
- **Smith, C. L.** (2008, April). *User adaptation: Good results from poor systems.* Brown bag lunch at Rutgers University Library & Information Science Department.
- **Smith, C. L.** (2007, May). Stopping behavior in information search: The effect of recent search experience on expectations, confidence, and action. Presentation at *Connections 2007*, Philadelphia, PA.

### **GRANTS and SUPPORT**

#### *Funded:*

- Principal investigator on *College of Communication and Information Research and Creative Activity Fund* award, \$20,836, for "Academic Search Experience Study (ASES)", awarded Summer 2019.
- Principal Investigator on *Academic Year Research and Creative Activity Appointment* from The Research Council of Kent State University, two course releases, for "Online Academic Library Guides: Pilot Study", awarded Spring 2019 for 2019-2020 academic year.
- Principal investigator on *Google Research Award*, \$76,000, for "A description of domain-independent search expertise," awarded Summer 2011.
- Co-principal investigator on *Google Research Award*, \$70,000, for "Why users don't take suggestions: Visual and semantic processing in the uptake of suggested query-terms," awarded Spring 2009 (with N. Wacholder).
- *SC&I Graduate Fellowship*, 2008–2009 Academic Year, Rutgers University, School of Communication and Information.
- *Student Travel Grant*, ACM Special Interest Group on Information Retrieval, \$1,600, July 2008.
- Co-principal investigator on *SC&I Research Development Award*, \$2,100, for "Identifying factors that inhibit information seekers' recognition of useful query terms," awarded Fall 2006 (with N. Wacholder).

#### *Unfunded:*

- "Online Academic Library Guides: Piloting a Collaborative Living Lab", submitted to IMLS National Leadership Grants for Libraries Planning Grant Program, Fall 2018, Co-PI with Dr. Soo Young Rieh.
- "Interrelated effects of dynamic query suggestion and retrieval performance on search behavior," submitted to OCLC/ALISE Library and Information Science Research Grant Program, Fall 2014, Co-PI with Dr. H. Feild.

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- “Logging privacy and trust,” submitted to National Science Foundation, Division of Information & Intelligent Systems, Secure and Trustworthy Cyberspace Program, Spring 2014, Co-PI with Drs. J. Allen and H. Feild.
- “Expanding archival access through semantic enrichment and enhancement of archival descriptive data (EAASEE-ADD),” submitted to National Historical Publications & Records Commission, Innovation in Archives and Documentary Editing Program, Fall 2013, as Investigator for Co-PIs Drs. K. Gracy and M. Zheng.
- “Dynamic models of search behavior,” submitted to National Science Foundation, Division of Information & Intelligent Systems, Human-Centered Computing Program, Fall 2008, Co-PI with P. Kantor.
- “Dynamic mathematical models of search behavior,” submitted to National Science Foundation, Division of Information & Intelligent Systems, Human-Centered Computing Program, Fall 2007, Co-PI with Dr. P. Kantor.
- “How users choose words: Cognitive bias in query term formulation,” submitted to National Science Foundation, Division of Information & Intelligent Systems, Human-Centered Computing Program, Fall 2007, Co-PI with N. Wacholder.

### **ADDITIONAL RESEARCH EXPERIENCE**

- “Barriers to innovation: Problems, experiments, and paths to solutions. Final report on research conducted for the White Rose Health Innovation Project,” 2006–2007, Research associate. Development, implementation, and analysis of online survey of health-related technology innovators for the Brystra Corporation in New Jersey.
- Evaluation of the Integrated Advanced Information Management Systems (IAIMS) Operational Project, 2006, Research team member. Report writing and development of online survey, supervised by Dr. P. Kantor.
- Website Quality Study, 2006, Research team member. Automation of assessment instrument and evaluation of selected sites, supervised by Dr. C. McNerney.
- Text REtrieval Conference (TREC), 2004, 2005, Research team member. Planning, analysis, and writing, supervised by Dr. N. Belkin.

### ***TEACHING***

#### **TEACHING INTERESTS**

Interactive information retrieval systems, digital libraries, and research methods.

#### **TEACHING EXPERIENCE**

##### **Awards and recognition:**

- *Certificate of Appreciation: In recognition of outstanding support provided to students with disabilities*, Kent State University, April 2012
- *Distinguished Achievement as a Part-time Lecturer*, Library and Information Science Department, Rutgers University, December 2006

##### **Courses taught:**

*Kent State University (graduate)*

- *Digital Libraries*: Fall 2010–Fall 2018
- *Information Storage and Retrieval Systems*: Spring 2011–Spring 2017

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- *Information Technology for Library and Information Professionals* (iSchool core): Spring and Fall 2011–Fall 2016
- *Research and Assessment in Library and Information Science* (iSchool core): Fall 2017, 18; Spring 2018, 2019
- *The Information Landscape* (iSchool core): Spring 2018, 2019; Fall 2019

### *Rutgers University*

- *Organizing Information* (graduate): Spring 2010
- *Understanding Library Systems and Software Applications* (graduate): Fall 2010 (course redesign)
- *Database Technologies* (undergraduate): Fall 2006–Spring 2008 (4 sections)
- *Undergraduate Independent Study*: Fall 2007
- *Management of Technological Organizations* (undergraduate): Fall 2007–Spring 2008 (2 sections)
- *Information Technology and Informatics* (undergraduate): Spring 2006 (1 section)

### **Invited talks:**

- *Centering a research agenda*, presentation to Kent State University CCI Ph.D. Colloquium, Fall 2018
- *Overcoming search-engine bias: Systems that motivate skill acquisition*, presentation to Kent State University Ph.D. course CCI 8000, Fall 2013
- *Overview of digital libraries*, presentation to Kent State University Ph.D. course CCI 80000, Fall 2010 and Fall 2011

### **Ph.D. committees and supervision:**

- External committee member for Earl Bailey (2013–2017), School of Information and Library Science, University of North Carolina–Chapel Hill; research on search expertise.
- Program planning committee member and GA-supervisor for Heather Flynn (2013–2015), School of Information, Kent State University.
- External committee member for Nouh Alhindawi (2013), Department of Computer Science, Kent State University; work on information retrieval.

### **M.L.I.S. theses supervised:**

- Zhiyan Chen, M.L.I.S. (proposal approved and in progress). Differences in search behavior for native-language and non-native-language search systems.
- Alison M. Dickerhoof, M.L.I.S. (August 2014). Looking for query terms on search engine results pages.

### **M.L.I.S. thesis committees:**

- Shadi Shakeri, M.L.I.S. (December 2013). Data curation perspectives and practices of researchers at Kent State University's Liquid Crystal Institute: A case study.

### **M.L.I.S. master's culminating papers and projects:**

- Spring 2017: Jill Hallback; Mark Walters
- Summer 2017: Shelly Guerrero
- Fall 2017: Albert Hilton

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### M.L.I.S. culminating experience internships supervised:

<i>Academic Year</i>		<i>Academic Year</i>	
2011–2012	3	2015–2016	18
2012–2013	7	2016–2017	14
2013–2014	10	2017–2018	5
2014–2015	11	2018–2019	3

### ***SERVICE***

#### **KENT STATE UNIVERSITY**

##### **Committees—College of Communication and Information:**

- *College Advisory Council*, 2019–2020
- *Research and Creative Activities Funding Committee*, 2016–2019

##### **Committees—School of Information:**

- *Faculty Affairs Committee*; Co-chair, 2018–present
- *Systematic Planning Committee*, Co-chair, 2017–2018
- *Technology Committee*, 2010–2017; Chair, 2013–2016
- *Student Academic Complaint Committee*, 2010–2011; Chair, 2011–2013
- *Subcommittee on Administration & Financial Support*, *Committee on Accreditation*, 2010–2011

##### **Ad-hoc service:**

- *Search Committee*, *Goodyear Professor of Information Architecture and Knowledge Management*, Co-chair, 2017–2018
- *Ad-hoc Working Group on Data Sciences Synergies*, 2016
- *Search Committee*, *Goodyear Professor of Information Architecture and Knowledge Management*, 2015–2016
- *Ad-hoc Committee on Online Student Orientation*, 2016
- *Ad-hoc Committee on Revisions to the iSchool FAC Handbook*, 2012–2014
- *Ad-hoc Committee on Learning Outcomes*, 2012
- “*Cognition and Technology*,” group member for course outline for Digital Studies Task Force, Fall 2010

#### **SERVICE TO THE PROFESSION**

##### **Peer review and editorial activities: journals**

- *Information Processing & Management*, Special Issue on HCIR, co-guest editor, 2012; article reviewing, 2015–2019
- *ACM Transactions on Information Systems*, 2014
- *Journal of the American Society for Information Science and Technology*, 2010
- *Journal of Information Retrieval*, 2009

##### **Peer review activities: conferences**

- *Conference on Human Information Interaction and Retrieval (CHIIR)*, 2016, 2018, 2019



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- *Association for Computing Machinery Conference on Research and Development in Information Retrieval (SIGIR)*, 2009-10, 2013-16, 2018-19
- *Symposium on Human-Computer Interaction and Information Retrieval (HCIR)*, 2010-2013
- *Information Interaction in Context Conference (IliX)*, 2010, 2012, 2014
- *Knowledge Maps and Information Retrieval (KMIR) Workshop*, at ACM/IEE JCDL, 2014
- *Association for Computing Machinery SIGCHI Conference on Human Factors in Computing Systems*, 2010, 2011
- *American Society for Information Science and Technology Annual Meeting*, 2009
- *IEEE International Conference on Intelligence and Security Informatics*, 2005

### Peer review activities: funding

- Panel reviewer for the *National Science Foundation (NSF)*, 2014, 2016

### Committee memberships:

- *Conference on Human Information Interaction and Retrieval (CHIIR)*, Organizing Committee, 2019
- *Association for Information Science and Technology (ASIS&T) Annual Meeting*, Organizing Committee, 2018
- *Conference on Human Information Interaction and Retrieval (CHIIR)*, Senior Program Committee, 2017, 2018
- *Conference on Human Information Interaction and Retrieval (CHIIR)*, Steering Committee, 2014-2018
- *Association for Information Science and Technology (ASIS&T)*, Award Nomination Committee, 2016
- *Joint Conference on Digital Libraries (JCDL)*, Doctoral Consortium Co-chair, 2015
- *IliX/HCIR Ad hoc Merger Taskforce*, Committee Member, 2014
- *Symposium on Human-Computer Interaction and Information Retrieval (HCIR)*
  - Steering Committee, 2010-2014
  - Local Arrangements Chair, HCIR, 2010, 2012

### Board memberships:

- *Information Processing & Management, Editorial Board*, 2016-present
- *Northern Ohio Chapter of The American Society for Information Science and Technology (NORASIS&T)*
  - Chair, 2017-present
  - Co-chair, 2015-2017
  - Treasurer, 2011-present
  - Chair, 2014-2015

### PROFESSIONAL AFFILIATIONS

- Association for Computing Machinery
- Association for Library and Information Science Education
- Association of College and Research Libraries
- The Association for Information Science and Technology

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### ***OTHER***

#### **OTHER PROFESSIONAL EXPERIENCE**

Founder, International Documentary Library Service, 1999–2010;  
designed, developed, and launched database-driven digital library for documentary film,  
television, and radio; archived at  
<https://web.archive.org/web/20060712230723/http://www.idls.org:80/home.html>

Management in various capacities in banking and investment services, BankBoston, Boston, MA,  
1980–1998