

# Benjamin D. Branch

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## Education

**Doctorate of Philosophy, Educational Research and Policy Analysis**, Graduation May 2009  
North Carolina State University (NCSU), Raleigh, North Carolina

**Dissertation:** A Study of Educators' Perceptions of Spatial Thinking  
Advisors: Paul Bitting and Kenneth H. Brinson

**Minor:** Geographical Information Systems (GIS), at NCSU, 2007

**Certifications:** Online Weather Studies trainee, American Meteorological Society and National Oceanic and Atmospheric Administration, 2007

GIS Certification 2007 at NCSU College of Natural Resources

**M.S. Computer Science, Graduated May 1996**

North Carolina A&T University, Greensboro, North Carolina

Thesis: Dynamic Constraint Satisfaction using Oz

**Bachelor of Science. Industrial Engineering**, Graduated May 1994

North Carolina A&T State University, Greensboro, North Carolina

Research: Material handling

## Research Interests

GIS/spatial thinking/remote sensing applications in research, policy; or such related issues towards sustainability, interdisciplinary development, or informatics development or such infrastructure technology. Community Informatics 2009

Summer 2009- **SURVEY AND ANALYSIS OF POST-Last Glacial Maximum ENVIRONMENT-** periglacial study and investigation for carbon spherules with nano-diamonds that may have been created from impact which are known as the Carolina Bays (working with team to present at AGU 2009 and continuing work with Dr. LeCompte in collaboration with Allen West, David Kimbel and others)

-Used of Multi-spec, GPS, Ground penetrating radar & soil sampling to study morphology of such Carolina Bays

-10/09 Electron Microscopic training at NCSU for Gambit support

Earth and Space Science Informatics-Community framework development and GIS/Remote sensing as spatial thinking skill set development for K-12 and secondary and graduate pipeline development.

## Teaching Experience

**Elizabeth City State University**, Computer Science Department, faculty  
Teaching C++, Intro to computing. Research in Community Informatics framework development

### Educational Outreach

IGARSS 2009/ECSU Outreach, Cape Town, South Africa approx 400 students 7/09

Buckland Elementary School (Gates County) approx 120 students 9/25/09

Women In Mathematics program by CERSER approx 400 students 10/14/09

### **Math, Science, and Education Network (MSEN), North Carolina State University (2005-2007)**

- Responsible for teaching 8th grade Language Arts during which students were presented with poetry, drama and young adult novel units.
- Co-taught and extensively observed 8th grade American Studies classes.
- Modified assignments for students at different ability levels.
- Conducted teacher research on improving grammar and mechanical skills through the process model of writing.

Technology Instructor, December – November 2002

Four Oaks Middle School, Four Oaks, North Carolina

- Taught sound pedagogical instruction to students in grades 6-8 that promoted development and learning.
- General aspect of technology, engineering, hydroponics, video, writing, reading, etc
- Promoted “No Child Left Behind” policies and school board policy to generate effective teaching environment

## Publications

Branch, Benjamin and Bitting, Paul. Dewey and a Spatial Thinking Culture: Beginning at the Beginning: Foundational Studies and Character Development towards a Spatial Thinking Culture. (Paper and Discussion) American Educational Researchers Association, New York City, New York March 24-28, 2008

Branch, Benjamin. A Study of Educators’ Perceptions of Spatial Thinking, Doctoral Dissertation on file at NCSU, May 2009

## Academic Administration

### **Assessment and Technology Specialist, August 2006-October 2007**

#### **Education Department, Saint Augustine’s College, Raleigh, North Carolina**

- Supported NCATE and DPI accreditation and research issues for Elementary Education Department.
- Created web pages for Education Department
- Served as LiveText support specialist for faculty and staff
- Attempted grant development for Geosciences Diversity effort with NSF and NCSU in 2006.

### **Pre-Awards Specialist, July 2003 to August 2006**

#### **Saint Augustine’s College, Raleigh, North Carolina**

- Provided web development, design and implementation for Office of Research and Sponsored Programs.
- Worked on grant development activities, that yielded about \$1.5 million in successful submissions.
- Supported faculty/staff members in finding of federal or private funding opportunities or forecasts.

## Technical Experience

### **Lab Administrator**, October 2007 to October 2008

Cisco Systems, Research Triangle Park, North Carolina

- Supports testing lifecycles of Telecommunications Service Provider lab. Supported with web development, PHP, database design, and inventory in a CRS, GRS environment Network cabling, infrastructure assessment and lab admin planning.

### **Frame Relay Engineer, December** 1999 to April 2002

WorldCom, Cary, North Carolina

- Responsibility included Switch verification, trunk augmentation, field verification operations, and verilink configuration.
- Conducted 1000-node network upgrade and backbone augmentation Built Internet II
- Conducted DS3 migration, OSPF area migration BNX, Bay 500Ethernet Hub and 1200 Acclear implementation.
- Participated in Juniper Training, Implementation, some Cisco MGX configuration

### **Ethernet Solutions-Lead OEM Software Engineer**, September 1998 to December 1999

IBM Networking Hardware Division, Research Triangle Park, North Carolina

- Provided technical problem determination and resolution of OEM products for market GA.
- Participated in Ethernet, Gigabit Ethernet and ATM development involving reviewing and verifying test specifications, and test cases.
- Utilized sniffers, ATM Diagnostics, and smartbits

### **Senior Associate, Network Systems Programmer**, May 1996 to September 1998

Lockheed Martin Federal Systems, Gaithersburg, MD

- Conducted work in the area of heterogeneous networks involving TCP/IP, SNA, Windows NT and Netview/6000.
- Performed duties as a NT Workstation installer, system integrator, and CMM team member
- Webmaster for eleven departments/Obtained necessary government clearances

## Professional Affiliations

Committee Participant, North Carolina Geographical Information Coordinating Council, Data Sharing, 2007

Member, American Educational Researchers Association (AERA) 2003-2008

Cisco Systems Black Employee Network (CBEN) 2007-2008

Student Ambassador, Environmental System Research Institute, Summer 2005

Online Weather Studies trainee, American Meteorological Society and National Oceanic and Atmospheric Administration, 2007

United States Distance Learning Association (USDLA), member 2007

Member, United States Distance Learning Association (USDLA), 2007

National Association of Black Geologists and Geophysicists, 2008

American Geophysical Union, 2007-2009

American Geophysical Union, Earth Science Informatics Session, co-convener, 2009

Group Earth Observation, Plenary attendee, 2009

## **Presentations**

Branch, Benjamin, GIS Systemic Educational Reform Policy (Presentation) in Winston-Salem North Carolina Geographical Information Conference, Winston-Salem, NC, March 2-5, 2007

Branch, Benjamin, A Theory of Educational Change from a Spatial Thinking Culture (Presentation). Minorities Striving and Pursuing Higher Degrees in the Earth Sciences. San Francisco, California, December 7-14, 2007

Branch, Benjamin and Bitting, Paul. Dewey and a Spatial Thinking Culture: Beginning at the Beginning: Foundational Studies and Character Development towards a Spatial Thinking Culture. (Paper and Discussion) American Educational Researchers Association, New York City, New York March 24-28, 2008

Branch, Benjamin, A Potential Synergy between Educational Leadership, The Geoscience Community, and Spatial Data. (Presentation), National Association of Black Geologists and Geophysicists, Atlanta, Georgia, September 24-27, 2008

Branch, Benjamin, The Spatial Thinking Process Where Educational Leadership Transfers Skill into the Classroom (Poster) Paper Number: ED41A-0560 /Abstract Reference Number: 8037. American Geophysical Union, San Francisco, California, December 15-19, 2008

Branch, Benjamin, A Potential Synergy Connecting Educational Leadership, The Geoscience Community, and Spatial Data (Poster) Abstract Reference Number: 7946. American Geophysical Union, San Francisco, California, December 15-19, 2008

Spence, Porchè, Vargas, Wanda, Armaiz, Kamil, Cook, Ashton R., Scott, Onjalè, Branch B. Dewayne, Pyrtle, Ashanti, Williamson-Whitney, Vivian, Ithier-Guzman, Warner, Ricciardi, Lois. (Poster). Meaningful Engagement to Enhance Diversity: Broadened Impact Actualized, Paper Number: ED51A Abstract Reference Number: 3682-05. American Geophysical Union, San Francisco, California, December 15-19, 2008

Branch, Benjamin, Sphere of Knowledge Implications for Policy Embedded GIS/Informatics Collaborations, Reference Number 2392. American Geophysical Union-Joint Assembly, Toronto, Ontario, Canada, May 23-28, 2009

Branch, Benjamin, Spheres of Knowledge that Require Open-Mindedness and Open Data, Reference Number 1882. American Geophysical Union-Joint Assembly, Toronto, Ontario, Canada, May 23-28, 2009

Branch, Benjamin, Brittany Maybin and Kaiem Frink, An Informatics Pipeline, Earth and Space Science Informatics Workshop, Developing the Next Generation of Earth and Space Science Informatics: Technologies and the People That Will Implement Them, University of Maryland, Baltimore County, August 3, 4, and 5, 2009

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