Tyson’s modeling of cell division earns $450,000 award

By Sally Harris

Cancer is a group of diseases involving misregulation of cell growth and division. The more we know about how cells grow and divide under normal circumstances, the better we will understand how things go awry in cancer cells.

For this reason, John Tyson, university distinguished professor of biology at Virginia Tech, and Bela Novak, professor of biotechnology at the Budapest University of Technology and Economics, are developing mathematical models of the molecular mechanisms that control the way yeast cells grow and assume various shapes.

Their work is being supported by a $450,000 grant from the James S. McDonnell Foundation of St. Louis, Mo. “Division and shape are important to yeasts because, by growing in specific directions, they are able to seek out viable environments and potential mates,” Tyson said. “Understanding how yeast cells control these processes is important to us not only because of the cancer connection, but also because we are still very much in the dark about how genes regulate behavior in the broadest sense.”

The genome project has provided a parts list of the cell, scientists need a schematic diagram of how all those parts hook together,” Tyson said. “From the schematic diagram, we can write equations that govern the behavior of the control system, much like an electrical engineer can write equations for a circuit diagram. With these equations we can predict how a cell will behave under many different conditions.”

Although a human cell is more evolved than a yeast cell, a human cell is made of the same sorts of parts that behave in the same way. It was found that “the molecular constituents of the cell cycle control system are functionally interchangeable between yeast and humans,” Tyson said. “What we learn about cell division in yeast can be carried over to humans.” From what they learn about the molecular mechanism of yeast cell growth and division, Tyson and Novak will attempt to extrapolate the mathematical model to humans.

The McDonnell Foundation funds come from its 21st Century Science Initiative, which provides private funds “to support and encourage researchers pursuing difficult, important projects where results might be more likely to advance our current state of knowledge.”

The initiative covers three topics: studying complex systems, brain cancer research, and bridging brain, mind, and behavior. Studying complex systems, the area in which Tyson’s work falls, emphasizes the development and application of theoretical models used in research fields such as biology, biodiversity, energy, and climate.

The project being conducted by Tyson and Novak is called “Spatial Patterns of Yeast Cell Growth and Division: Molecular Mechanisms and Mathematical Models.”

Select freshman engineering students to begin year in Europe

By Karen Gilbert

Freshman engineering students enrolled at Virginia Tech now have the opportunity to add a European educational experience to their resume. Two courses will be combined into one with an added international flair and will be offered to academically advanced freshman engineering students this summer.

“The students selected for this program are ready for a challenge that is intense and offers a global perspective,” said Pamela Kurstedt, assistant dean of enrollment and international programs in the College of Engineering.

The combined course will allow students to complete the two required Engineer-
**Activities**

**Events**

**Wednesday, 3**
Last Day to Add.
Art, Armory Gallery: A Pilgrimage of Images (through 7-20).

*With Good Reason,* 7 p.m., WVTW.

**TA Event,** 7 p.m., Squires Studio Theater: “Fuddy Meers.

**Thursday, 4**
Holiday for Faculty and Staff Members.

**Friday, 5**
Holiday for Faculty and Staff Members.

**Friday Night Out Concert Series,** 6 p.m., Henderson Lawn: Scott Perry, Blues singer and guitarist.

**TA Event,** 7 p.m., Squires Studio Theater: “Fuddy around campus, and more. The cost is $5 a day per child. For more information, contact Michele James-Deramo at deramo@vt.edu.

**Employees request leave donations**
Employees in Physical Plant, Purchasing, and Telecommunications Auxiliary have requested leave donations.

**Upcoming limited-submission program increases funding opportunities**

Limited-submissions program increases funding opportunities. By Susan Trulove

Many funding agencies place limits on the number of proposals or applications that a university may submit in response to a particular announcement. To prevent any potential disqualification of submissions coming from Virginia Tech the Research Division has a limited-submissions program.

Anyone wishing to submit a proposal for a limited-submission program should send a brief letter of intent to ltdsubs@vt.edu. To expedite the process of planning an internal competition, applicants should send this letter as soon as they know they have an interest in the funding program. The e-mail letter of intent needs to include only the name of the principal investigator, any co-PI’s, and the subject or title of the proposed project. The deadline for the internal letter of intent is indicated in the limited-submissions calendar at [http://www.research.vt.edu/limitsubs/limitsubs.html](http://www.research.vt.edu/limitsubs/limitsubs.html).

Participants will be notified on the day following the letter of intent deadline about the need for an internal competition to select applicants to be sent to the funding agency. If the number of participants does not exceed the number of allowable submissions, no internal competition will be necessary.

If there are more potential applicants than the agency’s limit allows, an internal competition will be held to select the proposals that will go forward. In this case, a two- to three-page pre-proposal will be required. It should summarize the proposed project and describe briefly why the applicants think they might be successful. These pre-proposals should be sent as e-mail attachments to Limited Submissions (ltdsubs@vt.edu). A committee will meet to discuss the submissions. Applicants will be notified in approximately one week of the results.

**Upcoming limited-submission program internal deadlines include:**

To be added to the Opportunity Update e-mail list, send an e-mail to ltcucker@vt.edu.

**HANNA** Continued from 1

By Susan Trulove

experiment in graduate education started at Virginia Tech in 1998. It is identical in course content, requirement, and work load to the residential M.A. degree program offered since 1969. The faculty members are among the nation’s most professionally active political scientists.

Through the instructional capabilities that are available with VToNline, NET.WORK. VIRGINIA, and the Internet, the Department of Political Science in the College of Arts and Sciences began offering its undergraduate and graduate courses on line in 1996. “We built this program to serve, in large part, those graduate students who have careers in the military, the federal government, not-for-profit private organizations, state and local governments as well as large companies,” Luke said. “Many of these organizations are based in the greater D.C. area, and we should be serving their employees. Quite a few of these workers, like John Hanna, must travel around the world constantly for their careers. With our excellent on-line courses and student services, Virginia Tech can be there for them, wherever and whenever they go.”

*Because of his Air Force duties in a time of war, we conducted his thesis defense on NET.WORK. VIRGINIA as a teleconference among sites in Germany, Virginia Tech’s Northern Virginia campus, and Blacksburg.* Luke said.

**CVC LEADERSHIP GIFT**
President Charles Steger awards a pewter cup to Extension Environmental Horticulture Professor Diane Relf and her husband David Angle. The cup represents membership in the “Virginia Club” for contributions of $3,000 or more to the Commonwealth of Virginia Campaign (CVC). Steger thanked them for their generosity and underscored the importance of charitable giving, especially in times like these. Relf said that their gift was designated to more than one charity, including a donation to Doctors without Borders. The Leadership Giving Program is in its second year. This is the first time a Virginia Tech contributor was eligible for the Virginia Club level since the program began. (M. Kiernan)

**RESEARCH**

Continued from 1

Natural Sciences Consortium and the emerging School of Biomedical Engineering.

Eyre says the VMCVM will concentrate fully on developing its research agenda during the first decade of the 21st century, just as it concentrated on establishing excellence in its academic programs in the 1980s and its clinical service programs in the 1990s.

Associate Dean for Research and Graduate Studies Gerhardt Schurig said he was pleased with the “multiplicity of research” which was showcased and said that the college is poised for significant growth in a number of research areas.

In the basic sciences component of the graduate-student research event, there were ties for both first and second place in the faculty-adjudicated competition. First place honors were shared by Andrea Contreras for “Generation of a Bivalent Vaccine Strain Able to Simultaneously Protect Against Brucellosis and Paratuberculosis”; and Kijona F. Key for “Differentiation of Vaccine or Vaccine-Like Isolates from Field Isolates or Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) Using a Heteroduplex Mobility Assay.”

**Service-Learning Center offers kids activities**

The Service-Learning Center is organizing informal half-day activities for children who come to work with their parents.

Activities are supervised by a service-learning student and include bowling at Breakzone in Squires, outdoor games, tours of campus, and more. The cost is $5 a day per child. For more information, contact Michele James-Deramo at deramo@vt.edu.

**Limited-submissions program increases funding opportunities**

By Susan Trulove

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Upcoming limited-submission program internal deadlines include:

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Facility members from the Department of Fisheries and Wildlife Sciences in the College of Natural Resources and the Department of Biomedical Sciences and Pathobiology in the College of Veterinary Medicine had the first-ever major review article on horseshoe crabs published in the journal. Review in Fisheries Science journal. Elizabeth A. Walls, while a graduate student in fisheries and wildlife sciences; Jim Berkson, assistant professor in fisheries and wildlife sciences; and Stephen A. Smith, professor in biomedical sciences; reviewed the general biology, ecology, and life history of the horseshoe crab in the article “The Horseshoe Crab, Limulus polyphemus: 200 Million Years of Existence, 100 Years of Study.”

The review article discusses the various economic stakeholders involved with the horseshoe crab, including eco-tourism groups associated with bird-watching, commercial fishermen using the horseshoe crab as bait, and the biomedical industry with its increasing demand for horseshoe crab blood for endotoxin testing.

Publications created by University Relations staff members have received honors in the 2001-02 ADDY awards competition sponsored by the Advertising Federation of the Roanoke Valley. Off the Shelf, a new University Libraries newsletter, received the Gold ADDY in the newsletter category. This top award recognizes the work of Craig Bryant, art director; Barry and Meg Nugent, designers; Clara B. Cox, editor/writer; Christina D. French, assistant editor/writer; and Rick Griffiths, John McCormick, and Bob Veltri, photographers. A Silver ADDY in the four-color annual report category was awarded to Turning Up the Lamp of Knowledge: President’s Report 2000-2001. Created for the Office of the President, the publication was designed by creative director/art director Michele Moldenhauer; compiled and edited by David C. Lotts, Allan Miller, and Richard Lovegrove; and featured the work of photographers Griffiths, Michael Kiernan, McCormick, and Jeff Grenough. The ADDYs are awarded annually to recognize creativity and effectiveness in communications in a variety of media.

The Virginia Tech Dairy Management Consulting Team took one of two champion positions in competition among teams from 14 universities in the North American Intercolligate Dairy Challenge in April. Coaches for the Virginia Tech team were faculty members Ron Pearson, Mike McGilliard, and Dave Winston. In joining the University of Minnesota in one of the two top positions in the Dairy Challenge, the Virginia Tech team placed ahead of teams from such schools as Iowa State, Michigan State, Penn State, Ohio State, and Wisconsin.

The Elegies volume of the Variorum Edition of the Poetry of John Donne (Indiana University Press) has earned the South Central Modern Language Association Prize for the best scholarly or critical book published by a member or members of SCMLA during 2000. Ernest W. Sullivan II, the Edward S. Diggs professor of English, was one of the editors of the volume.

David G. J. Kingston of chemistry was the Fifth Annual “Humanities in Medicine” lecturer at Texas A&M University Medical School, where he gave three lectures. His lectures were entitled “Science and Religion; Is There a Conflict?” “Green Medicine: Drug Discovery and Biodiversity Conservation in Madagascar and Suriname,” and “Yew and Me: Studies on the Chemistry of Taxol, the World’s Best-Selling Anticancer Drug.”

The composition Remembrance: For Those Whose Lives Were Taken, September 11, 2001, a piece for solo piano by Kent Holliday of the music department, can be heard on the National Public Radio web site (http://www.npr.org) under All Songs Considered, special features, Music Inspired by September 11th.

James McGrath of the Department of Chemistry has been elected to the third class of PMSE/Division of Polymeric Materials Science and Engineering) fellows in recognition of his high qualifications as a polymer scientist. The induction ceremony was held at the National American Chemical Society meeting.

At the recent annual convention of the Mid-South Sociological Association in Mobile, Ala., Clifton D. Bryant, professor of sociology, received the 2001 Distinguished Book Award in recognition of his four-volume Encyclopedia of Criminology and Deviant Behavior, published in November 2000. The award carried the special citation “For Most Distinguished Contribution to the Literature of Sociology.” Bryant served as editor-in-chief of the reference work, which consisted of 500 original essays written by leading scholars in the U.S., Canada, Great Britain, Australia, and Hong Kong.

Tim Long of the chemistry department gave a seminar at the National Science Foundation entitled “The Impact of NSF CRIF Instrumentation on Investigations of Macromolecular Functionality and Architecture.”

John M. Carroll, professor in computer science and director of the Center for Human-Computer Interaction was an invited participant at the international memorial conference for the Herbert Simon, “Les Sciences de la Conception,” held in Lyon, France. The purpose of the conference was to critically assess progress towards Simon’s concept of a science of design. Carroll presented a paper titled “Exploring the Confluence of Participation—Elaborating Herbert Simon’s ‘Science of Design’” and participated in a debate on the allocation of power in participatory design.

Jim McGrath’s paper entitled “Chemistry-Morphology-Property Relationships of Novel Proton Exchange Membranes for Direct Methanol Fuel Cells” and co-authored by M.A. Hickner, F. Wang, Y. Kim, B. Pivovar and T. Zawodzinski” has been awarded the Richard A. Glenn Award for the best pre-print and oral presentation at the ACS Division of Fuel Chemistry. During the Orlando ACS meeting, a plaque and check for $500 were presented at the Fuel Division dinner. Hickner presented the paper and is a Department of Chemistry graduate student at Los Alamos National Laboratories.

John M. McCann, co-director of the Institute for Cultural Practice and Policy (ICPP) and director of the MFA program in arts administration, recently delivered the keynote address for the annual Arts Management Institute of the Michigan Association of Community Arts Agencies (MACAA). His address, “A Time for Vision…A Call for Values,” stressed the necessity of vision and values within an organization. Following the keynote, McCann led participants through a half-day workshop on building a high-performance culture through the alignment of vision, mission, and strategies. The keynote and address the leadership seminar are part of a larger ICPP project sponsored by MACAA to provide a year-long leadership education initiative for Michigan’s community arts and cultural organizations.

Sharon T. Gentry, buyer specialist, was recently awarded the certified professional public buyer (CPPB) designation.

CPPB candidates must meet specific rigorous criteria established by the National Public Purchasing Certification Council (UPPPCC) including current employment, education, training in purchasing related subjects, and public purchasing experience. A comprehensive examination will determine the candidate’s mastery of the body of knowledge required for public purchasing professionals. CPPB designation is an honor for individuals in the public purchasing profession. Virginia Tech members of the Virginia Press Women won several writing, editing, and design awards during the organization’s awards dinner April 27.

(See ACHIEVERS on 4)
By Sally Harris


Collins received his only degree, a Ph.D. in physics, from Johns Hopkins. While on the faculty at Notre Dame, he built one of the highest-energy Van de Graaff accelerators for its time. He left Notre Dame in 1941, having attained the rank of professor, to assist in the war effort at MIT’s Radiation Laboratory.

Collins joined the Department of Physics at the University of Rochester in 1946 and served as chairman from 1946 to 1950.

Collins was called to Brookhaven in 1950 to serve as chairman of the Cosmotron Department, which was responsible for the construction and operation of the first accelerator to achieve energies in excess of 1,000 MeV.

From the mid 50s to the end of the 60s, Collins was a council member and chairman (1969-70) for the Board of Trustees of the State University of New York (SUNY) at Stony Brook.

In 1971, at the age of 65, joined the Department of Physics at Tech. He led a group that successfully completed one of the first experiments at the recently completed highest-energy accelerator located at Fermilab.

In 1976, Collins formally retired from the university, but continued to teach part time until 1985. In 1981, he chaired the Collins Committee, which was tasked to study establishing a core curriculum at Virginia Tech.

The Collins Committee’s Intern Report was distributed for university-wide discussion in 1982. The final report, which established the framework for a University Core Curriculum, was approved in 1985.

The class is sponsored by the Virginia Association of Chiefs of Police and the Management Institute at the University of Richmond. The class consisted of three weeks and topics included were history of leadership, media relations, leadership and the law, cultural and religious diversity, and the politics of the criminal justice system.

Officer Keith Weaver and police dog Hokie graduated in April from a 12-week school sponsored by the Roanoke City Police Academy Canine School.

Officer Andy Wilburn graduated in May from the Division of Forensic Science Evidence Technician School in Richmond. This was a 10-week school focusing on all aspects of evidence collection and crime-scene investigation.

Humberto Rodriguez-Camilloni, professor of architecture and director of the Henry H. Wiss Center for Theory and History of Art and Architecture, published “Manuel de Amat y Junyent and the Navona of Lima: An Example of Baroque Urban Design of the 18th Century in the Vicerealty of Peru” in the journal Anales del Instituto de Investigaciones Estéticas of the Universidad Nacional Autónoma de México. He also presented the paper “The Rural Churches of the Jesuit Haciendas in the Southern Peruvian Coast” at the international conference The Jesuits II: Cultures, Sciences, and the Arts, 1540-1773 held recently at Boston College.

Architecture Professor Joe Wang and landscape architecture faculty members Terry Clements and Brian Kate wrote entries for The Encyclopedia of Gardens: History and Design, a three-volume set distributed by the Chicago Botanic Garden detailing the history and design of gardens all over the world.


CAUS Dean Paul Knox’s book Human Geography has been recently published in a German edition.

CAUS shop technician Tim Castine received an honorable mention in 2002 Industrial Design Magazine’s Annual Design Review which was featured in the August issue of ID Magazine.

Architecture Associate Professor Shelly Martin has served on the state design committee of the Virginia Society of the AIA for the past four years. She has helped plan their bi-annual Design Forum, and helps yearly to select national jurors to award state level VSAIA awards to projects of architects in Virginia firms. CAUS Associate Dean Robert Dunay has served on the VSAIA Design Committee for the past three years.

Hud Crosdale, director of strategic initiatives for information technology, has been invited to join the EDUCAUSE Committee on Evolving Technologies. The committee identifies leading-edge and experimental technologies that may be expected to make a difference in higher education, and brings information regarding these developments to the members of EDUCAUSE, as well as the broader community of higher education.

The comet will meet at the EDUCAUSE annual conference in October in Atlanta.

WVTF has won this year’s “Fourth Estate Award” from the American Legion. Only one broadcast and one print award are given each year. The award is for coverage of the National D-Day Memorial in Bedford. The WVTF entry included examples of in-depth reporting, an Evening Edition show, newscast stories, the dedication ceremony “live” broadcast, and follow-up stories.

The award is from the “world’s largest veterans organization.” For this award, judges selected a single winner in each area (broadcast and print) by examining entries from all over the country. They selected winners based on the “exceptional level of journalism” with a demonstrated impact on the audience and readers. Subject matter had to deal with a topic or issue of national interest or concern.

ACHIEVERS

Continued from 3

First-place state awards are automatically entered in the competition sponsored by the National Federation of Press Women, whose awards will be announced later in the year.

Clara B. Cox, director of publications and outreach communications, won three awards: first for editing a four-color newsletter for University Libraries, third for a speech she wrote for a university administrator, and third for institutional relations, the university’s biomarker project.

Sally Harris, public-relations coordinator for the College of Arts and Sciences, won seven awards. She won first place in the one-to-three-color newsletter category for Arts & Sciences, an alumni newsletter that she writes, edits, and designs, and another first for a feature news release. She won three second-place awards: one for news reporting, one for special articles on science, and one for a news press release. She won a third place for special articles on history and an honorable mention for special articles on education.

Lynn Nystrom, director of news and external relations for the College of Engineering, won two first-place awards and one honorable mention. She received a first for multiple press releases written about nanotechnology, a first for the college’s annual report in the four-color brochure category, and an honorable mention for a direct-mail piece for the civil and environmental engineering department.

C. Gene Haugh, professor of biological systems engineering, has been named Outstanding Engineering Alumnus by the Penn State College of Engineering.

The annual award is the highest honor conferred by the Penn State College of Engineering. Haugh, a registered professional engineer, graduated from Penn State with a degree in agricultural engineering in 1958. He was appointed head of the agricultural-engineering department at Virginia Tech in 1979. The department has since been renamed as the Department of Biological Systems Engineering.

William Tranter, a professor of electrical and computer engineering and an associate director of the Mobile & Portable Radio Research Group, has been elected vice-president of technical activities by the Institute of Electrical and Electronics Engineers (IEEE) Communications Society. Tranter is an IEEE fellow and a recipient of the Donald McLellan Award for Meritorious Service, the IEEE Centennial Medal, and the IEEE Third Millennium Medal.