

◆ NATIONAL TECHNICAL NEWS ◆

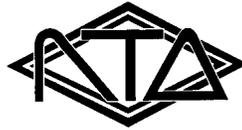
Volume 4, Number 20

Summer 1998

NTA 1998 Annual Conference

The National Technical Association will hold its 70th Annual National Conference **November 20-21, 1998** at the Hyatt Regency Crystal City Hotel in Arlington, VA (convenient to the Washington, DC National Airport and the Crystal City Metrorail station).

See Page 3 for More Details.



MEMBERSHIP NEWSLETTER
A Publication of the National Technical Association
Incorporated 1926

NTA Member Selected to be Astronaut

NASA Langley Research Scientist (and NTA Hampton Roads Chapter member) Leland D. Melvin is among 25 people chosen recently for astronaut training by the Lyndon B. Johnson Space Center in Houston, Texas.

Melvin will report to the Johnson Space Center on August 24 to begin training and evaluation as a Mission Specialist. After about one year of training, he and the other members of the 1998 astronaut class will receive technical assignments within the Astronaut Office in preparation for flight assignments aboard the Space Shuttle and the International Space Station.

Melvin currently works in NASA Langley's Non-Destructive Evaluation Sciences Branch, and his work includes serving as the Principal Investigator on the development of the Fiber Optic

(Continued on Page 6)

NTA 1998 Top Women in Science and Engineering Awards

The National Technical Association will once again salute 50 outstanding minority women in our third annual celebration of "Top Women in Science and Engineering".

Be a part of this historic celebration by helping us identify them.

Nominate any women of African-American, Native American, Hispanic, or Asian/Pacific Island descent that you think has made outstanding contributions to science in academia, industry, government, or the nonprofit sector.

See Page 2 for More Details.

1997-1998 NTA BOARD OFFICERS

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NTA 1998 TOP WOMEN IN
SCIENCE AND ENGINEERING
Nomination Procedure

Please provide the following information:

Your name, phone and FAX numbers,
and Email address

Name of woman you are nominating
Nominee's Occupation and Place of Employment
Nominee's Mailing Address,
Nominee's Phone and Fax numbers, and E-mail
Address.

List nominee's significant scientific or technical
achievements, and/or educational or community
service work forming the basis of nomination. Also
provide career milestones, official awards, honors,
and any other significant accomplishments.

FAX OR MAIL by SEPTEMBER 1, 1998 to:

**1998 Top Women in Science and
Engineering
National Technical Association
6919 N. 19th Street
Philadelphia, PA 19126-1506**

Fax: 215-549-6509

Voice: 215-549-5743

The top 50 candidates chosen by a selection
committee will receive letters announcing their
selection and a request for official information (e.g.,
official title, place of employment, a high quality
color photograph, career milestones, record of most
recent awards/honors, brief description of their
community service work) for use in the celebration
ceremony.

Those persons selected will be honored at the
1998 Top Women in Science and Engineering
Awards Ceremony at the 1998 NTA National
Conference to be held November 20-21, 1998 at the
Hyatt Regency Crystal City in Washington, DC. See
the NTA homepage at <http://www.huenet.com/nta>
for more information on NTA's history, national
programs, and its 1998 NTA National Conference.

A Tale of Two New DC Charter Schools

This fall, a large number of new charter
schools are being created in the District of
Columbia public school system. Among them
are two whose students and faculty have been
closely associated with the NTA Washington,
DC Chapter's "3-T" Mentorship Program.

The new Washington Mathematics, Science,
and Technology Charter School will be headed
by Dr. Mary Johnson, who previously headed
the Ballou High School Mathematics, Science,
and Technology Academy which was
established as part of DC Public School's
Mathematics, Science, and Technology
Systemic Reform Initiative.

Among Dr. Johnson's former students is Ms.
Lena Gamble, now a student at Xavier
University, who was a DC Chapter "3-T"
mentee and a participant in NTA's National
Science Fair Competition held at the NTA 1995
Conference in Houston, TX.

The Young Technocrats, Inc., formerly a
private school specializing in math, science, and
technology education (with special emphasis on
"hands-on" activities), will become the Young
Technocrats Math, Science, and Technology
Public Charter Lab School this fall. It will be
headed by Ms. Maisha Washington (President)
and Mr. Wali Williams (Vice President), who
were the original co-founders of The Young
Technocrats.

Among their former students is Ms. Marja
Matthews, a DC Chapter "3-T" mentee now at
Anacostia High School, who was honored as
one of 8 National Finalists (among 300 nation-
wide entrants) in the NSTA-NASA 1997 Mars
Science Experiment Proposal Competition. Her
winning project, the design of a Mars mission,
was presented as a poster at the NTA Region II
conference at NASA Goddard Space Flight
Center in June, 1997 and was published in the
Fall, 1997 issue of the *NTA Journal*.

**The National Technical Association's
70th Annual National Conference
and Technology Career Fair**

**"SCIENCE, TECHNOLOGY, AND
EDUCATION: BRIDGE TO THE
21ST CENTURY"**

The National Technical Association (NTA) is pleased to announce its 70th National Conference and Technology Career Fair will be held at the Hyatt Regency Crystal City in Arlington, VA on November 20-21, 1998. The conference theme is *Science, Technology, and Education: Bridge to the 21st Century*. NTA invites minority scientists, engineers, architects, mathematicians, technology educators, and students to participate in one of this year's most comprehensive conferences to address technology development by the minority community.

The NTA conference will highlight innovative technology advancements of today's minority technical professionals. It will enable you to network with minority technical professionals who are vital to U.S. global competitiveness. The conference technical sessions, workshops and forums will provide many opportunities to exchange ideas with professionals who develop the nation's leading- edge technology. The conference will address critical issues facing the minority community as key providers of our nation's technology. The conference has something for all professionals and students who use science and information to stay globally competitive.

NTA invites you to submit abstracts and proposals for presentations and workshops you'd like to make at the conference. Topics directly related to the conference theme are strongly encouraged; however, submissions in all scientific/technical and technology education areas are welcome. NTA will evaluate all submitted abstracts based on their suitability for inclusion in the conference program. Full manuscripts are welcome, but not specifically required. NTA may publish abstracts in a Compendium of Abstracts, to be distributed at the Conference, and full manuscripts in a special conference proceeding or

a future issue of the *NTA Journal*, NTA's official publication.

All technical presentations will be conducted in session format throughout conference. Each presentation is typically limited to 15 minutes, with 5 additional minutes for discussion. Material better suited for a forum/workshop setting will be accommodated based on its alignment with the central conference theme, potential audience appeal, and accompanying corporate support/endorsement. Please elaborate on specific needs regarding your desired presentation format when submitting your abstract/proposal.

We have designed the conference to attract multifaceted participants; therefore, we extend this invitation to all technical professionals, technology educators, high school and college students. You need not be a member of the NTA to participate. Members of all Black Technical Organizations (BTO's) are especially invited to submit abstracts / proposals.

Submitted abstracts/proposals will be allocated to the conference program at the following participation levels (final conference program may vary based on the number of acceptable submissions):

- o Professionals -Technical Papers Sessions, Workshops and Forums
- o College Students -Collegiate Technical Papers Symposium
- o High School Students -High School Technical Papers Symposium, National Science Fair Project Competition

Note that we are soliciting technical papers from *professionals* (including graduate students) *and students* (college undergraduate and high school). We are also soliciting high school science projects for our "National Science Fair Competition." Scholarship awards will be presented to the best papers/projects in all student categories.

General topics to consider when developing your abstract or proposals are listed below:

- o *Technical Sessions*: Engineering, Mathematics, Information and Computer Science, Physics, Telecommunications, Space & Aeronautics, Energy, Chemistry, Architecture, Environment, and other Science and Technology fields

- o Legislative Updates/Policy in Science, Technology, Energy, Environment, Space & Aeronautics, Research & Development, Telecommunications, Academic Standards
- o Technology Education; Mentoring With Success; Effective Classroom Visitation; Merging Technology and Local Communities
- o Corporate America: Where are the Jobs in 1998 and Beyond?
- o Undergraduate/Graduate Research & Educational Opportunities
- o *Human Resources Development*: Workplace Retraining; Career Transitioning; Outplacement; Diversity Management; Multicultural Work Environment
- o Information Technology; Interactive Classrooms; The Internet
- o Distance Learning and Continuing Education
- o *Charter Schools*: Opportunity or Setback for African-Americans Pursuing Science?
- o Architecture: Building 21st Century America
- o The African/American-African Connection
- o Technology as a Tool for Economic and Business Development; Small and Disadvantaged Business
- o Professional Development

ABSTRACT/PROPOSAL SUBMISSION FORMAT AND GUIDELINES

Please Provide the following information:

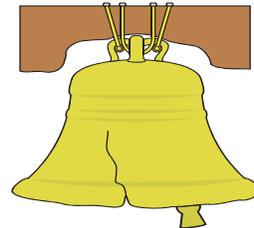
- o Authors' full name, full mailing address, daytime & evening telephone numbers, e-mail address and fax number.
- o Professional or student category (if student, provide grade level).
- o Academic/occupational title, including company/institution name.
- o Indicate whether you are an NTA member (state your membership classification and chapter affiliation), member of another

- technical organization, or a non-member.
- **Type of submission** (technical paper presentation, workshop, forum, science fair project, etc.) and applicable support mechanism (i.e., corporate sponsorship)
- **Title of presentation (15 words or less)**
- **Abstract of presentation (150-300 words).**
- o One copy of the above information (ELECTRONIC SUBMISSION PREFERRED) should be submitted to EACH PERSON listed below:

Dr. John Trimble
Howard University
Dept. of Systems & Computer Science
Washington DC 20059
E-mail: trimble@scs.howard.edu
Tel. (202) 806-4822

Dr. George Carruthers
Code 7609, Naval Research Laboratory
Washington DC 20375-5320
E-mail: george.carruthers@nrl.navy.mil
Tel. (202) 767-2764 FAX (202) 404-7296

**ABSTRACT SUBMISSION DEADLINE:
12 SEPTEMBER 1998**



For conference information, please contact:

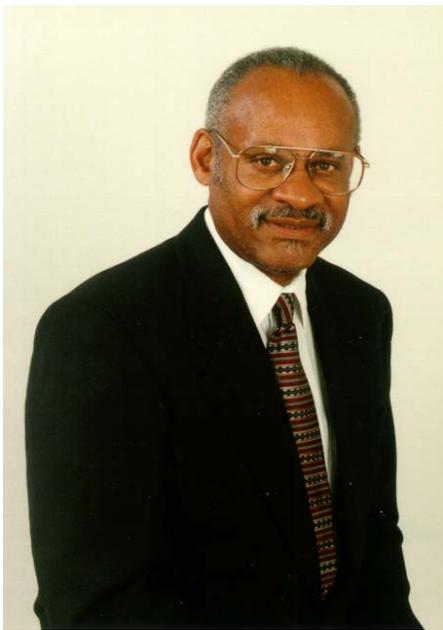
Dr. Mildred F. Johnson, Executive Director
National Office
The National Technical Association, Inc.
6919 N. 19th Street
Philadelphia, PA 19126-1506
Tel. (215) 549-5743
FAX (215) 549-6509

**REGISTER BY OCTOBER 1-
Surcharge After That Date!**

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NTA Supporting Trio for National Inventors' Hall of Fame

Past NTA National President (1986/1987) Lawrence P. King is leading an effort to induct more African Americans into the National Inventor's Hall of Fame in Akron, Ohio. Since 1988 when the NTA became recognized as one of the technical societies and organizations that make up the official nominating Committee for the NIHOF, the organization has nominated prominent current and past technical achievers for induction. The Selection Committee considers whether the invention of the nominee is covered by a United States Patent, the contribution of the invention to the nation's welfare, and the extent to which it promotes the progress of science and useful arts. King and Adolphus Patterson of the NTA Pittsburgh Chapter annually submitted nomination packages and cast votes in behalf of NTA for persons subsequently inducted.



Lawrence P. King

Currently **Dr. George Washington Carver** and **Dr. Percy Lavon Julian**, both NTA nominees, represent the only African Americans inducted. They were inducted in 1990, on the

occasion of the 200th Anniversary of the US Patent & Trademark Office. The National Inventors Hall of Fame celebrates the creative and entrepreneurial spirit of great inventors. The creative genius of invention is showcased through exhibits and presentations which allow visitors to experience the excitement of discovery, creativity, and imagination. By nurturing the inventive spirit, the National Inventors Hall of Fame is addressing the specific problems of declining technological leadership and creativity in America.

The National Inventors Hall of Fame is dedicated to the individuals who conceived the great technological advances which this nation fosters through its patent system. The purpose of The Hall is to honor these inventors and bring public recognition to them and their contributions to the nation's welfare. This year, the NTA has placed its support behind Granville T. Woods, Garrett A. Morgan, and Jan Matzeliger. A review of the patents that justify the NTA support and ultimate induction appears below.

August 7, 1998 NTA Nominees for National Inventor's Hall of Fame

GARRETT A. MORGAN (1875-1963)
US PATENT #1,475,024 et al

Garrett A. Morgan was a prize-winning inventor who developed a safety helmet-breathing device widely used by firemen in many American cities in the early 1900's. His invention became popular after he and his Brother used it to rescue over two dozen men who were trapped under Lake Erie, at Cleveland, Ohio, when an explosion occurred in a tunnel which was under construction. The City of Cleveland awarded him a hold medal for his heroic rescue. He later received a gold medal at the Second International Exposition of Safety and Sanitation, in New York, in 1914. Morgan is best remembered for his invention of the automatic stop sign. This invention now called the traffic or "stop light" controls the flow of vehicles through street intersections.

GRANVILLE T. WOODS (1856-1910)
US PATENT #371,241 and #373,383 and #299,894
et al.

Patents for over 35 electrical inventions were granted Granville T. Woods, of Columbus, Ohio. Many of this electrical engineer's inventions were said to General Electric, Westinghouse, and the Bell Telephone Companies. While Woods, who was born in Columbus, Ohio, April 23, 1856, invented more than a dozen devices to improve electric railway cars, and many more for controlling the flow of electricity, his most noted invention was a system for letting the engineer of a train know how close his train was to others. This device helped to cut down accidents and collisions between trains. Among his other top inventions was a steam boiler furnace and an automatic air brake used to slow or stop trains.

JAN ERNST MATZELIGER (1852-1889)
US PATENT #459,899 et al

Up in Lynn, Massachusetts, near Boston, people in the shoe business laughed at 25-year-old Jan Ernst Matzeliger when a word got out that this former sailor was secretly working on a machine that could automatically make shoes, back in the 1870's. After all, the best brains in the shoe business had invested thousands of dollars trying to develop such a machine, and they had failed. "Couldn't be done," they said, as they continued to make only 40 to 50 pair of shoes per day, by hand. Finally, Jan, who was good at mechanical things decided he had developed the kind of machine needed--a machine that could make thousands of pairs of shoes in a day. In 1883, over ten years after he had started developing his shoe machine, Matzeliger was granted a patent on it.

Members of the NTA and others are encouraged to submit nomination forms and any supplemental information to enhance the chances for our nominees **before the October 1, 1998 closing date.** The nomination forms may be obtained at the Inventure Place web site www.invent.org. They should be sent to:

**Vice President for Selection
National Inventor's Hall of Fame Foundation
P.O. Box 1553
Akron, Ohio 44309**

Astronaut (Continued from Page 1)

Sensing System (FOSS). The FOSS will be implemented as a distributed hydrogen leak detection system in the aft compartment of the Space Shuttle. In addition, Melvin is the X-33 Integrated Vehicle Health Monitoring (IVHM) Program Manager. The IVHM system is a network of optical fiber sensors that will be used to determine vehicle health status.

The X-33 program is a joint NASA/industry effort to produce a reusable launch vehicle (RLV) that will help minimize operational costs and require less turnaround time between flights. The RLV will use composite cryogenic fuel tanks to fly into space and back without the need for external tanks or disposable solid-rocket boosters.
Leland Melvin holding the Key to the City of



Lynchburg, VA, presented to him by the Mayor, the Honorable James S. Whitaker, on June 28, 1998

Melvin was born on February 15, 1964 in Lynchburg, Virginia. He earned a Bachelor of Science degree in Chemistry from the University of Richmond in 1986 and a Master's Degree in

(Continued on Page 7)

Conference (Continued from Page 4)

NTA 1998 CONFERENCE For hotel reservations, contact:

Hyatt Regency Crystal City
2799 Jefferson Davis Highway
Arlington, VA 2202
(703) 418-1234 or 1-800-233-1234

**Reservations Must be Made by
OCTOBER 30 for NTA Conference Rates!**

Astronaut (Continued from Page 6)

Materials Science from the University of Virginia in 1990. He is currently a Ph.D. candidate in Mechanical Engineering at the University of Maryland. He has won numerous awards and honors for his work at NASA LaRC.

The Astronaut Class of 1998 includes 8 pilot and 17 mission specialist candidates, including Barbara Morgan, who was named as an Educator Mission Specialist in January.



NTA 1997 Conference *Ladies in Space*

NTA Rising Star awardee Valerie Ambrose (2nd from right), who named the Mars Pathfinder rover *Sojourner*, discusses plans for Mars exploration with (from left) Marja Matthews and Chanel Jackson (both Anacostia HS, DC) and Melody Finch (Univ. of Maryland).

RIGHT: Computer Campers Arrive at NASA Langley.

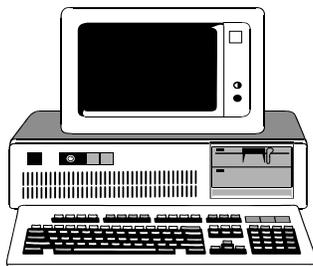
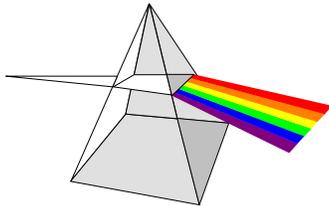
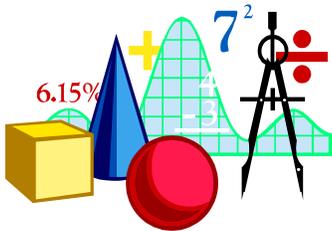
Hampton Roads NTA Helps Students With Cerebral Palsy

Two NTA members from the Hampton Roads chapter recently participated in a 4-day computer camp for disabled high school and secondary school students who suffer with cerebral palsy. The sessions were held at the NASA Langley Research Center in Hampton, VA as part of an effort by the Office of Equal Opportunity Programs to encourage their interest in science and computer technology. NTA members who participated in the camp were Shannon Arnold and Michael Bell, both researchers at NASA Langley. The students were from the United Cerebral Palsy of Southeastern Virginia.

"I was more than excited to speak with these young visitors. I enjoy what I do; and welcomed the occasion to talk with our future scientists and engineers about research and development successes in composites and polymers. Visits like this help keep me motivated about my work," according to Shannon Arnold. "I come to work every day and deal with challenging minds. These students had such good questions that it seemed to be another day at the office... I really enjoyed our meeting."

The "computer campers" greatly appreciated the workshops and technology discussions provided by Arnold and Bell. They also toured NASA facilities and received hands-on computer training during the 2-week camp. "The program was a great success because of NTA's involvement," says Geraldine Rankin, the Disability Program Manager at NASA Langley.





PLEASE SEND US YOUR NEWS!

We are hoping to enhance the frequency and timeliness of the National Technical Association (NTA) Newsletter. 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, email and snail mail address. Please also send an information copy of whatever you send us to your Chapter President and/or Regional Director.

In our attempt to be faster and cheaper, and eventually better, we will format the Newsletter in Microsoft Publisher 95. Therefore, submissions in MS Word 95 or Powerpoint 95 are preferred (although Word Perfect and .TXT submissions can be converted). Any photographs should be black and white in .JPG or .BMP format.

Please submit to EACH of the following:

Dr. George Carruthers george.carruthers@nrl.navy.mil
(202) 767-2764

Dr. Jesse Bemley
jbemley@american.edu
(703) 681-9142

Dr. John Trimble
trimble@scs.howard.edu
(202) 806-4822

In This Issue...

NTA 1998 Conference - NTA Astronaut - Top Women in Science- National Inventors

National Technical Association
of Scientists and Engineers
6919 North 19th Street
Philadelphia, PA 19126

Mailing
Address
Goes
Here