Department Launches New Game Development Concentration

A new computer science undergraduate concentration in game development was launched in the fall of 2008.

The game development concentration allows the student to develop an understanding of the scientific and technological principles associated with the design and development of computer and console games for both entertainment and serious applications.

This concentration will provide students with specialized courses in the technologies of game creation, application and social impact while also exposing them to the breadth and depth of the existing undergraduate computer science curriculum. Students in the concentration select from a focused list of computer science electives that cover the core technologies

used by game developers. They also select a project course in computer science that focuses either on specialized 3D graphics or general game development methodologies.

Efforts to establish the concentration were led by **Dr. R. Michael Young**, associate professor of computer science. Young is co-director of the **Digital Games Research Center**, a multidisciplinary center that serves as a focal point for the games-related research and teaching activities that take place on the NC State campus. The center brings together faculty from the colleges of Engineering, Education, Design, and Humanities and Social Sciences.

The Triangle region is home to more than 30 gaming companies employing over 1,000 people - one of the largest concentrations of game development companies in the U.S. The region's leading companies include Epic Games, Insomniac, Red Storm, Destineer, Themis Media, Emergent, and Virtual Heroes.

NC State Designated a National Center of Academic Excellence in Information Assurance Research

NC State University has been selected by the National Security Agency (NSA) and the Department of Homeland Security (DHS) as one of the nation's first 23 National Centers of Academic Excellence in Information Assurance Research (CAE-R).

The CAE-R program recognizes schools that foster an Information Assurance (IA) research focus in curriculum and labs. It establishes a process that will present opportunities for IA research centers to drill deeper into solutions to securing the global information grid and also provide NSA, DHS and other federal agencies insight into the academic IA programs that can support advanced academic research

and development. These agencies recognize the need for robust IA technology, policy, and practices in order to enable the nation to prevent or respond to a catastrophic event.

NC State, one of only two universities from the state of North Carolina to receive this distinction, will hold this designation from 2008 to 2013.

CAE-R universities are eligible for scholarships and grants through both the Federal and Department of Defense Information Assurance Scholarship Programs. The designation can lead to many opportunities for advanced research in the field, and it is

a testament to the outstanding IA research already being conducted at NC State, and in particular, within the Department of Computer Science.

Presentations were made to the designated centers in June during an awards ceremony at the annual Colloquium for Information Systems Security Education in Dallas, Texas.

From the Department Head

Dr. Mladen Vouk

You are holding our new and improved *Connected* alumni newsletter, redesigned with a fresh new look to provide you a sampling of the biggest news stories of the last year, all at a fraction of the production cost of our previous issues. This is just an example of how we are excelling even during a period of budget cuts and economic uncertainty. Here are some of our many success stories from the past year, many of which are profiled in this issue:

UNDERGRADUATE PROGRAM:
• Undergraduate enrollment increased in the fall of 2008 for the first time in several years.
• The number of females enrolling in the program increased slightly, attributed to an increased focus on outreach efforts.
• The overall quality of our students continues to impress, as our latest incoming freshman class had an average SAT score of 1250 and an average GPA of 4.29!
• A concentration in game development was added to the undergraduate curriculum.
• Despite the downturn in the nation's economy, demand for our undergraduates continues to be very strong, and the average starting salary for our undergrads increased this year to over $56,000.

GRADUATE PROGRAM:
• Our graduate program continues to grow. Applications for admission to the graduate program for fall 2009 are up 12% over last year. Applications for the PhD program alone are up 25% over fall '08. The overall graduate program enrollment is well over 515.
• During the 2007-2008 academic year, we awarded 101 masters and 16 PhD degrees, a rate comparable to that in the top 30 computer science departments in the nation.
• We followed that up in 2008-2009 by awarding 160 masters and 21 PhD degrees. At the fall 2008 diploma ceremony, we awarded the largest number of advanced degrees ever by the department in a single ceremony.

• As a strong testament of value, our Masters in Computer Science degree was ranked #3 in the nation as a "Best Buy" in the category of "Online Degrees in Computer Science" by GetEducated.com.

RESEARCH:
• Our facilities house more than 30 research groups, laboratories and centers. The notable addition during the last year was the creation of the Secure Open Systems Initiative (SOSI), a research center that will make vital computer systems more secure.
• Our faculty also play an integral role in the University's new Institute for Advanced Analytics which opened in 2007.
• In 2008 we were one of the first in the country to receive NSA's National Center of Academic Excellence in Information Assurance Research (CAE-R) designation.
• Our research expenditures exceeded $8.3M for the first time ever. We now have more than $29M in active research grants, ranking us well within the Top 20 for sponsored research funding among computer science departments in colleges of engineering.

ADVANCEMENT:
• Despite the nation's economic woes, NC State completed its largest fundraising campaign ever in 2008, raising almost $1.4B.
• During the seven-year 'Achieve!' campaign, the department raised over $50M. Significant gifts received during the campaign helped our department create seven new endowed scholarships, three new programmatic endowments, and one endowed faculty chair – the SAS Institute Chair in Computer Science.

We now have over 5,700 alumni located in all 50 states and over 20 countries around the globe, and we do our best to stay in touch with all of you. In addition to our *Connected* newsletter, we have a monthly eNewsletter, and a departmental presence on Facebook and LinkedIn. Help us stay in touch by updating your contact information at www.csc.ncsu.edu/alumni.

Sincerely,

Dr. Mladen Vouk
Computer Science Department Head

Select Faculty Awards & Honors

Congratulations to **Dr. Munindar P. Singh**, professor of computer science, for being named an **IEEE Fellow**. For the past 13 years, Dr. Singh has worked to uncover the mysteries of how machines talk to each other. Now, he is being honored for his body of work by the Institute of Electrical and Electronics Engineers. Singh becomes the department's 4th IEEE Fellow.

Dr. Robert D. Rodman, professor of computer science, has been elected to the American Academy of Forensic Sciences (AAFS) as an associate member in the Engineering Sciences section. Rodman's election to the academy was based on scholarly achievements and pragmatic application in the area of Computational Forensic Linguistics.

Congratultions to **Dr. Ting Yu**, assistant professor of computer science for winning a prestigious **NSF CAREER Award** for his proposal "Trust and Privacy Management for Online Social Networks." His research will develop theoretical and practical techniques for the management of trust and privacy for social networks. Yu becomes the department's 18th NSF CAREER Award winner and the 16th currently on staff, one of the highest concentrations of NSF Career Award winners by any computer science department in the nation!

Dr. Nagiza F. Samatova, associate professor of computer science, has been selected by Oak Ridge National Laboratory (ORNL) to receive an **Outstanding Mentor Award** for her service to the next generation of scientists and engineers. She was also among the finalists selected by the YWCA Knoxville for the **"2007 Tribute to Women."** Samatova was nominated for her work with students in the math thesis research cooperative program between Oak Ridge High School and ORNL.

Dr. Tao Xie, assistant professor of computer science, has been recognized with a **Microsoft Faculty Award** valued at $15,000. The unrestricted gift is intended to support his research, and to facilitate and foster continued collaboration with Microsoft Research.

Dr. James Lester, associate professor of computer science, has been elected **Editor-In-Chief** of the *International Journal of Artificial Intelligence in Education*, the premier journal in the field of intelligent tutoring systems. The editorship will be for a six-year term beginning in 2009.

Congratulations to **Dr. Robert Fornaro**, professor of computer science and director of the Senior Design Center, for receiving two prestigious awards in recognition of his outstanding teaching abilities: Fornaro has been named by NC State as an **Outstanding Teacher for 2007-08,** and he has been chosen as the recipient of an **Alumni Outstanding Teacher Award**. Fornaro's selection as an Outstanding Teacher by the University began with his selection as an Outstanding Teacher by the College of Engineering. He becomes the department's 9th member of the NC State Academy of Outstanding Teachers. Also, he is just one of four to be chosen by the Senior Class Board of Trustees for the Alumni Outstanding Teaching Award.

The work of **Dr. Carla Savage**, professor of computer science, is featured in the 2009 "12 Theorems by Women Mathematicians" Calendar. The "Polynomial Coprimality Theorem", from Savage's joint paper with Sylvie Corteel, Herbert S. Wilf, and Doron Zeilberger in 1998, is the featured April 2009 theorem. Savage is also featured on the calendar's cover page.

Congratulations to **Dr. Harry Perros**, alumni distinguished professor of computer science, and **Dr. Injong Rhee**, associate professor of computer science, for being selected to receive a $100,000 award each from the Cisco University Research Program Fund.

Faculty Promotions & Re-appointments: **Drs. Annie Antón** and **Matthias Stallman** have been promoted to full professor.

Drs. Rada Chirkova, **Rudra Dutta**, **Vincent Freeh**, and **Khaled Harfoush** have been promoted to associate professor with tenure.

Dr. Tao Xie has been re-appointed to a second term as assistant professor.

*Using eight Sony Playstation 3 units, **Dr. Frank Mueller**, associate professor of computer science, built a supercomputing cluster capable of high-performance computing and running the latest in computer gaming.*

Student Game Selected as Finalist in I/ITSEC Serious Game Challenge

Congratulations to **Joe France** (senior, CSC), **Jess Frucht** (senior, ID), **Ryan Gerleve** (alum, CSC), **Rhys Harwell** (alum, ID), **Matt Klawiter** (MS., CSC), **Amanda Macik** (alum, CSC) and **Thomas Silloway** (alum, CSC), whose collaborative game project was selected as a finalist in the Interservice/Industry Training, Simulation and Education Conference's (I/ITSEC) Serious Game Challenge held in December.

I/ITSEC is the largest industry conference focused on military simulation, training and serious games. The Serious Game Challenge is a competition held at the conference to identify innovative game-based technologies and solutions that improve training across all segments for individuals, groups and systems.

The students' game, *Compound Reaction*, was created in **Dr. Michael Young's** CSC482 Advanced Game Development Projects course and teaches introductory concepts from molecular-level chemistry. The team worked with two design constraints when creating its game. First, the game needed to involve construction-based gameplay. Second, it needed to have an educational or instructional focus.

In *Compound Reaction*, a lost space traveler is forced to make an emergency landing at an abandoned bio-dome located on an uninhabited planet. The goals of the game are to explore a forgotten world, discovering crucial elements and upgrades that hold the key to the player's escape; to build molecular compounds at the atomic level, dodging and shooting atoms to form new substances; to escape with the help of the Keeper – the solitary remaining robot active in the bio-dome.

"We hope this game will give the players a new view of chemistry that excites and teaches simultaneously," said France.

Young's CSC482 Advanced Game Development Projects course is taught each Spring semester.

Katrina Visualization Wins SciDAC Top Honors

A **Renaissance Computing Institute (RENCI)** visualization by **Steve Chall** and **Theresa-Marie Rhyne** of RENCI's NC State engagement center won top honors at the annual meeting of the U.S. Department of Energy's Scientific Discovery through Advanced Computing (SciDAC) program held in Seattle in July.

The visualization, a Weather Research Forecast (WRF) model of Hurricane Katrina, is the work of **Gary Lackmann**, an associate professor in NC State's Department of Marine, Earth and Atmospheric Sciences, and **Megan Gentry**, a doctoral student and member of Lackmann's research team. There were 52 entries in the competition. Ten, including the RENCI entry, won OASCR (for Office of Advanced Scientific Computing Research) awards.
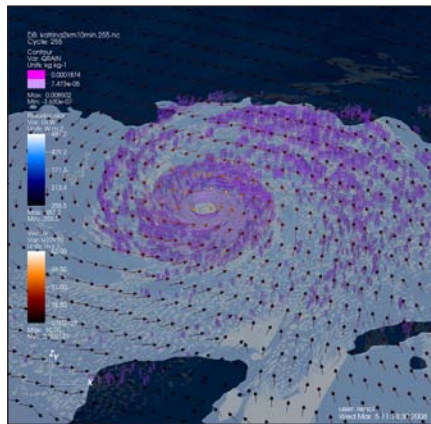
The researchers use Ocracoke, RENCI's IBM Blue Gene/L supercomputer, to run detailed simulations of real and theoretical tropical storm models in an effort to understand what climate change could mean for Atlantic coast communities from New England to Central America.

The three-year project is funded by the U.S. Department of Energy's Office of Science Global Change Research Program. View the visualization at http://research.csc.ncsu.edu/cva/examples.htm.

NC State Receives More Than $4M in NSF Grants To Study How Students Learn Science Through Computer Games

NC State has received a four-year grant from the National Science Foundation (NSF) to learn more about how well computer games help elementary school students learn scientific concepts.

Led by **Dr. James Lester**, associate professor of computer science, this multi-disciplinary research project seeks to determine which artificial intelligence technologies and conditions contribute most effectively to learning processes.

The project will weave concepts and ideas from North Carolina's fifth-grade science curriculum into an adventure-style video game called Crystal Island. As the students explore the island inside the game, they'll solve a mystery while being exposed to science.

"We'll develop artificial intelligence technologies that create narrative-centered problem scenarios dynamically tailored to students' abilities," Lester says. "The project will also model students' problem-solving progress, and provide customized explanations and feedback."

The project is a collaboration between NC State's College of Education and the Department of Computer Science in NC State's College of Engineering.

Robison Receives NSF Graduate Research Fellowship

Graduate student **Jennifer Robison** was awarded the prestigious National Science Foundation (NSF) Graduate Research Fellowship.

The NSF Program annually selects outstanding graduate students to provide them with three years of funding—up to $121,500—for research-focused master's and PhD degrees in science, technology, engineering and mathematics fields.

The purpose of the NSF's Graduate Research Fellowship Program is to ensure the vitality of the human resource base of science and engineering in the United States and to reinforce its diversity.
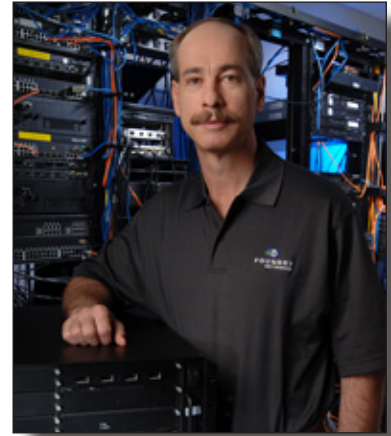
Robison began pursuing her PhD in computer science at NC State in the fall. She gives much credit for her success to **Dr. James Lester**, associate professor, who served as her undergraduate research advisor and mentor. Robison also credits her success to graduate student **Scott McQuiggan**, who served as her research partner and mentor through the NSF STARS program.

Bobby Ray Johnson, Jr. Named College of Engineering Distinguished Alumnus

The College of Engineering at NC State named **Bobby Ray Johnson, Jr.** a 2008 Distinguished Engineering Alumnus. The award honors alumni whose accomplishments further their field and reflect favorably on the university.

Johnson, a North Carolina native, received his bachelor's degree in computer science with honors in 1977 from NC State. He has built a highly successful 31-year career in the networking industry, including a total of 16 years as chief executive officer for three companies and 14 years as chairman of two companies.

He is the co-founder of Foundry Networks and served as president and CEO from its inception in May 1996. He also served as its chairman from May 1996 until January 2007. The company which was recently acquired by Brocade, earned more than 65 corporate and product awards, including "IPO of the Year for 1999." Johnson has been recognized by distinguished publications such as Forbes, Fortune and Network World and has been active as a keynote speaker and panelist at networking industry events. Additionally, he has been a guest speaker at Stanford University's Business School and the National Defense University's Industrial College of the Armed Forces.

Johnson has generated significant support for NC State through the years from personal and corporate donations and has hosted groups of students with the NC State Engineering Entrepreneurs Program during spring break trips to Silicon Valley.

Wyatts to Establish Scholarship Endowment

Computer Science alumnus **Mark Wyatt** (BS '80) and his wife **Robin**, have recently finalized gift plans directing outright and deferred planned gifts to establish the **Mark and Robin Wyatt Scholarship Endowment**.

The planned gift, when fully in place, will result in an endowment valued in excess of $500,000. Based on current yield guidelines, the endowment is expected to provide scholarship funds in excess of $20,000 annually. It is the largest known planned gift ever documented from a NC State computer science alum.

The endowment will provide scholarships for incoming freshmen in the College of Engineering at NC State University, with first preference going to students from Statesville Senior High School or Mount Pleasant High School, where Mark and Robin attended high school. Awards will be renewable for up to three additional years, given satisfactory grades and academic progress.

Mark currently serves as the VP of Smart Energy Systems with Duke Energy. He has also been a strong supporter of NC State University, serving as a member of the Physical and Mathematical Sciences Foundation's Board of Directors, and also serving as the Chair for the Department of Computer Science's Strategic Advisory Board.

Robin Wyatt graduated from Appalachian State University in 1981 with a B.S. in Technology. Like Mark, she accepted a full-time position with Duke Power upon graduation. She held a variety of leadership positions during her 22-year career with Duke and retired in the fall of 2003. They currently live in Concord, NC.

Tates to Establish Named Scholarship

Alumnus **Ken Tate** (BA '83), director of development and external relations, and his wife **Sandra** (BA '84) have finalized gift plans directing outright and deferred planned gifts to establish the **Kenneth & Sandra Tate Scholarship Endowment**. Their daughter, Jessica, is a freshman in NC State's College of Design.

The endowment will provide scholarships for incoming freshmen at NC State, with first preference going to students from Caswell County. Both Ken and Sandra are Caswell County natives who lost a parent at a relatively young age. They appreciate the value and significance of scholarship support for students.

The awards are discipline-neutral and will be renewable for up to three additional years, given satisfactory grades and academic progress.

The endowment will be created through a combination of creative gift planning mechanisms. The endowment is the irrevocable beneficiary of a $50,000 life insurance policy. The endowment will also be supported through outright cash gifts and other estate plans.

NC State's 'Achieve!' Campaign Raises Almost $1.4B

The Department of Computer Science benefits greatly from generous support of alumni and corporate partners.

Achieve! The Campaign for NC State wrapped up its seven-year fund-raising effort with a record-breaking achievement. With every donation tallied, Achieve! stands as the most successful capital campaign ever conducted by the university, and places NC State among an elite group of colleges and universities that have raised more than $1B.

More than 66,000 individual, private and corporate donors contributed to NC State during the campaign, giving a total of $1.37 billion. The donations already have begun to underwrite research and educational innovation on campus, as well as extension, engagement and economic development efforts across the state and around the world.

"It's not just the dollar amount raised or the square footage of space provided by the campaign that is so impressive,"

said Chancellor James Oblinger. "It is what these things bring to our campus that make them remarkable for NC State."

The College of Engineering completed the campaign, raising over $256M in new support; including 55 new scholarship endowments, 16 professorships and over 50 other programatic, faculty development, or unrestricted endowments.

The Department of Computer Science, a part of the College of Engineering, raised over $50M during the campaign.

More than 66,000 individual, private and corporate donors contributed to NC State during the campaign.

Significant gifts received by the department during the campaign include seven new endowed scholarships, three new programmatic endowments, and the addition of one named professorship - the SAS Chair in Computer Science.

During the same period, NC State has benefited from over 50 construction projects, totaling $3.1B, including EB2 - the home of Computer Science on the award-winning Centennial Campus.

NC State launched the campaign's quiet phase in July 2001, followed by a well-publicized public phase in September 2005. The response from NC State supporters exceeded expectations from the start, enabling the university to reach its $1 billion fund-raising goal 19 months ahead of schedule.

Carol Miller to Retire

Alumnus Jay Strickland Makes "Challenge'" Pledge to Establish Endowment in Her Honor

After 24 years of distinguished service as a lecturer at NC State's Department of Computer Science, **Carol Miller** has announced her intentions to retire at the end of the 2008-2009 academic year.

Miller has taught at NC State since 1985, and is currently the only lecturer in the department who teaches full time. She has stayed deeply involved with students during her time at NC State, including serving almost 20 years as the faculty advisor for the ACM student organization.

Over the years, she has left an unforgettable impression on her students, many of whom have gone on to start their own companies or to achieve high-ranking corporate positions. One such alum, **Jay Strickland** (BS CSC '97), is honoring Miller's legacy by making a generous $25,000

"challenge" pledge to his fellow alumni, to help create an endowment in her honor. The new endowment, the **Carol Miller Student Leadership Endowment**, is intended to pay tribute to Miller's legacy as a teacher, mentor, advisor, advocate, and friend to thousands of students over her career. Proceeds from the endowment will be used for students, student organizations or student programs, emphasizing undergraduate students in need of resources to explore new and innovative paths.

"We'll match donations dollar-for-dollar up to the first $25,000."

Strickland, who is the founder and president of WingSwept, an IT consulting company based in Garner, studied under and worked with Miller from 1995 to 1997, and credits her for getting him into web programming, the heart of his business.

"The web was fairly new then, and almost no one was doing anything with web programming," Strickland says. "(Miller's) teaching was very real-world and very

applied. She was just a great teacher who made the material seem almost lifelike." When he found out Miller was retiring, Strickland wanted to give back to the Computer Science department. "It is intended to be a lasting tribute to her," Strickland says. He's challenging his fellow alumni to help him honor Miller through donations to the endowment. "We will match donations dollar-for-dollar up to the first $25,000, in hopes of building a $50,000 base," Strickland says.

Miller says that she is honored by Strickland's generous endowment challenge, and she feels she's leaving the department on a high note. "It's time for me to move on to the next stage of my life – to travel, and to make some room for some younger faces and fresh ideas," Miller says.

Individuals or corporations interested in contributing to this fund can send a check made payable to the "NC State Engineering Foundation" noting for the "Carol Miller Student Leadership Endowment" in the memo section. Donations can be sent to the NC State Department of Computer Science, Attn: Ken Tate, Campus Box 8206, Raleigh, NC 27695.

NetApp Supports Virtualization Initiative

Super ePartner, **Network Appliance** has made a donation of hardware and softwareto the university valued at over $92,500. The NetApp FAS 270 technology has been deployed in an innovation virtualization application at The Friday Institute, and will later be used to support data storage research and teaching needs.

According to **Sammie Carter** of The Friday Institute, the NetApp filer is playing an integral part in supporting his CSC 405 class this semester to deliver an unprecedented computing environment for his students. According to Carter, "the NetApp technology is a key component to this system. It is what makes it so good. This infrastructure we built is one of the hottest topics in the IT field today and The Friday Institute, in concert with NC State computer science, was one of the first to implement and deploy it in an educational setting."

Upon the completion of this project, the equipment will migrate to EBII, where **Dr. Vince Freeh** will use it to support his CSC 495B/591B class, and related data storage research.

Intel & IBM Equipment Gifts to Aid VCL Expansion

NC State University received a $2.4M equipment gift from **Intel Corporation** and a $1.2M equipment gift from **IBM**, which will support the expansion of its open source Virtual Computing Lab (VCL), a powerful next-generation computing environment with the potential to radically change the educational and research landscape.

The VCL allows students and researchers to access powerful computing software and hardware remotely. Students and teachers across the state will be able to log in to a central computer located hundreds of miles away and access state-of-the-art computing software.

NC State, the UNC System, and North Carolina Community College System investments will provide the computational cloud services to a number of North Carolina K-12 schools, community colleges and UNC campuses.

In addition, NC State is working with the UNC General Administration, NC educational community and a number of universities and institutions in other states and abroad to instantiate virtual computing environments using its open-source VCL software.

Thank you to Duke Energy, NetApp, and Tekelec for their generous gifts to establish new endowed student scholarships.

Fidelity Investments "Leadership in Technology" Executive Speakers Series A Success

Thanks to the continued support of Super ePartner, **Fidelity Investments**, The '08-'09 "Leadership in Technology" Speaker Series was a huge success. Created and hosted by the NC State Department of Computer Science, the series was created to provide students of all disciplines, as well as the extended university and business community, exposure to the unique world of leadership in technology.

![Fidelity Investments logo]

The series, launched as a part of the computer science department's 40th Year Celebrations in 2007, features accomplished and highly recognizable entrepreneurs, leaders and executives to speak on a variety of technology-focused leadership topics. The variety and quality of the speakers has resulted in the series quickly becoming known as one of the premiere speakers series on campus.

All talks are free and open to the public and are held in EBII (unless noted otherwise), the department's state-of-the-art research and teaching home on NC State's award-winning Centennial Campus.

Speakers for the '08-'09 series included:
- **Michael Capps**, President, Epic Games
- **Jim Davis**, Sr. Vice President & Chief Marketing Officer, SAS Insitute
- **Marshall Brain**, Author, TV Personality & Founder of HowStuffWorks.com
- **Dr. Diana Oblinger**, President & CEO, EDUCAUSE
- **Joe Freddoso**, President & CEO, MCNC
- **Jim Tobin**, President, Ignite Social Media.

Please watch the Computer Science website (www.csc.ncsu.edu) for information about next year's series.

NC State Breaks New Ground in Virtual Research Collaboration

Thanks to a generous donation from **Cisco Systems**, NC State is among the first U.S. universities to deploy **Cisco's TelePresence** technology. This breakthrough technology for virtual meetings will allow researchers to forge new ground in higher education as they collaborate "in person" with colleagues around the world.

The TelePresence unit is located in EB2, home of the Department of Computer Science, on Centennial Campus.

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Department of Computer Science
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Raleigh, NC 27695-8206

Masters Program Ranked a "Best Buy"

NC State's Masters in Computer Science degree was recently ranked #3 in the nation as a "Best Buy" in the category of "Online Degrees in Computer Science" by GetEducated.com.

This "Best Buy" designation indicates that NC State's MS degree in computer science has been reviewed and judged to offer a high-quality distance education degree to a national audience at tuition rates well below the national average.

GetEducated.com ranked NC State #3 based on its contribution toward making quality education more accessible through innovative delivery methods coupled with fiscally responsive practices.

Price Helps Launch Secure Open Systems Initiative

With the help of **Congressman David Price**, and the support of open source giant, **Red Hat**, NC State recently celebrated the creation of the Secure Open Systems Initiative (SOSI), a research center that will make vital computer systems more secure.

"The work being done at NC State just keeps reaching new levels of excellence," said Price, who represents North Carolina's 4th Congressional District and helped secure funding for the initiative. He serves in Congress as the chairman of the Subcommittee on Homeland Security.

The initiative begins during a period of increasing popularity for open computer systems, which can be modified by outside users and work in a variety of computing environments. SOSI researchers will find ways to protect open computer systems - used by the military, power plants, and financial centers - from hackers and other outside attacks that could harm the nation's security and economy.

SOSI came about after several years of close collaboration between representatives from the NC State Networking Technology Institute and several outside partners, particularly Red Hat and the Army Research Office.

NC State has played an important role in the growth of open source systems. More than a dozen NC State faculty members have been focusing research on software security, network security, software engineering, and new networking technologies.

Check out NC State's Computer Science Department on Facebook and LinkedIn!

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http://www.csc.ncsu.edu/alumni/alumni_update.php