



ECSU's Computational Science - Scientific Visualization Center

<http://cssvc.ecsu.edu>

2006 - 2007 Newsletter, Volume II: March 2007 - August 2007

PARTICIPATING NAM INSTITUTIONS

1. Elizabeth City State University
2. Jackson State University
3. Lincoln University
4. Louisiana State University
5. Miami - Dade College
6. Mississippi Valley State University
7. Morehouse College
8. Saint Paul's College
9. Shaw University
10. Spellman College
11. Xavier University

2007 ECSU - NAM SUMMER INSTITUTE IN COMPUTATIONAL SCIENCE MAY 14 - 26, 2007



(left to right) front row: Dr. Houston, Dr. Luttamaguzi, Dr. Lawrence, Erika Mizelle, Brittany Cole, Ebony Spivey, April Harry, Dexter Jason, Ashley Rhodes, Brandi Brehon, Daniel Cunningham, Marian Sykes, Crystal Sterling, Delisa Hamilton, Dr. Bland, Dr. Kulkarni. Back row: Rasheed Graham, Kenneth Joyner, Kaiem Frink, Marcia Onyeanusi, Amber Williams, Alexander Hill, James Howard, and Martin Arienmughare.

SPONSORS

The Institute was sponsored by Elizabeth City State University (ECSU) and the National Association of Mathematicians, Inc. (NAM) and with funding support from the Dept. of Energy (DoE). It was held on the campus of Elizabeth City State University in Elizabeth City, NC.

ABOUT THE SUMMER INSTITUTE IN COMPUTATIONAL SCIENCE

This Institute is an intense two-week program where participants from a variety of HBCU's/MI's can learn, by research experiences, that Computational Science is an approach to the study of scientific and real world phenomena by extensive use of mathematical modeling, numerical methods, and simulation coupled with computer programming and computer visualization techniques. The Institute exposes participants to Computational Science by a series of tutorials and presentations by the Institute Coordinators and visiting Faculty Mentors.



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RESEARCH TEAM I

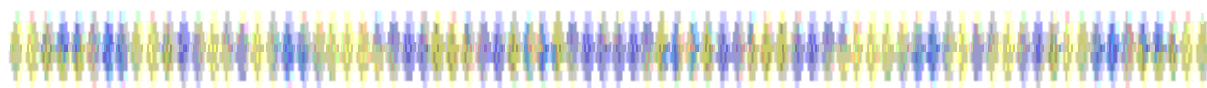


Group Topic: "A Study of Current-Voltage Regulation of an Electrical Diode Using Non-linear Least Squares Model"

Mentor: Dr. Jamiiru Luttamaguzi

Faculty: Dr. Johnny Houston

Student members: (left to right) Ebony Spivey, James Howard, Brittany Cole, Rasheed Graham, and Marcia Onyeausi.



RESEARCH TEAM II



Group Topic: "A Comparative Study of Energy Forms Used by the G-8 Countries Between the Years 1980 - 2006."

Mentor: Dr. Andrea Lawrence

Faculty: Dr. Johnny Houston

Student members: (left to right) Kaiem Frink, April Harry, Martin Arienmughare, Kenneth Joyner, and Brandi Brehon



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RESEARCH TEAM III

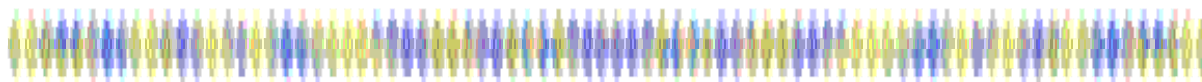


Group Topic: "A Study of Atmospheric Oxygen Depletion Due to Usage of Gasoline"

Mentor: Dr. Krishna Kulkarni

Faculty: Dr. Johnny Houston

Student members: (left to right) Ashley Rhodes, Marcus Powell, Erika Mizelle, Amber Williams, and Alexander Hill



RESEARCH TEAM IV



Group Topic: "A Study of Polar Ice Caps Melting Over the Past Half-Century (1950 - 2000): Causes and Ramifications"

Mentor: Dr. Constance Bland

Faculty: Dr. Johnny Houston

Student members: (left to right) Dexter Jason, Marian Sykes, Crystal Sterling, Delisa Hamilton, and Daniel Cunningham



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INSTITUTE SPEAKERS/FACULTY MENTORS



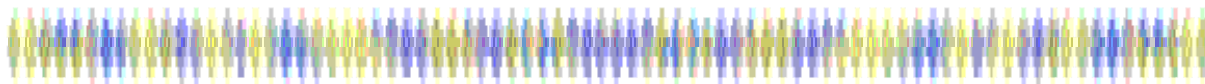
Dr. Johnny Houston, ECSU
Topics: "The World of Computation/
Programming/Visualization: Science
Investigations Using Computational
Science-Scientific Visualization" and
Numerical Methods.



Dr. John Alexander, Miami-Dade
Community College
Topics: Computational Modeling -
Numerical Methods, "Operations
Research Applications Using CSSV,"
Markov Chains and Simulation Models.



Dr. Andrea Lawrence, Spelman College
Topics: Website Construction using
HTML/Frontpage/Dreamweaver
Computational Modeling - Numerical
Methods, and Data Analysis using
Math CAD.



INSTITUTE SPEAKERS/FACULTY MENTORS



Dr. Krishna Kulkarni, ECSU
Topics: MATLAB - Visualization,
Mathematica - Visualization,
Visio-Professional - Visualization,
Geometer's Sketchpad, and
Minitab for Windows.



Dr. Jamiiru Luttamaguzi, ECSU
Topic: Programming in JAVA.



Dr. Constance Bland, Mississippi
Valley State University
Topics: Scientific Word / Scientific
Workplace, Data Analysis using
MathCAD.



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SCHEDULE OF EVENTS

Monday, May 14	A. 9:00 am - 3:00 pm B. 2:00 pm - 4:15 pm C. 5:00 pm - 6:30 pm D. 6:30 pm - 7:30 pm	Travel Day Lodging Check In Opening Dinner - Jacoli's Restaurant Orientation - CSSV Center; 209 Lester Hall
Tuesday, May 15	A. 7:30 am - 8:20 am	Continental Breakfast
Wednesday, May 16	B. 8:30 am	Vans leave hotel for CSSV Center
Thursday, May 17	C. 8:50 am - 9:50 am	Tutorial I: Computational Modeling/Num. Methods
Friday, May 18	D. 10:10 am - 11:10 am E. 11:30 am - 12:45 pm F. 12:45 pm - 2:15 pm G. 2:15 pm - 3:30 pm H. 4:00 pm - 6:30 pm I. 6:30 pm - 8:00 pm J. 8:00 pm - 10:00 pm	Tutorial II: Computer Programming/Sci. Visualization Tutorial III: Computational Science: Tools & Tech. Lunch CSSV Seminar (Lecture/Presentation) Project Exploration/Project Development - Teams Dinner Open CSSV Center/Group and Independent Study
Saturday, May 19	A. 7:30 am - 8:20 am B. 8:30 am C. 8:50 am - 9:50 am D. 10:10 am - 11:10 am E. 11:30 am - 12:45 pm F. 12:45 pm - 2:15 pm	Continental Breakfast Vans leave hotel for CSSV Center Tutorial I: Computational Modeling/Num. Methods Tutorial II: Computer Programming/Sci. Visualization Tutorial III: Computational Science: Tools & Tech. Lunch/Trip to Hampton Roads/Educational Activity
Sunday, May 20	Day of Relaxation / Personal Exploration	
Monday, May 21	A. 7:30 am - 8:20 am	Continental Breakfast
Tuesday, May 22	B. 8:30 am	Vans leave hotel for CSSV Center
Wednesday, May 23	C. 8:50 am - 9:50 am	Initial Team Meetings in CSSV Center
Thursday, May 24	D. 10:10 am - 1:00 pm E. 1:00 pm - 2:30 pm F. 2:45 pm - 4:00 pm G. 4:00 pm - 6:30 pm H. 6:30 pm - 8:00 pm I. 8:00 pm - 10:00 pm	Project Exploration/Project Development - Teams Lunch Progress Reports by Individual Teams Project Exploration/Project Development - Teams Dinner Open CSSV Center/Group and Independent Study
Friday, May 25	A. 7:30 am - 8:20 am B. 8:30 am C. 8:50 am - 10:00 am D. 10:00 am - 11:10 am E. 11:30 - 3:00 pm	Continental Breakfast Vans leave hotel for CSSV Center Initial Team Meetings in CSSV Center Preparation for Presentation Final Presentations, Closing Luncheon (Jacoli's)



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TEAM I



Research Groups-Poster Presentations

TEAM II



TEAM III



TEAM IV





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Team III Presents



A Very Busy Team IV



Volleyball Game
Team I vs. Team II



Students Watch Presentations



Students Receive Certificates





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Summative Participant Evaluation Report

PLEASE RESPOND TO EACH QUESTION BY PLACING "X" ABOVE THE APPROPRIATE NUMBER

1. Did the Institute appear to be well-organized? **3.95**
1 (No) 2 3 4 5-Superbly organized
2. Did Institute organizers supply participants with sufficient pre-Institute information? **4.23**
1 (No) 2 3 4 5- More than adequate
3. Did Institute organizers communicate with participants in a timely manner? **4.14**
1 (No) 2 3 4 5-Superbly so
4. Were the tutorials implemented smoothly? **4.36**
1 (No) 2 3 4 5-Implemented Superbly
5. Did most sessions begin and end as scheduled? **3.55**
1 (No) 2 3 4 5
6. Were the breaks and meal hours provided for the length of time scheduled? **3.91**
1 (No) 2 3 4 5
7. Were the physical facilities technologically advanced enough, the environment comfortable enough, and the atmosphere academically conducive enough for an Institute of this nature? **4.23**
1 (No) 2 3 4 5
8. Were the lodging accommodations comfortable? **4.33**
1 (No) 2 3 4 5-Very Comfortable
9. Was the arrangement for meals satisfying and enjoyable? **4.55**
1 (No) 2 3 4 5-Very Much So
10. Were the materials received during the Institute useful and/or appropriate? **4.86**
1 (No) 2 3 4 5-Very Useful
11. Were most of the tutorial presenters motivating and/or inspiring? **4.14**
1 (No) 2 3 4 5-Very Much So
12. Were the tutorial presentations informative and/or beneficial? **4.48**
1 (No) 2 3 4 5-Highly



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Summative Participant Evaluation Report

Continued...

13. Were the tutorial sessions too short, short, the right length, long, or too long? **3.40**
1 (too short) 2 3 4 5-too long
14. Did you find the learning of Java and using the USB stick satisfactory? **4.45**
1 (No) 2 3 4 5-Highly
15. Did you have enough time to practice/do the tutorial exercises and your research project? **3.90**
1 (No) 2 3 4 5-Very Much So
16. Did you use the breaks, meal times, and other times to do networking and exchange ideas? **4.10**
1 (No) 2 3 4 5-Very Much So
17. Did you get a clear definition/understanding of computational science – scientific visualization and its usefulness in learning in general and research investigations in the 21st century? **4.30**
1 (No) 2 3 4 5-Very Much So
18. Are you now more determined or more inspired to learn more and use the tools and techniques for Computational Science – Scientific visualization in learning in general and in research investigations than before the Institute? **4.55**
1 (No) 2 3 4 5-Very Much So
19. Are you now more inspired/determined to earn a graduate degree? **4.15**
1 (No) 2 3 4 5-Very Much So
20. Would you recommend this Summer Institute experience in the future for other students? **4.75**
1 (No) 2 3 4 5-Very Much So
21. Was the Institute a success? Did it achieve its goals/objectives or meet your expectations? **4.55**
1 (No) 2 3 4 5-Very Much So
22. What were the most beneficial aspects of your attending the ECSU – NAM Summer Institute in Computational Science – Scientific Visualization? (See Page 11)
23. What items/ideas/changes would you suggest for improving future ECSU – NAM Institutes in Computational Science – Scientific Visualization? (See Page 11)



Summative Participant Evaluation Report

Continued....

22. What were the most beneficial aspects of your attending the ECSU – NAM Institute in Computational Science – Scientific Visualization?

1. Great research experience*
2. Network connections
3. Gaining a better understanding of conceptual skills
4. Learning new programming skills*
5. Traveling and meeting new people
6. Sharpening presentation skills*
7. Learning JAVA, Dreamweaver, Mathematica*
8. Participating in group work
9. Very knowledgeable faculty mentors
10. Great preparation for internships
11. Professionalism
12. Experience in designing a webpage

23. What items/ideas/changes would you suggest for improving future ECSU – NAM Institutes in Computational Science – Scientific Visualization?

1. More time (longer program)*
2. Make sure to have updated versions of software.
3. Improve timeliness of class schedules.
4. More organization
5. Larger work area
6. More direction on topic selection
7. More group social events/activities*
8. Better lodging
9. Better transportation
10. More opportunity to view surrounding area; tour of campus
11. Use of gym
12. More intense work
13. Fewer tools introduced, with each covered more in depth
14. Schedule volleyball game on tutorial week, instead of on presentation week.
15. Offer students a copy of software

(*) recurring response



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NAM's "Faculty Conference on Research and Teaching Excellence"

at

Tennessee State University

Nashville, Tennessee

March 30 - 31, 2007

Friday, March 30

All activities will be held in Alger V. Boswell Complex, Room 243

12:15 - 12:45 pm

Opening Session:

Dr. Nathaniel Dean, President– National Association of Mathematicians

Welcome: Dr. Nathaniel Dean, President - NAM

Dr. Dawn Lott, Vice President - NAM

Greeting: Dr. William Lawson, TSU, College of Arts & Sciences, Dean

The Occasion: Dr. Leon C. Woodson, Executive Secretary - NAM

1:00 - 1:45 pm

Surjit Singh Khurana, Ph.D., University of Iowa

"Measures of Topological Spaces"

2:00 - 2:45 pm

Minakshisundaram Rajagopalan, Ph.D., TSU

"Isometric Operations on $C(x)$ "

3:00 - 3:45 pm

Panel: Dennis Davenport, Ph.D., Moderator

"College Algebra Reform Project"

4:00 - 4:45 pm

Rodney Kerby, Ph.D., Morgan State University

"Primer on Almost Periodic Functions"

5:00 - 6:00 pm

Albert Turner Bharucha-Reid Lecture: Johnny Houston, Ph.D.

"Mathematics is Global and Africa is an Integral Part of the Globe"

Saturday, March 31

9:00 - 9:45 am

Michael Reed, Ph.D., Tennessee State University

"Finite Generation of Symbolic Rees Algebras"

10:00 - 10:45 am

LTC Archie Wilmer, Ph.D., US Military Academy

"Elastic Stability of Certain Stiffened Plate Structures"

11:15 - 12:00 noon

Computational Science Workshop I

Why Computational Science and Scientific Visualization?

Johnny Houston, Ph.D., Elizabeth City State University

1:00 - 1:45 pm

Computational Science Workshop II

Computer Simulations of Games of Chance

"The Essence of Negative Mathematical Expectation"

John Alexander, Ph.D., Miami-Dade College

2:00 - 2:45 pm

LTC Donald A. Outing, Ph.D. US Military Academy

"Parabolic Equation Techniques for Range-Dependent Seismo-Acoustics"

3:00 - 3:45 pm

Sanjukta Hota, Ph.D., Fisk University

"A Mathematical Model of Alveolar Ventilation"

4:00 - 4:45 pm

S. Forcey, Ph.D., Tennessee State University

"What is an Operad and how does it Act?"



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2007 NAM FACULTY CONFERENCE
MARCH 30 - 31, 2007

Participating Faculty and Staff

Dr. John W. Alexander Jr., Professor, Miami-Dade College, N. Miami, FL
Dr. Laverne Blagmon-Earl, Professor, University of District of Columbia, Washington, DC
Dr. Fred H. Bowers, Associate Professor, Spelman College, Atlanta, GA
Ms. Candace Carter, Instructor, Mississippi Valley State University, Itta Bena, MS
Ms. Cynthia Clemmons, Administrative Assistant, Morgan State University, Baltimore, MD
Dr. Dennis Davenport, Associate Professor, Miami University, Oxford, OH
Mrs. Barbara Davis, Assoc. Professor, Southern University of New Orleans, New Orleans, LA
Dr. Nathaniel Dean, Professor, Texas State University, San Marcos, TX
Dr. Jeffrey Fleming, Assistant Professor, University of District of Columbia, Washington, DC
Mr. Julian Fuller, Lecturer, Morgan State University, Baltimore, MD
Dr. Xiao-Xiong Gan, Associate Professor, Morgan State University, Baltimore, MD
Ms. Lesa Horton, Assistant Professor, University of District of Columbia, Washington, DC
Dr. Monica Jackson, Assistant Professor, American University, Washington, DC
Mr. Herbert Jolly, Assistant Professor, Southern University of New Orleans, New Orleans, LA
Dr. Andrew D. Jones, Associate Professor, Florida A&M University, Tallahassee, FL
Dr. Rodney Kerby, Lecturer, Morgan State University, Baltimore MD
Dr. Surjit Singh Khurana, Professor, University of Iowa, Iowa City, Iowa
Dr. Andrea W. Lawrence, Chairperson, Spelman College, Atlanta, GA
Ms. Linda Lewis, Teacher, High School for Engineering Professions, Houston, TX
Dr. Jill McGowan, Associate Professor, Howard University, Washington, DC
Dr. Bhamini M. Nayar, Associate Professor, Morgan State University, Baltimore, MD
Dr. Joe Omojola, Professor, Southern University of New Orleans, New Orleans, LA
Dr. Vernise Y. Steadman, Chairperson, University of District of Columbia, Washington, DC
Dr. Ahlam Tannouri, Lecturer, Morgan State University, Baltimore, MD
Dr. Irvin E. Vance, Professor, Michigan State University, East Lansing, MI
Dr. Vasant Waikar, Professor, Miami University, Oxford, OH
Dr. Talitha M. Washington, Assistant Professor, University of Evansville, Evansville, IN
Dr. Raymond Williams, Professor, Mississippi Valley State University, Itta Bena, MS
Dr. Leon Woodson, Associate Professor, Morgan State University, Baltimore, MD
Mr. Bobby W. Wright, Monroe Community College, Rochester, NY



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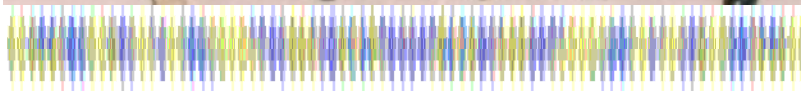
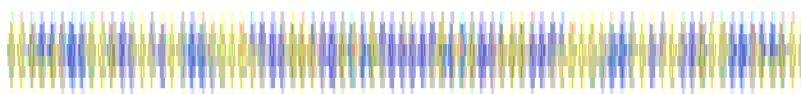
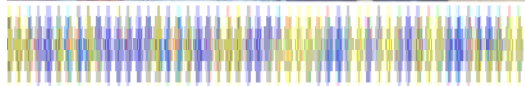
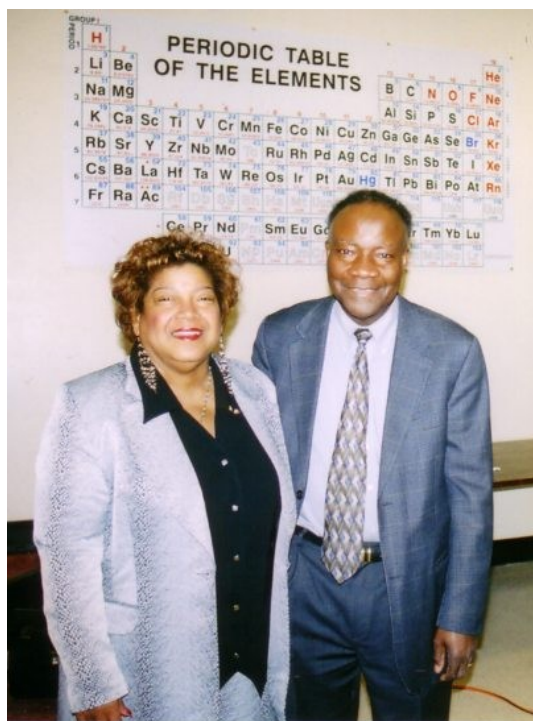
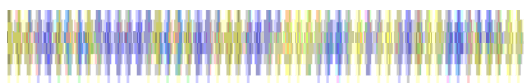
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Some Scenes from the Regional Faculty Conference





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ASTRONOMY DAY AT ECSU

Wednesday, April 18, 2007
Jenkins Science Center
9:00 am - 2:30 pm

What Is So Special About Mars?



Jay T. Bergstralh

Senior Scientist for Space Science Research,
Science Directorate
NASA Langley Research Center, Hampton, VA



Schedule of Events

9:30 am - 11:00 am
(JSC 138)

Welcome, Greetings & Introduction of Speaker

Dr. W. Franklin Evans
Associate Vice Chancellor for Academic Affairs

Speaker Presentation

Dr. Jay T. Bergstralh, NASA Langley
Mission to Mars: "What is So Special About Mars?"

Presentation of Certificate

Dr. Cynthia A. Warrick, School of Mathematics, Science, & Tech., Dean

11:00 am - 12:15 pm,
12:15 pm - 1:30 pm

Planetarium

More Than Meets Eye, Laser Light Show & The Night Sky

1:30 pm - 2:30 pm
(JSC Lobby)

NASA Exhibits/Displays

Meet with Representatives from ECSU

MST Dean, Chairs & Departments,
Admissions, Financial Aid, Summer School, Distance Education

EVENT SPONSORS

Computational Science-Scientific Visualization Center (CSSV Center) - ECSU
Office of Strategic Communications & Education - NASA Langley Research Center



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To find more details about other activities associated with ECSU's Computational Science - Scientific Visualization Center and/or activities sponsored by the Center, please visit the URL below:

<http://cssvc.ecsu.edu>
