New Watson dean focuses on excellence

Seshu Desu, a former distinguished professor in the Department of Electrical and Computer Engineering at the University of Massachusetts, Amherst, has been appointed dean of the Watson School.

Desu assumed his new responsibilities last summer, filling the position vacated by Charles R. Westgate, who retired after six years as dean.

Desu holds a BS in mathematics, physics and chemistry, and an MS in inorganic chemistry from Andhra University in Waltair, India; an M Tech in materials science from Indian Institute of Technology, Kanpur, India; and a PhD in materials science and engineering, with a minor in electrical engineering, from the University of Illinois, Urbana-Champaign.

He headed his department at the University of Massachusetts from January 1999 to August 2006. Under his leadership, the department incorporated several educational innovations, increased its research expenditures from $3.5 million to $8.5 million, won a coveted National Science Foundation-funded Engineering Research Center (ERC) and secured two endowed professorships.

He has served as a professor, jointly appointed to the Department of Materials Science and Engineering and the Department of Electrical and Computer Engineering, at Virginia Tech, where he also directed the Center for Advanced Ceramic Materials. He also brings seven years of industrial experience as a group leader at GE and a member of the technical staff at Bell Laboratories.

“I’m pleased that the Watson School will continue to grow and prosper under the leadership of someone with Dr. Desu’s experience,” said President Lois B. DeFleur.

Provost Mary Ann Swain added, “Dr. Desu brings a distinguished record of research and numerous accomplishments as an administrator to this deanship. His vision for the Watson School fully complements the University’s strategic initiative to expand research and grow graduate education, while sustaining excellence at the undergraduate level. I look forward to working with him.”

Desu said he was attracted to the Watson School's new dean, Seshu Desu (left), speaks with the outgoing dean, Charles R. Westgate, at the Innovative Technologies Complex last June.

Westgate reflects on six-year tenure as Watson School dean

Charles R. Westgate, who served as dean of the Watson School for six years, said he has been gratified to see the school grow in terms of faculty, enrollment, facilities and stature.

“I’ve enjoyed working with the faculty, staff and students and genuinely enjoyed my teaching,” Westgate said. “It’s been a pleasure to see the school improve so quickly.”

Watson, the fastest-growing engineering school in the Northeast, has seen a 65 percent increase in faculty and a doubling in research awards during Westgate’s tenure. Enrollment has surpassed 2,000 across the undergraduate and graduate levels.

William Berical, vice president of engineering at BAE Systems Platform Solutions in Johnson City, recalls interviewing Westgate (who prefers to be called Roger) when he was a candidate for the job.
Charting a journey to innovation and growth

Watson Review

Thomas J. Watson School of Engineering and Applied Science

Sascha Deau

Watson School Advisory Committee

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New Watson dean appointed

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the Watson School because of the school’s impact outside the University and its standard of excellence. “The Watson School, from the beginning, has thought about the opportunity to make an impact on society and it has a very good track record,” Desu said. “I like the culture of excellence here that it resonates with me. I believe in a value system that always enhances the well-being of others and the planet.”

Desu said he hopes to make the course, I was attracted by Watson’s reputation of affordable excellence and economic relevance that oc-
cur against a backdrop of societal advancement. Faculty in the Watson School are always asking “where can we go next?” That destination is in-novation and impact. Since the frontiers of excellence, like those of knowledge, are always in motion, we are carefully and strategically charting a path for Watson’s journey to the next moun-
taintop. In its fundamental commit-
tment to learner-centeredness and fervent pursuit of academic excel-
ление, Watson already recognizes that its mission is not just trans-
mitting knowledge to students, but igniting a flame of passion for lifelong learning and a genuine commitment to social change and development. We are dedicated to ensuring that as our students be-
come proficient, their experience is unprecedented and that when they leave us they are prepared to make an impact, an impression and that the economic imprint on a world that is continu-
ously shaped by the forces of technol-
y and economic globalization. Last year, Watson graduates started five new companies in up-
state New York. Starting a company — or a journey — will not guar-
antee success, but failing to start is a certain predictor of failure. Although our goals and destina-
tions are different, I do find some similarities in my journey as a dean to the path followed by these students. Each of us is prepared for varied career paths with an entrepreneurial passion. Our chal-
lenge is to set our sights on the next mountaintop and nourish our resources to reach it successfully.

We will take this journey to-
gether and with concern for our fellow man. We are committed to sustain-
ing an environment that encourages us to take intellectual risks, engage in the kinds of cre-
ative work and research that yield monumental breakthroughs, work on huge unsolved problems with ingenuity, intellectual honesty, freedom from ideological bias and introduce innovative concepts. Recognizing that the ultimate goal of our work is to benefit society, we are devoted to transforming our innovations into policies and products that enhance the well-being and quality of life of our citizenry is improved.

I look forward to working with our friends and alumni during this great journey as we reach that next mountaintop successfully. Together, we will make an impact.

Sascha Deau, Dean

Watson School Advisory Committee

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Chiu shares his computer expertise to help scientific research

Every year since 2004, Kenneth Chiu, an assistant professor of com-
puter science at the Watson School, has traveled to Trout Lake in upper Wis-
consin to collaborate on a proj-
et using software he helped design to monitor the lake’s circulation, metabolism and water quality. The project, funded by a $1 mil-
lion grant from the National Sci-
ence Foundation, is developing a distrib-
uted sensor system that Chiu, along with scientists affiliated with a nonprofit lake association, has since applied to monitor the water quality of Lake Sunapee in New Hampshire.

The lake-monitoring projects are just two examples of Chiu’s work in bringing the computer revolution to basic scientific research in fields ranging from ecology to bioengi-
neering.

“In the last 20 or 30 years, there have been a lot of hardware advances of our work is to benefit society, said Chiu. “The hardware advances have allowed more scientific data to be collected. But the computer science research to allow scientists to take full advantage of these advances has been lacking.”

At Indiana University, where Chiu worked as a research scientist, that first became involved in three NSF multi-institu-
tion grants, totaling more than $2 million, which apply computer research to various scientific fields.

Besides the NSF projects, he is working on two other projects funded by the U.S. Department of Energy and the Binghamton Uni-
versity Research Foundation.

“One of the most important purposes of crystallography is for biomedical applications,” Chiu said. “Scientists may try to create a spe-
cific molecule because they think that particular shape has biological significance. Crystallography can tell them the structure of what they’ve created.”

Besides the three NSF grants, Chiu is also working on a multi-
institutional project funded by the Department of Energy to modular-
ize software for scientific applica-
tions, such as combustion, ground-
water and fusion modeling. The five-year project began last year with a $463,000 DOE grant.

Last summer, Chiu also began collaborating with two Binghamton colleagues — Michael Lewin, an associate professor of computer sci-
ence, and Jacques Beaumont, an as-
sociate professor of bioengineering — to develop a model for cardiac function.

“If you can understand that, you may be able to know what causes a person’s arrhythmia and you may be able to cure it,” he said.

With his hand in five projects as well as teaching in the Computer Science Department, Chiu has kept up a frenetic pace as a faculty mem-
ber. This year, he is the program co-chair of the Third Institute of Electrical and Electronic Engineers Conference on E-Science and Grid Com-
puting, scheduled for Decem-
ber 10 in Bangalore, India.

“Binghamton is growing and ex-
panding,” said Chiu, who joined the faculty in 2004. “Bioengi-
neering is new, the Computer Science Department is hiring new faculty, and there’s going to be a new engi-
neering building. There are a lot of opportunities here.”
School adds 515 alumni

The Watson School conferred 293 baccalaureate degrees and 322 graduate degrees at Binghamton University’s 57th Commencement ceremonies last May. The school also recognized 23 leading undergraduate and graduate students from the Class of 2007 with awards. The students honored and their awards are listed below:

**BINGHAMTON FOUNDATION AND SCHOOL AWARDS**
- The Foundation Award for Academic Excellence
  - Thomas J. Watson School of Engineering and Applied Science
  - Sangaita Ghose
  - Wai Chak J. Lak
- The Root Award for Graduate Students
  - Maria J. Schneider
  - Floyd H. Lawson Senior Prize

**DEPARTMENT AWARDS**
- **BIOENGINEERING**
  - Outstanding Academic Achievement in Baccalaureate Studies
    - Hu Huang
    - Aida Mitachi
  - Outstanding Academic Achievement in Graduate Studies
    - Matthew H. Manela
    - Yiwen You
- **COMPUTER SCIENCE**
  - Outstanding Academic Achievement in Baccalaureate Studies
    - Peter J. Meyer
    - William Trencher
  - Outstanding Academic Achievement in Graduate Studies
    - Saugaita Ghose
    - Alexander Volyshin
- **ENGINEERING**
  - Outstanding Academic Achievement in Baccalaureate Studies
    - Joshua E. Goldman
    - William Trencher
  - Outstanding Academic Achievement in Graduate Studies
    - Saugaita Ghose
- **SYSTEMS SCIENCE AND INDUSTRIAL ENGINEERING**
  - Outstanding Academic Achievement in Baccalaureate Studies
    - William Trencher
  - Outstanding Academic Achievement in Graduate Studies
    - Saugaita Ghose

**Watson student develops website for meal delivery service**

Students at Binghamton University can now order dinner online from at least 12 restaurants and have it delivered minutes later, thanks to the computer skills of Dmitry Traytel ’07.

Last fall, Traytel and six other Binghamton students launched a business called bingmemus.com to provide a quick way to deliver meals to the campus community.

“The service has been so successful it has since expanded to Buffalo and will reach other college towns in New York state next year,” Traytel said.

“If students are sitting at their computers wondering what they want to eat, they can log on and we have the menus,” said Traytel, 21, now a software engineer associate at Lockheed Martin Systems Integration in Owego. “It’s just a convenience rather than something that’s really unique.”

While Traytel was not one of the bingmemus.com’s major partners, he was the driving force in designing its website.

“He has an incredible talent for being able to take the technical side and the creative side and execute an idea,” said Ian Bel ’06, MBA ’07, one of the company’s owners.

Those same qualities made Traytel, who is from Staten Island, stand out as a computer science major during his four years at Binghamton, said William L. Ziegler, an associate professor of computer science and faculty master at Newling College.

“His talent has not only the technical ability but the business and artistic abilities that go with that to make products work for the general public,” Ziegler said.

Traytel credits his work with bingmemus.com as the reason he was hired at Lockheed Martin, where he is working on the Presidential Helicopter Program.

**Bloomberg sponsors computer science competitions**

Then the Watson School’s computer science programming team did its for its national competition this year, team members may receive a free iPod or a gift certificate to a Binghamton computer store, courtesy of Bloomberg L.P.

The New York-based information services, news and media company began funding Binghamton’s programming team after James Wahlin ’97, an alumnus who works at Bloomberg, heard Westgate reflects on six-year tenure continued from page 1

“We have impressed them so far and he has impressed everyone for six years,” said Berical, chairman of the Watson School’s Advisory Committee. “The team was expected to take the school to the next level. Roger truly has done that.”

Westgate, Watson’s second dean, credits the school’s faculty and students with its success. “They have done a great job and Binghamton’s well-deserved reputation for excellent students is another important factor,” he said.

“Watson has always been known for its competitiveness,” Berical said. “He’s done an outstanding job from industry’s perspective.”

Watson, a Broome County native, has a bachelor’s degree from Rensselaer Polytechnic Institute and master’s and doctoral degrees in electrical engineering from Princeton University. Before coming to Binghamton, he was a professor and administrator at Johns Hopkins University for 35 years.

“Watson has taught us all about the importance of making sure we continue to teach at Binghamton, and divide his time between the Southern Tier and Baltimore.

Engineering building adds classrooms and labs in $3.1 million project

A $3.1 million renovation of the Watson School’s Engineering Building, which added 18,774 square feet of new space, was completed in August.

The project involved remodeling existing space and adding new instructional and research labs, conference rooms and teaching assistant offices. Critical maintenance of the building, including removal of asbestos and renovation of the telecommunications systems, was also completed.

Besides the work in the Engineering Building, the new space included a computer server room to house research equipment in the Computer Center’s ground floor and instructional labs on the library’s ground floor.

With the completion of the project, the Watson School now occupies 98,800 square feet on campus, said Michelle Ponczez, director of space planning for the Academic Affairs and Research divisions. In 1997, the Watson School had 51,800 square feet of space.

“Since 1997, a 90 percent increase in active assignable space has taken place,” said John Fillo, associate dean for research and external affairs at the Watson School.

The seven-month project included restoration of areas in the Engineering building that were damaged after the area was hit by hurricane Floyd in 1999.

Computer Science and Mechanical Engineering departments occupied this fall. New space for the Electrical and Computer Engineering Department was also added. Another phase of the project is scheduled to begin next summer.

Previously, the Mechanical Engineering and Electrical and Computer Engineering departments occupied the building. In 2002, the Computer Engineering program moved into the building.

The Watson School’s second dean, Roger M. Westgate, has impressed everyone for six years, said Berical, chairman of the Watson School’s Advisory Committee. “The team was expected to take the school to the next level. Roger truly has done that.”

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Two area firms establish scholarships for Watson students

Two area companies have created scholarships that will award $1,000 annually to qualified Watson School students over the next five years. Lockheed Martin Systems Integration in Owego will award 15 scholarships each year to outstanding juniors studying electrical engineering, computer engineering, or computer science in the Watson School. The firm’s total commitment will be $75,000. McFarland-Johnson, Inc., a consulting firm in Binghamton, will provide two $1,000 scholarships each year to seniors majoring in mechanical engineering, bringing the firm’s commitment to $10,000.

“Scholarship support helps us recruit and retain the highest-quality students while exposing them to potential employers in our community,” said Watson School Dean Seolu Dise. “We are made stronger by our partnership with Lockheed Martin and McFarland-Johnson.”

The Lockheed Martin scholarships will be based on academic merit, with preference given to students participating in the Watson School Honors Program.

“People at Lockheed Martin feel good about bringing rising seniors to Owego, performing an experiment on DNA using onions and liquid nitrogen, and having the privilege of people ready to help us innovate, not just invent.”

Employing more than 4,000 people, Lockheed Martin’s Owego facility is a world leader in development and production of maritime helicopter systems, one of the largest suppliers of postal automation systems to the U.S. Postal Service and a primary supplier of information technology solutions in the federal market. Over the past three years, the Owego site has recruited more graduates from Binghamton University than from any other campus.

McFarland-Johnson, Inc., is an employee-owned, multidisciplinary consulting firm, providing innovative and economic solutions to engineering, planning and environmental service needs since 1946. The company plans and designs major transportation and facilities projects, ranging from renovating manufacturing plants to expanding state highways.

President and CEO Thomas S. Coughlin, a member of the Watson School Advisory Committee for more than a decade, said the scholarships will provide valuable support to students while exposing them to another area of engineering.

“We want students to get a sense of perspective of the variety of opportunities available as an engineer,” Coughlin said. “Engineering plays a significant role in society, affecting every human being in terms of safe buildings and roads, clean water, manufacturing, communication and medicine. We hope that this scholarship will encourage students to consider this valuable focus as a career path.”

Dinner honors Four Watson Founders

In his last address at the annual Founders Dinner, Charles R. Westgate, the Watson School’s outgoing dean, charted the school’s growth over the past six years.

Since 2003, Westgate said, the school has nearly doubled the size of its Ph.D. program; it awarded 24 doctoral degrees last May. The school now enrolls more than 2,000 students, including 428 masters and 194 doctoral students.

“This is particularly important because the strength of an engineering school is measured through its research programs, and Ph.D.-level students are key to our research efforts,” Westgate said at the event held last May in the Anderson Center.

At the dinner, Westgate presented the Founders Award to four new members of the Watson School Hall of Fame: Jonathan K. Beschloss, a flight surgeon with the U.S. Marine Corps in North Carolina, graduated from the Watson School in 1991 with a bachelor’s degree in mechanical engineering. While at Binghamton, he worked with Doug Green, former associate dean, to bring Tau Beta Pi, the only honor society representing the entire engineering profession, to campus by launching a lengthy petition process for a student chapter.

After graduation, Beschloss joined the military and served as a naval aviator. He was the Aircraft Commander of Helicopter Combat Support Squadron Four in Italy and served as Detachment Officer in Charge in Italy, Greece and Egypt. He participated in operations in Somalia, the former Yugoslavia and the Persian Gulf and was also an Air Operations Officer in Bahrain.

In 2001, Beschloss returned to school and received his doctor of medicine degree from Cornell University. Richard S. Culver joined the Watson School in 1984 as one of the first professors in the Mechanical Engineering Department. He was also appointed the first associate dean for academic affairs and helped the school develop academic programs, hire faculty and equip laboratories.

During the past 23 years, he has focused on engineering pedagogy with a special interest in student development and curriculum design. The author of more than 30 papers in this field, Culver also developed the Watson School’s nationally known lower-division program, which he led from 1994 to 2000.

Culver, who has a Ph.D from Cambridge University, has served as director of the Beta Coalition, an NSF-sponsored regional coalition of small engineering programs in central New York state and Pennsylvania. Over the past six years, he has been a member of the American Society of Engineering Education and was recognized as a fellow of the society. He has also been recognized with a State University of New York Chancellor’s Award and a University Award for Excellence in Teaching.

David A. Goldman formed Soft Sight, Inc. in Vestal after he graduated from Binghamton with a master’s and a doctoral degree in computer science. His company used the software he created, called IntelliStitch, to automate the design creation process for the data that is fed into large commercial embroidery equipment.

While at Binghamton, Green worked with the Strategic Partnership for Industrial Resurgence (SPIR), which serves small and mid-sized companies in New York state. After graduating, he realized that if he established his company within the Southern Tier, he could take advantage of the same SPIR resources to keep his business strong and growing.

As a result of the partnership with the Watson School, Soft Sight, Inc. has been able to secure three National Science Foundation grants totaling more than $700,000 for intelligent computer-embroidered design automation. Goldman has been a regular participant in the University’s Advocacy Day, working to ensure that members of state government know how vital the Watson School is to the future of small business. He also helped the school launch National Engineers Week last February with an alumni panel that focused on careers in computer science.

Dorothy “Dottie” Weir served as the secretary for the Watson School’s Office of Student Services for 11 years and helped shape the experiences of hundreds of undergraduates. She played a key role in creating the Peer Advisor Program in the Watson School, in which a group of engineering students serve as advisors for applicants, students and parents.

After graduating from Broome Community College with an associate’s degree in engineering, Weir worked at IBM’s Glendale facility in the Printer Development Group. She spent 20 years at Binghamton University. After retiring in 2002, she and her husband established the Robert and Dorothy Weir Award, an endowment to be funded by their estates. She is now working with the Watson School Office on a peer advisor reunion for this fall’s alumni Homecoming.

Students organize bioengineering fair

When Binghamton University students hosted their first bioengineering fair for children from area schools, they did not expect to turn away kids at the door.

But that is what happened after nearly 70 elementary and middle school children from Endwell to Binghamton converged at the “I’m a Complex Kid” program held at the Innovative Technologies Complex last February.

Designed to teach children about bioengineering, the two-day event could accommodate only 50 participants, leaving some children unable to register. As a result, the Binghamton Bioengineers, a student group that ran the program, will hold the event again this year in a larger venue with more activities planned.

“We just wanted to outreach to a younger generation of kids in order to spark an interest in bioengineering,” said Ashley McBride ’07, who is now a graduate student in bioengineering.

A dozen students from Binghamton Bioengineers organized the event, which included activities such as DNA extractions, robot displays, heart-rate measurements and hand-held computer games.

The chair of the Bioengineering Department, said the event was driven by the students, with little input from the faculty. “I was really impressed by the organization and the demonstrations they put together,” he said. “It was a really student run and very popular.”

This year’s event will be held next spring.
School adds seven new professors

Seven new faculty have joined the Watson School since January 2007.

ELECTRICAL AND COMPUTER ENGINEERING:

Christopher Twigg, assistant professor. After receiving his PhD in electrical and computer engineering from the Georgia Institute of Technology in 2006, Twigg did post-doctoral work there. He specializes in mixed signal reconfigurable and programmable embedded systems.

Yu Chen, assistant professor. Chen worked as a graduate research assistant at the University of Southern California after receiving his PhD in electrical engineering from USC in 2006. His current research lies in network security, distributed and grid computing.

Kurt D. Rogers, lecturer. A hardware engineer in DSP Technology Development at Lockheed Martin in Owego, Rogers received his master’s degree in electrical engineering from Binghamton University in 2004.

SYSTEMS SCIENCE AND INDUSTRIAL ENGINEERING:

Radim Belohlavek, professor. Belohlavek was previously chair of the Computer Science Department at Palacky University in the Czech Republic 2001-07. He received a PhD in computer science from the Technical University of Ostrava in the Czech Republic in 1998 and a PhD in mathematics from Palacky University in 2001. His research focuses on uncertainty theories, data analysis, and data and knowledge engineering.

Vilem Vychodil, assistant professor. After receiving a PhD from Palacky University in the Czech Republic in 2004, Vychodil was an associate professor at Palacky University. His research interests are fuzzy logic, relational data analysis, uncertainty in data, mathematical logic and logical foundations of knowledge engineering.

MECHANICAL ENGINEERING:

Guangwen Zhou, assistant professor. Zhou worked as a research assistant professor in the Department of Mechanical Engineering and Materials Science at the University of Pittsburgh, where he received his PhD in materials science and engineering in 2003. His research interests include the application of transmission electron microscopy and other techniques for the study of advanced materials and processes.

Changhong Ke, assistant professor. After receiving his PhD in mechanical engineering from Northwestern University, Ke worked as a postdoctoral fellow at Duke University. His research interests are nano electromechanical systems, micro electromechanical systems and DNA mechanics.

Biomedical research conference held

The Second Annual Binghamton Biomedical Research Conference held last May attracted so many researchers from the Southern Tier that organizers plan to expand the event into a full-day conference next year.

Nearly 150 scientists, clinicians, faculty and graduate students presented a total of 103 papers on clinical work, animal studies, cell biology and medical treatment. The event was held at the Innovative Technologies Complex.

“We were approaching it as a small conference and we were trying to do it in half a day but that clearly didn’t give people enough time to network so next year we’re going to open it up to a full day,” said Kenneth McLeod, chair of the Bioengineering Department at the Watson School.

Graduate student receives honor

Guruprasad Madhavan, a PhD candidate in the Department of Bioengineering, received the Young Technologist of the Year Award from the Technology Alliance of Central New York last May in Syracuse. Madhavan is a graduate research assistant in the Clinical Science and Engineering Research Center.

Student wins Tau Beta Scholarship

Anthony M. Olenik, a senior mechanical engineering major at the Watson School, has won a $2,000 scholarship from Tau Beta Pi, the national engineering honor society.

Olenik, who is from Millwood, N.Y., was one of 135 students selected as Tau Beta Pi Scholars from 293 applicants studying engineering across the country. Awarded for the senior year of engineering study, the scholarships are based on outstanding academic achievement, campus leadership and service, and promise of future contributions to the engineering profession. Scholars must also be members of Tau Beta Pi.