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New Jersey Institute of Technology Board of Overseers

Excellence in Research Prize and Medal Presentation

March 26, 2008

PHILIP R. GOODE, PhD

Philip R. Goode, PhD, distinguished professor of physics at NJIT and director of the Center for Solar-Terrestrial Research is leading the project to build the world's most capable solar telescope at Big Bear Solar Observatory (BBSO), Big Bear Lake, California. Goode has been director of BBSO since NJIT took over the facility from California Institute of Technology in 1997. Cal Tech developed the site in 1969.

BBSO's new solar telescope will be a 1.6-meter clear aperture, off-axis telescope featuring the world's largest solar aperture. Spring of 2008 has been slated to bring first light. The telescope will feed the high-order adaptive optics system, which in turn will feed the next generation of technologies for measuring magnetic fields and dynamic events using visible AND infrared light. The new instrument also features a parallel computer system for real-time image enhancement.

Goode has years of experience studying the Sun's atmosphere (called helioseismology) in addition to his studies of magnetic fields. Goode is expert at combining BBSO ground-based data with satellite data to determine dynamic properties of the solar magnetic fields. His other areas of interest include working to place a lower limit on solar irradiance and to probe the solar interior. Such studies bear greatly on scientists' understanding and ability to predict "space weather."

In recent years, industry, government and scientists have begun placing increasing attention upon space weather to learn more about which solar magnetic storms can have deleterious effects on satellites, the terrestrial power grid and telecommunications. Since 1998, Goode's research has also focused on climate studies in which the Earth's large-scale reflectance has been measured using the earthshine. He and BBSO researchers have also spent time modeling the Earth's reflectivity using satellite cloud cover and found appreciable decadal variation of reflectance due to cloud changes. BBSO is building a global network to measure the Earth's global reflectance and spectrum.

Goode has played a major role increasing the strength of the university's solar physics program, which has trained 24 current and past post-doctoral fellows. Twelve of these Fellows now hold faculty/national center tenure track positions. The observatory, itself, has also flourished in size and stature. Staff has expanded from 4 to 40 individuals and the annual budget, supported solely by competitive federal grants, has risen from under $500,000 in 1997 to more than $5 million today.

Goode received his AB from the University of California at Berkeley and his PhD from Rutgers University.

ORDER OF PROGRAM

PROCESSIONAL

WELCOMING COMMENTS

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PRESENTATION OF MEDAL

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LECTURE

"New Research Horizons: New Solar Telescope in Big Bear Solar Observatory"
Philip R. Goode, PhD
Distinguished Professor of Physics at NJIT and
Director of the Center for Solar-Terrestrial Research

CLOSING REMARKS

Donald H. Sebastian, PhD

QUESTIONS AND ANSWERS

RECEPTION

Campus Center Atrium

NJIT BOARD OF OVERSEERS
EXCELLENCE IN RESEARCH PRIZE AND MEDAL

Each college or school has established a research award valued at $2,500 and paid from the NJIT Foundation. Annually, these recipients will constitute the slate of nominees considered for the NJIT Board of Overseers Excellence in Research Prize and Medal valued at $10,000 and paid from the NJIT Foundation. This historic day marks the inaugural presentation of this prestigious award and medal.

The prize and medal selection committee consists of: the chair of the NJIT Board of Overseers and two other board of overseers members, the senior vice president for research and development, and the provost. The committee also includes at least one external person of stature as determined by the chair of the NJIT Board of Overseers.

The prize and medal are awarded in recognition of a sustained record of contributions that has enhanced the reputation of NJIT. Each year, the prize and medal winner will deliver a lecture based on this record of accomplishment, and the lecture will be webcast and recorded on DVD for distribution. The recipient must have been a member of the NJIT faculty for at least five years.

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The NJIT Board of Overseers is a special resource for the university. An overseer is a critical link between academe and the business community, providing information on corporate and state priorities and assisting NJIT in meeting research and funding goals. The corporate perspective of the overseers helps to clarify the university's research focus and may introduce entirely new research directions for consideration.

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NJIT: NEW JERSEY'S SCIENCE AND TECHNOLOGY UNIVERSITY

One of the nation's leading public technological universities, New Jersey Institute of Technology (NJIT) prepares students to be leaders in the technology-dependent economy of the 21st century. The university's multidisciplinary curriculum and computing-intensive approach to education provides the technological proficiency, business know-how and leadership skills that future CEOs and entrepreneurs will need to succeed.

Founded in 1881 as Newark Technical School, NJIT enrolls more than 8,000 students in bachelor's, master's and doctoral degrees in 96 degree programs offered by six colleges: Newark College of Engineering, New Jersey School of Architecture, College of Science and Liberal Arts, School of Management, Albert Dorman Honors College and College of Computing Sciences.

NJIT is renowned for expertise in architecture, applied mathematics, wireless communications and networking, solar physics, advanced engineered particulate materials, nanotechnology, neural engineering and e-learning. Ninety-eight percent of NJIT's full-time faculty hold the terminal degree for their field. The university's student:faculty ratio is 13:1.

U.S. News & World Report's 2007 Annual Guide to America's Best Colleges ranked NJIT in the top tier of national research universities and ninth in diversity. The Princeton Review named NJIT among the nation's top 25 campuses for technology and top 150 for best value.

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