

◆ NATIONAL TECHNICAL NEWS ◆

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Winter 2003

NTA Hampton Roads Chapter Holds 15th Annual Mathematics Contest

The Hampton Roads Chapter of the National Technical Association (NTA-HRC) held its 15th Annual Mathematics Contest at the New Horizons Governor's School for Science and Technology in Hampton, Virginia on Saturday, May 18, 2002. Over seventy (70) students from surrounding localities competed in the annual event which challenges students in grades 6-12 on their mathematics skills using SAT-style examinations. In addition to the tests, students met and interacted with scientists and engineers from local companies, received career awareness information, lunch, and a guided tour of the Governor's School facility.

Students had their choice of two exams. A Basic Test challenged skills in Algebra, while an Advanced Test challenged skills in trigonometry and pre-calculus. Both tests were designed by NTA-HRC member Dr. Claudia Rankins, a mathematics and physics professor at Hampton University.

Students and parents were fascinated with the guided tours provided by Governor's School students. Participants watched a student-built robot perform lifting and maneuvering tasks, witnessed the dissection of a cat, and interacted with physics, math, and computer demonstrations. The tour guides emphasized the exciting academic studies offered by Governor's School program and the advance preparation they receive for college.

The keynote speaker was NTA-HRC member Martha Brown, an aeronautical test engineer at NASA Langley Research

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**MEMBERSHIP
NEWSLETTER**
A Publication of The
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NTA President's Message



Frank Robinson, Jr.

As I stated in the Fall 2002 issue of the NTA Newsletter, the NTA Board of Directors has established the following Top 5 goals for 2003:

2003 Goals:

- 1.) Improve the membership processing and solicitation process.
- 2.) Establish a new permanent location and the functionality of the National Office.
- 3.) Address our dwindling "revenue streams" at all levels.
- 4.) Improve our Public Relations/ Marketing Strategies
- 5.) Assure NTA Organizational Alignment of Goals (National, Regional, and Local Chapters).

To date, the Board has addressed the first three goals utilizing Risk and

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Center in Hampton, VA. Ms. Brown emphasized the need to be well-rounded in life by balancing family, friends, and career. She also shared that “it is not enough to get good grades or to be the best in your craft if you lack the necessary interpersonal skills to communicate with people.”

All students received a Certificate of Appreciation for participating in the contest. Monetary awards were presented to the top three scorers on the Advanced and Basic tests. Monetary awards were also presented to students with the highest scores in each grade level. As the result of a special drawing, two students received a free two-week summer camp at the New Horizons Governor’s School. And based on average test scores, this year’s grand prize went to Grafton High School for being the Highest Scoring School.

The 2002 NTA Mathematics Contest was co-sponsored by New Horizons Governor’s School (Ms. Donna Poland, Director) and the NTA Hampton Roads Chapter. In addition, the following institutions, organizations, and companies provided financial, logistic, and in-kind support to help make this year’s event a success: Newport News Chapter of Alpha Kappa Alpha Sorority, Food Lion Inc., Hampton University Prism Program, and the Langley Federal Credit Union.

AWARD WINNERS

Advanced Test

- 1st Andrew Pao
- 2nd David Chae
- 3rd Namrata Verma

Basic Test

- 1st Catherine Pao
- 2nd Casandra Dooley
- 3rd Prakriti Verma

Grade Level Winners

- 6th Kiersten Newtou
- 7th William Martin
- 8th Micah Eassa
Jihati Verma
- 9th Hiroyuki Hamada
Jamie Shapiro
- 10th Zackeya Sykes
Alendria Prioleau
- 11th Zarah Liz Panaguiton
- 12th Amy Loveless

Governor’s School Awards (received a free two-week summer camp at New Horizons)

- Darryl Fields
- Micah Essa

School with Highest Average
Grafton High School

For information on the 2003 Mathematics Contest, check the NTA website at:

http://www.ntaonline.org/chapters/NTA_Hampton_Roads_Chapter.htm

Michael A. Chapman
NTA Hampton Roads Chapter



NTA-HRC President Wayne Boston (2nd from left) and Michael Chapman (right) present plaque for the Highest Scoring School to Grafton High School principals Royce Hart and Stephanie Guy.



Grade level winners (highest scores) for Grades 6 through 12

**Our Congratulations to
Dr. Julian M. Earls**

NTA Past President Dr. Julian M. Earls, who is Deputy Director of the NASA Glenn Research Center in Cleveland, OH, received the **Black Engineer of the Year Career Achievement in Government Award** at the Career Communications Group’s 2003 U.S. Black Engineer of the Year awards program, held in Balti-

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more, MD January 15. He was honored for "his exceptional commitment toward advancing the opportunities for minorities in technology and the sciences, and his leadership skills, professional expertise, and outstanding dedication and commitment to community service".

Local Women of Color to be Honored During Women's History Month

The Cleveland Chapter of the National Technical Association, Inc. (NTA) will host its Second Annual Nsoroma (en-sor-má) Awards Program on March 29, 2003 at the elegant Windows on the River restaurant in Cleveland, Ohio. This event will honor local women of color for their scientific and technological accomplishments, fortitude, and community involvement.

The Cleveland Chapter of the NTA, the oldest technical organization for minority scientists, engineers and technologists in the country, is proud to announce the honorees for this year's NTA Nsoroma Awards. Thanks to the Garrett Morgan Commercialization Initiative for sponsoring this event.

During this event, five local women of color will be honored for their scientific and technological accomplishments, fortitude, and community involvement. The honorees are: Nsoroma Science - Dr. Charity Amba Kankam (Cleveland Renal Associates), Nsoroma Technology - Rochelle May (NASA Glenn Research Center), Nsoroma Education - Dr. Tyjaun Lee (Cuyahoga Community College-Metro), Nsoroma Queen Mother - Dr. Deforia Lane (University Hospitals of Cleveland), and Nsoroma Princess - Ynes S. Arocho (Cuyahoga Community College-West).

The NTA Nsoroma Awards luncheon will be held on March 29, 2003 at the Windows on the River restaurant in Cleveland, OH. The event will begin at 10:00 a.m. and showcase science projects from area students. Tickets for the luncheon are \$35, and must be purchased in advance.

For more information, please contact Quelina M. Jordan, Awards Program Coordinator by phone at (216) 289-2981 or by electronic mail at:

nta-cleve_events@scientist.com.

Quelina M. Jordan
Centralian Consulting Services
NTA Operations Manager

Astronauts in the News



Dr. Guion S. Bluford, Jr.

Dr. Guion S. Bluford, Jr. (Colonel, USAF, Ret.) is now President of the Aerospace Technology Group (ATG), an aerospace technology and business consulting organization specializing in aviation and space related technology development, analysis, and marketing related activities. Prior to joining ATG, Dr. Bluford was Vice President of Microgravity R&D and Operations for the Northrop Grumman Corporation, and was responsible for all corporate microgravity research and technical development activities in support of NASA's Human Exploration and Development of Space (HEDS) Enterprise. He also served as the Program Manager of the NASA Glenn Research Center's Microgravity Research, Development, and Operations Contract (MRDOC).

Headquartered in Cleveland Ohio, Dr. Bluford was responsible for the design, development, integration, and operational support of the NASA Fluids and Combustion Facility and associated space flight experiment hardware for the International Space Station. Prior to joining Northrop Grumman, he was Vice President of the Aerospace Sector of Federal Data Corporation (FDC) and was responsible for all NASA business. He has also been the Vice President of the Engineering Services Division of NYMA, Inc. and Program Manager of the NASA Lewis Research Center's Scientific, Engineering, Technical, and Administrative Related Services (SETAR) contract.

Prior to his service with Northrop Grumman, FDC, and NYMA, Inc., Dr. Bluford was a NASA mission specialist and payload commander astronaut on four Space Shuttle missions. He was selected in the first class of space shuttle astronauts in 1978, and was the first African American to fly in space in 1983 aboard Space Shuttle *Challenger*. In addition, he flew on a *Spacelab* shuttle flight as payload commander in 1985, a Department of Defense Strategic Defense Initiative

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(Astronauts, Continued from page 3)

Office (SDIO) flight in 1991, and a classified Department of Defense flight in 1992. He has logged over 688 hours in space.

Dr. Bluford served 29 years in the United States Air Force as an Air Force tactical fighter pilot in Vietnam, instructor pilot, staff development engineer, Branch Chief of the Aerodynamics and Airframe Branch of the Air Force Flight Dynamics Laboratory, and NASA Astronaut. He has over 5,200 hours of jet flight time in ten different aircraft.

Dr. Bluford received a Bachelor of Science degree in Aerospace Engineering from Penn State University, Master of Science and Ph.D. degrees in Aerospace Engineering from the Air Force Institute of Technology, and a Master of Business Administration degree from the University of Houston, Clear Lake, Texas.

Dr. Bluford serves on the Board of Directors of the U.S. Space Foundation, and the Board of Trustees of The Aerospace Corporation. He has been a member of the National Research Council's Aeronautics and Space Engineering Board (ASEB) and the Board of Directors of the American Institute of Aeronautics and Astronautics (AIAA). He is currently serving on the Board of Directors of the NASA Alumni League, Western Reserve Historical Society of Cleveland, the Great Lakes Science Center, and the National Inventors Hall of Fame Foundation.

He has been awarded the Department of Defense's Superior Service and three Meritorious Service Medals; the Air Force's Legion of Merit, Meritorious Service, Commendation, and ten Air Medals; NASA's Distinguished Service, Exceptional Service and four Space Flight Medals; the State of Pennsylvania's Distinguished Service Medal and thirteen honorary doctorate degrees. An AIAA Fellow, he was inducted into the International Space Hall of Fame in 1997.

NASA Commercializes Method for Health Improvement

An innovative technology developed by NASA to help its astronauts combat motion sickness during space flight will be available in March for a much wider range of human health and performance uses.

Dr. Mae C. Jemison, the nation's first African-American female astronaut, and BioSentient Corporation, Houston, obtained the license to commercialize the space-age technology known as Autogenic Feedback Training Exercise (AFTE) that originally was developed by Dr. Patricia Cowings of NASA Ames Research Center, Moffett Field, CA. The technique is a patented combination of biofeedback and autogenic

therapy that allows individuals to eliminate or minimize their unwanted physical responses to outside stimuli by controlling their autonomic nervous system (ANS). The ANS is responsible for controlling and regulating involuntary bodily functions, such as breathing, heartbeat, sweating, blood vessel dilation, and glandular secretions.

"What were previously considered involuntary, or autonomic, responses are in fact under voluntary control if you are taught properly," said Cowings, who developed AFTE at NASA Ames. "I have never met anyone who could not control their bodily responses to some degree the first time they tried," she said. "It's a function of knowing what to do."

AFTE consists of a system of compact, ambulatory equipment to measure, record, and display real-time ANS functions, combined with a unique 6- to 12-hour training that teaches individuals how to control their physiology using the feedback from the equipment. Advancing the original design, BioSentient has created a seamless system that includes a garment a person wears that can measure and wirelessly transfer physiologic data in real time; a small wrist display; and a computer station that a trainer can use to capture the data, monitor and teach a person the regulation techniques.

In various controlled studies conducted at NASA, Cowings found that AFTE is 85 percent effective in reducing motion side effects in both men and women, and is retained by individuals for up to three years after initial training. Since the mid-1980s, AFTE has been used successfully with U.S. astronauts, payload specialists and Russian cosmonauts, and to return U.S. Navy pilots suffering severe airsickness to active duty in high-performance aircraft.

"BioSentient is examining AFTE as a treatment for anxiety, nausea, migraine and tension headaches, chronic pain, hypertension and hypotension, and stress-related disorders," said Jemison, who underwent the training and successfully used it during her space flight, STS-47, in 1992. "Over 13 percent of adult Americans suffer from anxiety disorders alone, like the public speaker who panics and the pro football player who 'chokes' on the field, but with AFTE, these individuals can learn to control that anxiety without it controlling them."

"Other potential beneficiaries of AFTE include business executives, homeland security and law enforcement officers, air traffic controllers, nuclear power plant operators, and others working in hazardous materials occupations where optimal personal performance and situational awareness are essential,"

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(President's Message, Continued from page 1)

Knowledge Management techniques to formulate mitigation plans.

First, our new membership fee of \$50, and how it would be distributed between the National, Regional, and Local Offices, were discussed in the last issue of the newsletter. All membership processing is to be done at the National level. No processing should continue to occur at the local level.

Second, the Board has decided to re-establish a physical location for the National Office and hire an Operations Manager. The National Office will be located at Neighborhood Centers Association (NCA) in Cleveland, Ohio. It is a building that houses many other minority non-profit organizations including the Consortium of African American Organizations, the National Society of Black Engineers, the Black Masters of Business Administration, and others. The Operations Management function will be implemented by Centralian Services, Inc.. The CEO of this organization is Quelina Jordan, a past President of NTA's Student Chapter.

Third, to address the issue of shrinking funds, the Board has decided to revise the Exhibitor Prospectus for Corporate Sponsors. In addition, we will investigate Corporate Advertising for our website in a way that is advantageous to our organization and is done in good taste.

As NTA strives for continuous improvement, we will need your support. Our membership is the pride of our organization, and we are committed to a growth plan that will establish the NTA as a world-class organization.

Frank Robinson
NTA President

(Astronauts, Continued from page 4)

added Jemison, who also is a physician and chemical engineer.

AFTE can be used by those who provide services to patients such as psychologists, psychiatrists, psychophysiologicals, cardiologists, neurologists, physical therapists, athletic trainers, biofeedback practitioners, and rehabilitation and behavioral therapists. By training their patients or trainees, these specialists can teach people how to control their physiology with no pharmaceutical help.

"The commercialization of this NASA technology is an outstanding example of applying space research technology to improve the quality of life on Earth," noted Phil Herlth of the Ames Commercial Technology Office.

NTA 2003 Conference to be Held in Orlando, FL

The National Technical Association's 75th National Conference is now planned for **September 9-13, 2003** at the **Rosen Plaza Hotel in Orlando, FL**.

As has been the case for previous conferences, we are soliciting **suggestions for the Conference theme, invited speakers, and special topic workshop or panel sessions** as well as abstracts of papers proposed for presentations. We also seek volunteers to assist in soliciting participation by students, and chairing both student and professional presentation sessions (the latter to be grouped according to the NTA Societies structure, as for the NTA 2002 Conference).

The tentative schedule is as follows:

Tues. 9/09- Board Meeting

Weds. 9/10- School Visitations, Plenary Speaker, Evening Workshop

Thurs. 9/11- Technical presentations (professional only), Corporate Reception

Fri. 9/12- Technical presentations, Student Presentations, Membership Luncheon, Awards Banquet

Sat. 9/13- Student Presentations, National/Delegates Meeting, Auxiliary Luncheon.

Please note, students (in particular) and academic faculty need to be made aware of the Conference opportunity and schedule **before school lets out for the summer**.

Frank Robinson
NTA President

NTA Board of Directors Meets in Orlando, FL March 1, 2002

The NTA Board of Directors met in Orlando, FL on March 1, 2003. The primary purpose of the meeting was to establish and implement plans for the upcoming 2003 Conference, including visiting and consulting with representatives of the planned Conference site, the Rosen Plaza Hotel.

The following committee, regional director, or other reports were presented (in person, via telecon, or by proxy) as part of the meeting:

President's Report (Frank Robinson)
Operations and Management (Katherine Coleman)
Policy and Planning (Albert Johns)
Publications/Editorial Review (George Carruthers)
Audit, Budget, and Finance (Dexter Johnson)
Honors and Awards (Corliss Johnson)
Web Site (Darrell Thomas)

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Call For Participation
NTA 2003 Conference
September 9-13, 2003
Orlando, FL

NTA invites you to participate, and to submit abstracts and proposals for presentations or workshops you would like to give at the Conference. Presentations dealing with all areas of science, mathematics, engineering, technology, and related education are appropriate. Deadlines for Presentation Abstract submissions and Workshop or Panel Discussion proposals are **May 31, 2003**.

Note: Students and Academic Faculty should submit their abstracts **prior to the end of their spring semester** unless alternate arrangements are made.

Abstracts must have a **title** (15 words or less) and be of **150 to 300 words** in length, and must be accompanied by **full contact information** (not just e-mail address) for the author(s). Submit to **each** of the two editors below (**Electronic Submission Preferred**) no later than **May 31, 2003**.

Dr. George Carruthers
 Code 7645, Naval Research Laboratory
 Washington, DC 20375-5320
 E-mail: george.carruthers@nrl.navy.mil

Dr. John Trimble
 Dept. of Systems and Computer Science
 Howard University
 Washington, DC 20059
 E-mail: trimble@scs.howard.edu

As was the case for the 2002 Conference, the professional technical paper presentation sessions will be associated with the **Societies of the NTA**, which include Science, Engineering, Technology, Mathematics, Computer Science, Information Science, and Architecture. **Each abstract submission must indicate to which Society the presentation is relevant** (and secondary area, if applicable).

All presentations should be prepared as PC-compatible **MS Word or PowerPoint files** and provided, at the Conference, on floppy disk, compact disk (CD), or 100-MB Zip disk (as appropriate). The media to be used should be indicated at the time of abstract submission. Presentation time allowed is 15 minutes.

NOTE:

Lap-top computers and LCD projectors will be the only audiovisual equipment available at the Conference, unless other arrangements are made at least 2 weeks in advance of the Conference starting date.

All Presenters and Participants must register (see Rate Table, below). Fees include admittance to Conference technical sessions and workshops, career development seminars, and the career opportunity fair, as well as selected meal functions and receptions. The NTA Directors would appreciate advance payment of registration fees, as this helps alleviate cash-flow problems!

Conference Registration Fees

<u>Category</u>	<u>Plan</u>	<u>Cost</u>
Member	A	\$250
Non-Member	B	\$325
Auxiliary /Spouse	C	\$150
Professional, 1 Day	D	\$150
Student Member	E	\$150
Student Non-Member	F	\$160
High School Student	G	\$ 50

Registration, and payment (by credit card) via the NTA Web Site (<http://www.ntaonline.org>) is the preferred method of registration and payment of fees. Payments can also be made by mail, by check, MasterCard, Visa, American Express, or money order, payable to the **National Technical Association**.

Mailing Address:

National Technical Association, Inc.
1761 East 30th Street
Cleveland, OH 44114
 Tel.: (216) 298-4425

Hotel Information:

Rosen Plaza Hotel
 9700 International Drive
 Orlando, FL 32819
 Tel.: (407) 996-9700

NTA Conference Room Rate \$85.00/night



(Board Meeting, Continued from page 5)

Conference Planning (Katherine Coleman)
Southwest Region (Shelia Wagner)
Northwest Region (Albert Johns)
Southeast Region (William Lupton)

The board members (or representatives) toured the Rosen Plaza Hotel, with hotel representatives, to establish detailed planning for the 2003 Conference (scheduled for 9-13 September).

The meeting also included finalization of plans for the new NTA Operations Manager position and the National Office location. Quelina M. Jordan (Centralian Services, Inc.) will serve as NTA Operations Manager. The office will be located in Cleveland, tentatively sharing space with Centralian.

The new NTA Office mailing address and telephone number are:

National Technical Association, Inc.
 1761 East 30th Street
 Cleveland, OH 44114
 Tel.: (216) 298-4425

NTA Southwest Region Texas Council to Hold Statewide Science Fair and Student Symposium May 2-3, 2003

The NTA Region VII Texas Council will host its first Annual Statewide Student Science Fair Projects Exposition and Student Symposium with the "Sustaining the Heritage" History Fair Projects component May 2nd and 3rd, 2003, in Waco, TX, at the Waco Convention Center. In addition, a special awards program is to be held on Saturday, May 3, 2003, at the Hilton Waco. The Science Fair Exposition and Symposium will attract more than 600 participants including high school students, teachers, sponsors, college recruiters, volunteers, judges, parents and special guests from the Houston, Austin, Dallas / Fort Worth, Corpus Christi, San Antonio and Waco, Texas metropolitan communities. In addition, participants are expected from non-metropolitan areas and rural communities including Abilene, Bryant-College Station, Beaumont / Port Arthur, Longview / Marshall, San Angelo, Tem-

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NTA MEMBERSHIP APPLICATION OR RENEWAL

Please See Mailing Label for Date of your Last Dues Payment, if not New Applicant

Name _____

Title (Mr., Ms., Dr., etc.) First M.I. Last

Address (If Address Label on back of this page is correct, *check here*)

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Telephone Number(s) Fax Number E-Mail Address

Primary Occupation _____

(Occupational Goal if Student, Former Occupation if Retired)

Scientific/Technical Interests (in addition to above) _____

College/University Attending (if Student) _____

Current Status (Freshman, Sophomore, etc.) _____ Major Field of Study _____

Payment Method *Check/M.O.* *Amex* *Master Card* *Visa*

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Local NTA Chapter (if applicable) _____

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On Back of This Page (Keep a copy for your records) **Or Visit Web Site:** <http://www.ntaonline.org>

(NTA SW Conference, Continued from page 7)
 ple and Tyler, Texas.

This event provides opportunities for secondary school students (grades 9-12) to have additional exposure for their hard work in developing Science Fair projects and Technical Symposium presentations.

The hosts for this year's event includes: NTA Region VII Texas Council; A. J. Moore Academy; Dr. Deborah Bishop, Principal, hosting high school; A. J. Moore High School Alumni Class of 1956; the Houston Metro-Plex Chapter; the NTA Waco Chapter, co-host, and the NTA At-Large Association.

Colleges and universities that are invited to discuss college-related issues with students include: Texas Southern University REEP Program Academy, Prairie View A & M University, Wiley College, Huston Tilotson College, the University of Houston, the University of St. Thomas, Texas A & M University, and the University of Texas at Austin.

Carrington H. Stewart
 Texas Southern University
 Past President, NTA

PLEASE SEND US YOUR NEWS!

Please send news items you feel would be of interest to professionals, students, and educators involved in science/technology fields and/or of interest to the NTA Membership (ELECTRONIC SUBMISSION PREFERRED).

Please include with your submission your name, telephone number, e-mail and snail-mail address. Please also send an information copy of whatever you send us to your Chapter President and/or Regional Director.

We format the Newsletter in Microsoft Publisher 2000. Therefore, submissions in MS Word 97/2000 or PowerPoint 97/2000 are preferred (although Word Perfect and .TXT submissions can be converted). Any photographs or drawings should be black and white or color in .JPG or .BMP format.

Spring, 2003 Issue Deadline: 9 May 2003

NTA Publications Committee

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