

# The President's Perspective

One of the primary objectives of the IEEE Foundation is to connect the interests of potential donors with the exciting visions of those from the many IEEE units and thus expand the educational and scientific services provided on behalf of the IEEE. As part of this outreach, the IEEE Foundation provides grants to promote the development of new programs and services throughout the world.

This newsletter illustrates the wide range of programs and activities supported through the IEEE Foundation. From the recognition of excellence through the presentation of peer-to-peer awards to the Presidents' Scholarship recipients, the IEEE continues to encourage the hallmark of achievement that has been our proud tradition for the last 122 years.

The article on page 5 about the Teacher's In-Service program (TISP) provides an example of the results possible by combining dedicated volunteers and staff with an IEEE Foundation project grant to create an important contribution to improve education. IEEE Foundation grants also keep the past alive through history initiatives like the Benjamin Franklin House in the United Kingdom (article on page 6).

The story highlighting IEEE Life Fellow, Prasad Kodali, with a record of distinguished service to India and to the IEEE, provides the reminder that the many members of IEEE around the world can make a difference in the quality of life of all peoples through their donations. Contributions to the IEEE Foundation help to expand the worldwide educational and scientific services provided through the IEEE.

On behalf of the IEEE Foundation Board of Directors, staff, and the many recipients of the activities and services made possible through contributions, I thank you for honoring us with your continued support and steadfast commitment.

Best Regards,



Richard J. Gowen  
2006 President, IEEE Foundation



**IEEE Foundation President** Richard J. Gowen (middle) congratulates Dr. Toshiharu Aoki (right) and his wife, Mitsuko (left) for winning the 2006 IEEE Founders Medal, sponsored by the IEEE Foundation.



# Gifts Growing Toward Goal — Presidents' Scholarship Fund Challenge Update

By: Susan Frentz, IEEE Development Office

The IEEE Presidents' Scholarship Fund Match Challenge has raised just under US\$60,000 in donations to support the annual awarding of the Presidents' Scholarship to students in the engineering or science fields. However, to meet the IEEE Foundation's goal of matching US\$100,000 in donations through 2009 and to support the continuation of engineering education in a world where the cost of a college education continues to rise, more donations are needed.

Leading the way amongst the current contributors is Peter A Lewis, whose gift will be matched by PSE&G. Not far behind is Dorsey & Whitney LLP, who made their US\$10,000 gift in recognition of the three most recent presidents, Dr. Michael Lightner, Dr. Leah Jamieson and Mr. W. Cleon Anderson, as well as past presidents.

Another leader is Charles A. (Bud) Eldon, who believes the benefits of this fund will be great for both the IEEE and the IEEE Foundation. "I believe that IEEE itself will benefit, by encouraging more students to join

IEEE; and the Foundation will benefit by demonstrating what it does for members," he said.

*The student receives a  
US\$10,000 scholarship to study  
engineering or a related field.*

The IEEE Presidents' Scholarship, which is named for all the presidents of the IEEE, is awarded to one student every year to recognize individual science and engineering knowledge through a winning project presented in an IEEE field of interest at the Intel International Science and Engineering Fair. The student receives a US\$10,000 scholarship to study engineering or a related field.

Are you ready to respond to the challenge? Contribute your gift to help the future of engineering and science by visiting [www.ieeefoundation.org](http://www.ieeefoundation.org) and click on the "Donate Online" tab.



**Five IEEE Past Presidents** and the current IEEE President proudly accept Dorsey & Whitney LLP's gift to the IEEE Presidents' Scholarship Fund during the June 2006 IEEE Foundation Board meeting. Pictured left to right are W. Cleon Anderson, 2005 IEEE President, Michael R. Lightner, 2006 IEEE President, Raymond D. Findlay, 2002 IEEE President, Richard J. Gowen, 1984 IEEE President, Peter S. Hendrixson, Managing Partner, Dorsey & Whitney LLP, Robert J. Dwyer, Jr., Partner, Dorsey & Whitney LLP, Arthur W. Winston, 2004 IEEE President, and Wallace S. Read, 1996 IEEE President.

## Donors Who Have Met the Challenge

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# Budding Engineer Wins 2006 IEEE Presidents' Scholarship

By: **Allison Ickowicz**, IEEE Educational Activities

A three-dimensional laser scanner, built by high school sophomore Brandon Lee Reavis, has won the budding engineer the 2006 IEEE Presidents' Scholarship from the IEEE Foundation. IEEE President-Elect Leah Jamieson presented Reavis with the scholarship for his project, "3-D Silhouette Laser Scanning: A Digital Reconstruction of Real-World Objects into Point Clouds," at the 57th Intel International Science and Engineering Fair (ISEF), held from 7 to 12 May in Indianapolis.

Reavis' device scans an object and transfers it into a computer as a 3-D image. Such a 3-D laser scan can be used for numerous purposes such as inputting the shape of a sculpture into a computer for analysis or recording details of delicate archeological remains.

He designed his scanner to outperform existing 3-D scanners in two ways: to capture more details of an object's contour and to cost less to build. Three-D scanners on the market typically sell for more than US\$10,000, while his model can be put together for

about US\$400. "I knew the project would also allow me to learn more about software and electrical engineering," Reavis says.

"I already knew about silhouette scanning, but wanted to find a way to do it more effectively," Reavis says. "I found a way to rotate the object in front of a camera while scanning it with two lasers to get multiple views for the computer to analyze." The lasers allow for more detailed scans of an object and are not limited to scanning only the outermost contour-like cameras in existing 3-D scanners. Reavis can also move the lasers via a computer to make further contours visible — a feature not possible with ordinary 3-D scanners.

The son of a product safety engineer, Reavis hopes to one day work in either robotics or computer engineering. He has not yet chosen which university he will attend.

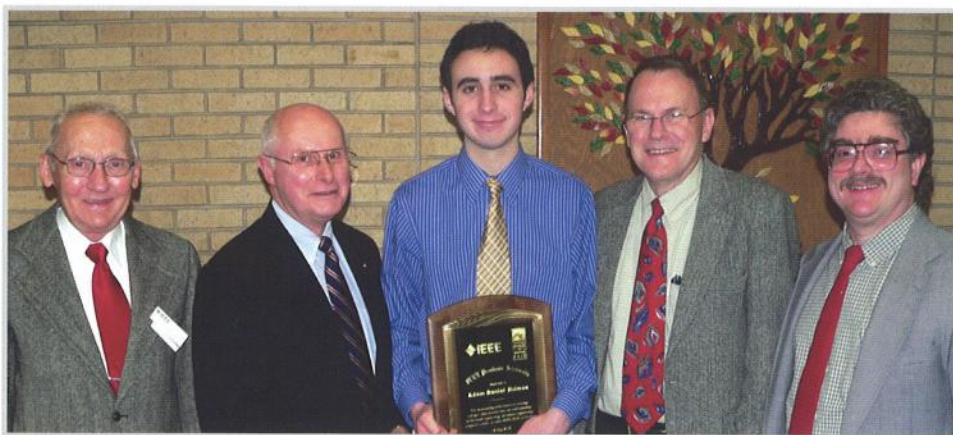
The IEEE Presidents' Scholarship consists of US\$10,000 payable over four years of undergraduate study, a framed certificate, a brass and walnut plaque, and complimentary student membership dues during college. It is awarded every year to a high school student who creates and enters a project in the Intel ISEF that demonstrates a fine understanding of electrical or electronics engineering, computer science, or other IEEE field of interest. The winner must also intend to study an IEEE area of interest in college.



**Leah Jamieson**, IEEE President-Elect, congratulates Brandon Lee Reavis after he receives the 2006 IEEE Presidents' Scholarship sponsored by the IEEE Foundation.

## 2005 IEEE Presidents' Scholarship Winner Headed to Harvard

A year after Adam Michael Sidman received the 2005 IEEE Presidents' Scholarship for his project, "Camera Stabilization: Take 2," he is headed to Harvard University. Adam plans to study his two passions, engineering and filmmaking, both of which were key parts of his project.



**Adam Sidman**, 2005 IEEE Presidents' Scholarship winner, was presented with a congratulatory plaque during a Colorado Springs District 11 School Board meeting by IEEE Volunteers. Pictured left to right: Dave Wells, Awards Chair, IEEE Pikes Peak Section; Pete Lewis, Director, IEEE Foundation; Adam Sidman, John Meredith, Past IEEE Region 5 Director; and Rich Painter, Chairman, IEEE Pikes Peak Section.



# Edison Lecture Reaches Thousands of Students in Texas

By: **Dr. Anthony Ambler**, IEEE Fellow

The United States is facing a severe shortage of home-grown technical know-how. The Edison Lecture Series was organized by The University of Texas at Austin's Department of Electrical & Computer Engineering in order to address this crisis. It is an annual event designed to excite middle and high school students about the possibilities

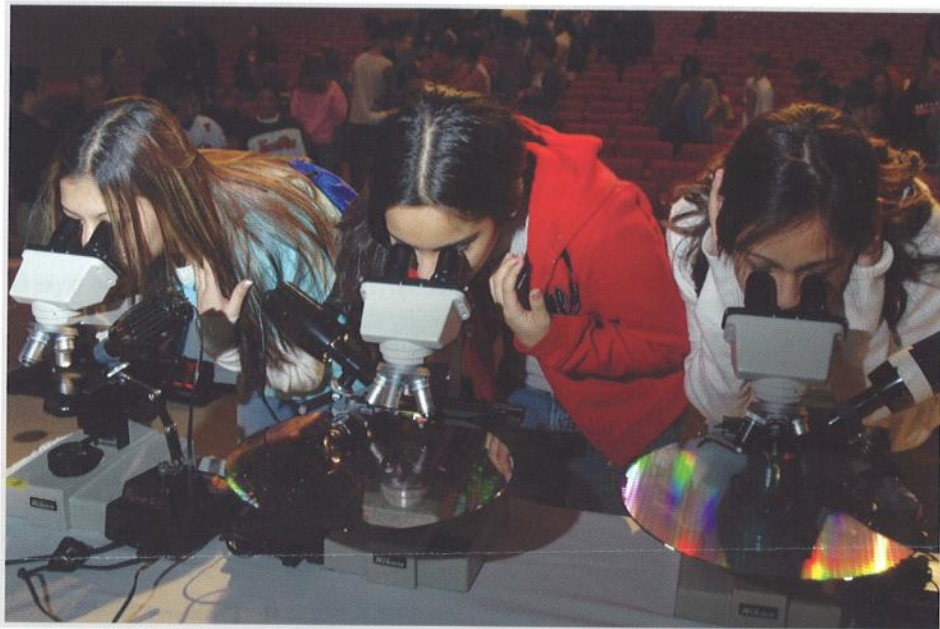
of a career in technology. The hour-long presentation includes hands-on activities and dazzling examples of how creative and fun engineering can be. A similar lecture series conducted in the UK (the Faraday Lecture) has contributed to a 20% increase in applications to study engineering at the college level.

Last year, the IEEE Foundation's generous support of The Edison Lecture Series helped expose over 4,000 middle and high school students to the impact and future of microprocessors. Over 1,200 attended one of the free live shows on The University of Texas at Austin campus. There were four performances for school groups and one night show for families—all of which are also streamed real-time on the website ([edisonlectureseries.org](http://edisonlectureseries.org)). Another 3,000 students participated in Texas Connects: Edison Day, a day-long video conference presented by the Texas Education Telecommunications Network.

Next year the show will focus on Renewable Energy. Highlights will include

- 800 sq ft off-the-grid solar house
- Solar car designed, built, and "rayced" by UT undergraduates
- Giant wind turbine blades
- Hybrid car demonstrations
- TV powered by a bike

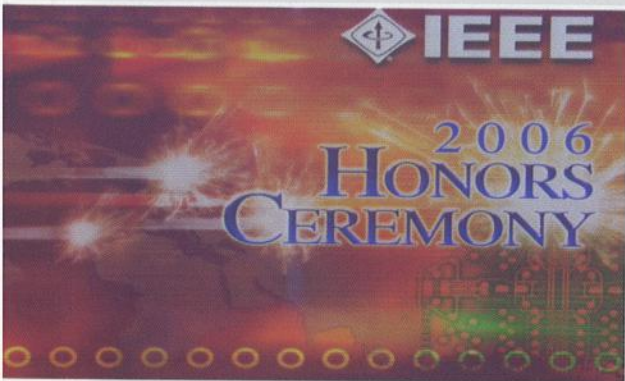
Videos of past Lectures, and information about the upcoming one, are available at [www.edisonlectureseries.org](http://www.edisonlectureseries.org).



**High School** students discover the intricacies of microprocessors during the 2006 Edison Lecture, *Microprocessors, The Past, Present, and Future*

## Recognizing Pioneers of the Profession — 2006 IEEE Honors Ceremony

By: **Elianna Goldman**, IEEE Development Office



**Hosted by IEEE President** Dr. Michael R. Lightner, and IEEE President-Elect, Professor Leah H. Jamieson, the 2006 IEEE Honors Ceremony was held 24 June 2006 in Minneapolis, MN, USA. The event recognized 17 individuals and one corporation for laying the foundation for technologies and applications considered commonplace today.



**Dr. Toshiharu Aoki** (left) accepts the 2006 IEEE Founders Medal from Leah H. Jamieson (right). In the philanthropic spirit of giving back to his profession, Dr. Aoki generously donated his award honorarium back to the IEEE Foundation.



**The recipients** honored during the Honors Ceremony.



# Members Learn to Share Their Technical Acumen with Educators

By: **Allison Ickowicz**, IEEE Educational Activities

IEEE Educational Activities held introductory training sessions for members in Regions 1 and 4 for the Teacher In-Service Program (TISP). TISP is a program in which IEEE Section volunteers share their technical acumen through the development and demonstration of technologically oriented subject matter to local pre-university educators in an in-service or professional development setting.

The training sessions were held in March and June 2006. The sessions covered topics such as: program background and scope, getting started, potential costs to sections and educators, suggestions on making contact with your local pre-university community, and the alignment of an activity with education standards.

Each training session was attended by approximately 60 members representing various Sections in the Region. The goal of the training sessions was to impact at least 1,000 pre-university educators in each Region and to help IEEE members implement TISP in their local pre-university education communities.

During an actual Teacher In-Service Presentation, IEEE volunteers provide teachers with activity materials and then help the teachers as they work their way through the activity. By helping the



teachers as they work their way through a activity, the teachers get to the point where they feel comfortable enough to present the activity on their own. The idea is for the teachers to return to their schools and lead the same engineering activity in their classrooms.

Expansion of TISP is possible thanks to a US\$50,000 grant from the IEEE-USA Fund which is administered by the IEEE Foundation.

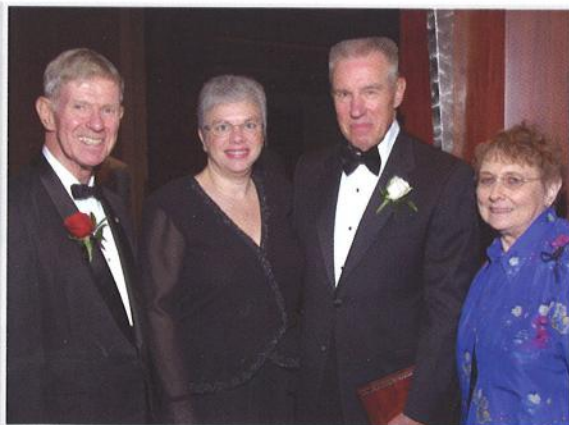
**Session attendees** work through the "Build Your Own Robot Arm" activity to gain hands on experience with the types of activities they could share with local pre-university educators.

For further information about TISP please visit <http://www.ieee.org/web/education/preuniversity/tispt/index.html> or contact Doug Gorham, Director, Educational Outreach at [d.g.gorham@ieee.org](mailto:d.g.gorham@ieee.org), +1 732 562 5483.

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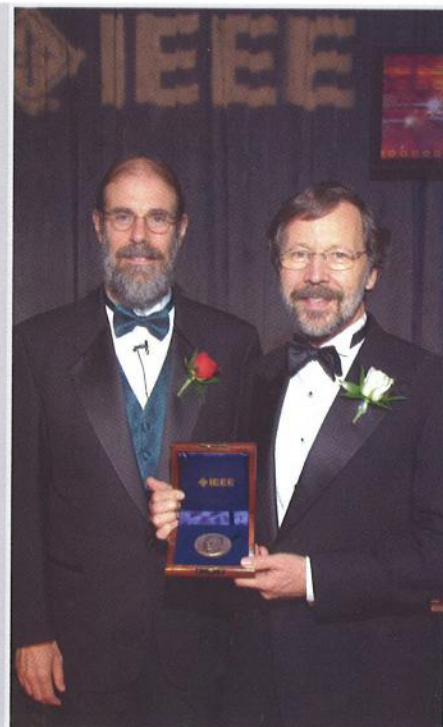


6 IEEE



**Richard J. Gowen**, IEEE Foundation President (left) and Fern E. Katronetsky, IEEE Foundation Executive Director, (second from left) take a moment with Mrs. Nancy Gowen (right) to congratulate Dr. James D. Meindl, (second from right) the winner of the 2006 IEEE Medal of Honor. Sponsored by the IEEE Foundation, the IEEE Medal of Honor is the highest honor that can be bestowed upon an individual. Dr. Meindl receives this most distinguished medal for pioneering contributions to microelectronics, including low power, biomedical, physical limits and on-chip interconnect networks.

**Dr. Ed Catmull** accepts the 2006 IEEE John von Neumann Medal from 2006 IEEE President Dr. Michael R. Lightner. The medal, sponsored by IBM Corporation, honors Dr. Catmull's dynamic leadership of Pixar Animation and Disney Animation studios, and pioneering the revolution in the way live-action and animated motion pictures are created. An Academy Award winner, you may know Catmull's work better from his movies like "Toy Story", "Finding Nemo", and "Cars".





# Restored Ben Franklin House Sparks Interest in Science, History

By: Susan Frentz, IEEE Development Office

A bolt of lightning helped spark Ben Franklin to the discovery of the true nature of electricity and to innovations that changed the world. Now, thanks in part to the largest grants ever given to a non-IEEE entity by the IEEE Foundation, totaling US\$139,254, the London house in which Franklin lived from 1757 to 1775 has been restored and opened as a museum. This project is intended to act, much as that bolt of lightning did for Franklin, by sparking the interest of historians, scientists, students, and the public for years to come.

The Benjamin Franklin House is located at 36 Craven Street, London, United Kingdom, and was opened in grand fashion on Franklin's 300th birthday, 17 January 2006. The 18th century house has been restored to its fullest

potential and is an all around historical experience. The main attraction is an introductory video about Franklin's life, followed by a tour of the house given by an actress playing the daughter of Franklin's landlady. As the actress guides the tourists from room to room, she interacts with recorded voices of persons impersonating Ben Franklin, his landlady, and others.

*The request for the  
initial grant was  
pioneered by the  
IEEE United Kingdom  
Republic of Ireland Section*

This historical experience was made possible in part by the IEEE Foundation's first grant of US\$100,000, which was designated for the restoration of his laboratory. The Foundation's second grant of US\$39,254 was designated for the creation of a student science center with computerized educational materials, exhibits, and hands-on scientific experiments for children. The science center has three rooms: the medical history room, the discovery room, and the demonstration room, all of which have stimulating exhibits and presentations for students to enjoy.

The request for the initial grant was pioneered by the IEEE United Kingdom Republic of Ireland Section. Approval of the first grant by the IEEE Foundation followed a fact-finding visit to the site in June 1999 by four IEEE Foundation Directors, including Life Fellow and former IEEE President Emerson Pugh. For Pugh, who subsequently served five years as president of the IEEE Foundation, the decision came full circle when he attended the 2006 Benjamin Franklin House Opening Gala, which followed a ribbon-cutting ceremony, featuring UK Foreign Secretary Jack Straw and US Ambassador Robert Tuttle. Pugh called the project a "truly remarkable historic restoration."

## IEEE FOUNDATION

The IEEE Foundation, Incorporated raises and distributes funds to support activities that further the scientific and educational purposes of the IEEE for the benefit of society as a whole. It is an organization qualified under U.S. Internal Revenue Code 501(c)(3) and is eligible to receive tax-deductible contributions in the United States. For other countries, please check with your local tax advisor regarding tax deductions of charitable contributions.

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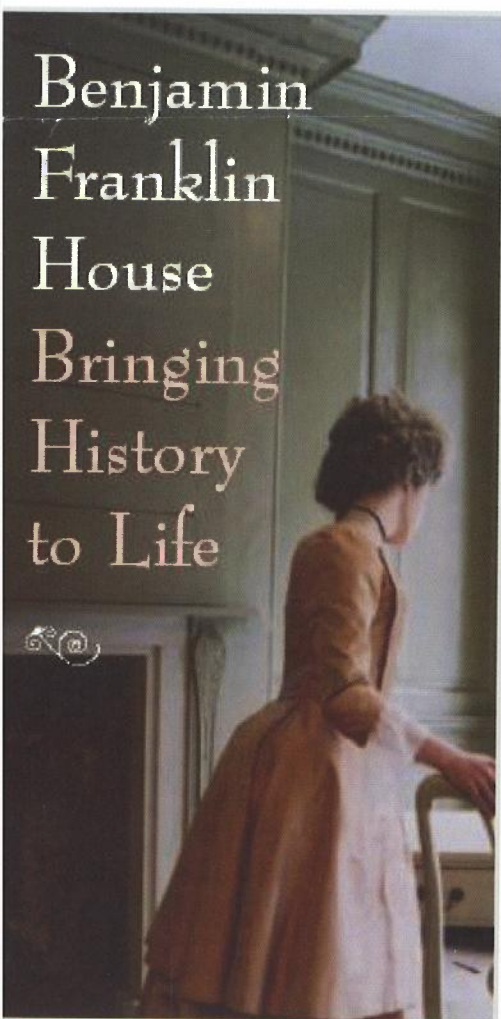
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# Electromagnetic Literacy & Philanthropy – V. Prasad Kodali

By Susan Frentz, IEEE Development Office

V. Prasad Kodali, IEEE Life Fellow, living in India says he has been inspired by the IEEE to give his best in technical and professional career. Now he is giving back.

From his involvement in IEEE, Kodali became aware of the IEEE Foundation's generous support of IEEE programs, and decided to gift the 2006 and 2007 royalties from his book, "Engineering Electromagnetic Compatibility: Principles, Measurements, Technologies, and Computer Models," to the IEEE Foundation. This book provides a comprehensive introduction to electromagnetic

compatibility and procedures to avoid costly post-design fixes.

Kodali began to support the IEEE Foundation in 1997 by donating incremental amounts to its General Fund because he realized the importance of the IEEE Foundation's support for programs such as educational and student activities, awards, and industry interaction. After he heard his book was being translated into Chinese he decided it was time to increase his contribution to the IEEE Foundation. Over the years, Kodali says he has benefited most from "the opportunities to meet and interact with



V. Prasad Kodali, IEEE Life Fellow.

## IEEE Foundation 2006 Year to Date Grants Awarded

Thanks to the generosity of donors who recognize the importance of making unrestricted gifts to the IEEE Foundation General Fund, substantial financial support was made available in 2006 for the following special initiatives.

Grant Title	Amount in US Dollars
Interactive Computer Learning Conference 2006 IEEE Student Track	\$4,000
Tesla – Neverending Story	\$9,500
CONESCAPAN XXV	\$2,952
A Thai Book about the IEEE Virtual Museum	\$15,000
Mainstreaming Engineers in Africa and the Middle East	\$20,000
Biomed Engineering Road Show for Middle Schools	\$10,000
IEEE Virtual Museum Bridge Grant	\$40,000
You and the Future – A Working Retirement: Fulfilling Quality Lives for an Aging Population	\$20,000
History of Soviet and Russian Computing	\$3,600
1st Electrical Engineering Students National Meeting	\$15,000
IEEE-R9-ANDESCON2006	\$7,000
IEEE Medal of Honor	\$60,000
IEEE Founders Medal	\$15,000
IEEE Haraden Pratt Award	\$9,000
IEEE Undergraduate Teaching Award	\$3,500
<b>TOTAL</b>	<b>\$234,552</b>

Grants from the IEEE Life Members Committee were also awarded. These 2006 grants were made possible thanks to the generosity of all those who supported the IEEE Life Members Fund of the IEEE Foundation.

Grant Title	Amount in US Dollars
IEEE Donald G. Fink Prize Paper Award	\$3,500
Graduate Fellowship Program in the History of Electrical Engineering	\$20,000
IEEE Regional Student Paper Contest	\$15,000
IEEE Life Member Bernard S. Finn Prize in Electrical History	\$600
IEEE History Center Graduate Student Summer Internship	\$3,500
IEEE Virtual Museum	\$27,000
Washington Internships for Students of Engineering (WISE)	\$5,000
<b>TOTAL</b>	<b>\$74,600</b>

To learn more about these grants, or to find out how to apply, visit [www.ieeefoundation.org](http://www.ieeefoundation.org) and [www.ieee.org/lmc](http://www.ieee.org/lmc).

leaders who made outstanding technical contributions in their respective fields." He has been an IEEE member since 1963, holding positions on the IEEE Board of Directors and the Medal of Honor Selection Committee amongst many others.

With the depth of a lifelong commitment to the IEEE, Kodali notes that the position most special to him was as Region 10 Director in 1981-1982. He won the election as a petition candidate, and says, "I took it as a challenge and felt that an excellent service record [was] necessary to justify my election."

While Kodali supports all of the programs the IEEE Foundation currently funds, he stresses the importance of global diversity and specific programs by region or country. He says these programs "Can bring rich results, because IEEE members reside in well over 160 countries." His generous gift will allow the IEEE Foundation to continue to fund programs that bring those rich results into our global communities.

## Correction to 2005 Honor Roll of Donors

Northrop Grumman, a benefactor in our Leadership Association, was misspelled in our 2005 Honor Roll of Donors. The IEEE Foundation deeply apologizes for this error and thanks our donors who brought this error to our attention. It has since been corrected in our database to ensure this error will not occur again.

# Give the gift that *matters*. Give the gift of knowledge.

**Technological Literacy Matters!** Contribute to the IEEE through your dues renewal and help support the scientific and educational purposes of the IEEE. You will be able to contribute to the following funds:

- IEEE Foundation General Fund
- IEEE History Center Fund
- IEEE Life Members Fund
- IEEE-USA Fund
- IEEE General Fund
- IEEE Canadian Foundation
- IEEE Region 8 Fund (Europe, Middle East, and Africa)
- IEEE Region 9 Fund (Latin America)



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