

researchnews

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Encouraging Findings in Prostate and Breast Cancer Research



Andrew Shurtleff

Drs. Khalid Mohammad, Theresa Guise, and John Chirgwin.

For prostate and breast cancer sufferers for whom osteoblastic bone metastases are common manifestations of these diseases, the mechanisms by which tumor cells stimulate new bone formation have been unclear until now. Endocrine researchers Drs. Khalid Mohammad, John Chirgwin, and

Theresa Guise have recently identified three breast cancer cell lines as causing osteoblastic metastases in a mouse model. These cell lines have also been found to secrete endothelin-1. This is particularly significant because tumor-produced endothelin-1 stimulates new bone formation in vitro and osteoblastic metastases in vivo via the endothelin A receptor. As a result, treatment with an orally active endothelin A receptor antagonist dramatically decreases bone metastases and tumors in mice inoculated with cancer cells. Consequently, tumor-produced endothelin-1 may play a major role in the establishment of osteoblastic bone metastases, and endothelin A receptor blockade may well represent an effective treatment. The research has recently been published in the *Proceedings of the National Academy of Sciences (PNAS)* and is also the subject of a leading paper published in *Science & Medicine* in June 2003. ■



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UNIVERSITY OF VIRGINIA

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Remember SRIP?

In last September's issue of *Research News*, the University's Summer Research Internship Program was a front page story. One of the four students featured, Ryan Susa, who is completing his graduate degree at Rochester Institute of Technology, writes a follow-up:



Andrew Shurtleff

Ryan Susa

"SRIP is a great program and opened many doors for me. Because of the research project I did with Dr. Jeffrey Corwin, I got the opportunity to attend the Annual Biomedical Research Conference for Minority Students in San Diego in October. Surprisingly, I won the senior level neuroscience poster presentation award. Kimberly Wiggins [also featured in our story in September] won an award also at the ABRCMS.

"As I received travel funding from FASEB the trip was free. Dr. Corwin also helped with the travel expenses. Thank you, U.Va.!" ■

U.Va. Women Help to Change the Face of Medicine

Diane Snustad, M.D., from the Division of General Medicine and Geriatrics, as well as Laurel Rice, M.D., in Obstetrics and Gynecology, and Karen Rheuban, M.D., from Pediatrics, are featured in the National Library of Medicine exhibit on the history of women in medicine, entitled "Changing the Face of Medicine," which opened last October in Washington, DC. ■

Who's Counting at the Weldon Cooper Center?

Why does population change matter? Because in Virginia, population size determines the state's share of funding for local education, highways, the salaries of constitutional officers, and much more. But between decennial censuses, there is no way to know the actual size of the population.

The Demographics & Workforce Section of the Weldon Cooper Center produces the official annual population estimates for each of Virginia's 134 counties and independent cities. They also assemble, analyze, and disseminate statistics on everything from building permits to the number of jobs for animal trainers in 2010.

According to Julia H. Martin, the Section's director, in 2003 the US Office of Management & Budget, in its annual revision of metropolitan area boundaries, ended up with a scheme that includes nearly two-thirds of all localities in either Metropolitan or Micropolitan Statistical Areas, rendering both these groups all but useless for analytical purposes. Martin has now divided the localities into ten regions that she hopes will be more useful for researchers, local and state officials, and the variety of private sector users

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who make up the Section's target audience. Informing the public is, in fact, a major charge for the Demographics Section as well as the Center as a whole, with Martin delivering anywhere from two to ten hour-long presentations a year to groups ranging from U.Va. graduate students to the Virginia Senate Finance Committee.

The Demographic Section's Web site, which contains all this information, also houses another important aspect of the Demographic Section's work, the Web-based *Guide to Career Prospects in Virginia*. Funded by the Virginia Department of



Julia H. Martin, director of Demographics and Workforce Research at the Weldon Cooper Center for Public Service.

Education, the guide contains 430 occupational "briefs" that include both text and statistics. Educational administrators use the statistical portions of the site to help decide what career and technical education programs to initiate, terminate, or maintain in the Commonwealth's high schools and community colleges. The Department of Correctional Education uses the data for much the same purposes—to design training programs for inmates, particularly those nearing release, and to inform inmates about the job market outside their walls. Students, parents, and career counselors use the descriptive portions in career exploration. Like the Demographic Section's main site and another of the section's Web-based initiatives, the *Statistical Abstract of Virginia*, the *Guide* is updated constantly.

Among the Weldon Cooper Center's other sections are Leadership Development, directed by Robert E. Matson; the Sorensen Institute of Political Leadership, directed by William H. Wood; and the Business and Economics Section under the direction of John Knapp. The Weldon Cooper Center also has offices at the University's College at Wise in southwest Virginia. ■

History — Looking Forward With Hindsight



Andrew Shurtleff

Arlene Keeling, director of the Center for Nursing Historical Inquiry.

Part of preparing professionals to face the challenges of the future must include knowledge of the past. Understanding of what has gone before, and how it has led to current practice is essential for a well-rounded education. U.Va. has one of only two national centers for nursing historical inquiry. As Director Arlene Keeling, Ph.D., R.N., writes in her article on the role of nursing history published in *Nursing and Health Care: Perspectives on Community* (Vol. 16:1), “Understanding the longitudinal aspects of nursing, rather than simply the cross-section, can only enrich the discipline.”

Founded by Barbara Brodie, Arlene Keeling, and Sylvia Rinker in 1991, the Center for Nursing Historical Inquiry has been actively promoting research and scholarship in the history of nursing for more than a decade. Barbara Brodie, Ph.D., R.N., who served as its first director, is now professor emerita and remains an active associate director in the CNHI. Early on the Center was fortunate to receive significant grants from the Virginia Foundation for the Humanities and from the American Nursing

Association. Following this funding, Keeling received a three-year grant from the National Institute of Nursing Research (NINR) at NIH to support her research into the history of coronary care nursing.

Keeling is currently at work on a history of prescriptive authority in nursing with support from the National Library of Medicine. Working under the guidance of both Brodie and Keeling, several doctoral candidates and students are researching a wide array of projects, including palliative care and hospice nursing, the cyclical nature of nursing shortages, and the role of nursing in WWI including the use of chemical agents in warfare.

The Center has an extensive archive of photographs dating back to the late nineteenth century and covering the twentieth century. Many former University of Virginia nurses have donated their collections of articles, photographs, and memorabilia documenting their experiences, training, and career paths. In addition, the CNHI holds the papers of several advanced practice nursing organizations including the National Association of Pediatric Nurse Associates and Practitioners (NAPNAP) and the Society for Education and Research in Psychiatric Nursing (SERPN) collection.

The Center for Nursing Historical Inquiry ensures that nursing professionals educated at the University of Virginia have a broad perspective on their profession. Their curriculum, while it is replete with scientific knowledge and technical data, allows for a more humanistic approach to inform our graduates, who have the benefit of access to the historical trajectory. Undergraduates and doctoral students are required to take courses on nursing history, and are encouraged to contribute through their own research to the future of this actively expanding resource. ■

New Equipment Grant Will Offer Improved Mass Spectrometry

The Institute of General Medicine of NIH has funded a major upgrade to the mass spectrometry capability available through the Biomolecular Research Center. Director Jay W. Fox explains that the new spectrometer – a Fourier Transfer Ion Current Resonance mass spectrometry unit – will offer a more sensitive assay and greater dynamic range to proteomics researchers and others wanting to compare the profiles of proteins and other cellular materials.

Thanks to the Cell Migration grant (the PIs are Rick Horwitz and Thomas Parsons), a multi-center research initiative established here two years ago, U.Va. was successful in attracting the funding to make this new acquisition possible. While researchers in cell migration will be the primary users of the mass spectrometry facility, it will be also be open to other researchers for appropriate experiments. The bioinformatics expertise provided by William Pearson and his team in data storage, analysis, sharing, and manipulation has also made it possible for U.Va. to be selected as the first academic institution to receive the new type of equipment.

The new spectrometer will be available in March-April '04. For more information about using this new facility, contact Jay Fox at 924-0050 or jwf8x@virginia.edu ■

Infectious Diseases Society Honor

Michael Scheld, M.D., has been elected president of the Infectious Diseases Society of America and president-elect of the National Foundation for Infectious Diseases. ■

American Academy Humanities Initiative Receives Major NEH Grant

President Patricia Meyer Spacks of the American Academy of Arts and Sciences recently announced the establishment of a \$2.5M fund that will launch the Academy's effort to improve the position of the humanities in America. A grant of \$600,000 from the National Endowment for the Humanities—one of the largest made this year by the federal agency—will provide the seed money for a fund to support fellowships in the humanities, an active lecture series, and ongoing investigations into the state of the humanities. Spacks is Edgar F. Shannon Professor in the Department of English Language and Literature.

Academy members at the University include: Martha Derthick and Matthew Holden Jr, who are professors emeriti of politics; Kenneth W. Thompson, director emeritus of the Miller Center of Public Affairs; Norman Graebner, emeritus professor of foreign affairs; Dell Hymes in anthropology; Anita K. Jones in computer science; Janis Antonovics and Michael Menaker in biology; Michael Thorner in medicine; Mavis Hetherington, emeritus professor of psychology; in the Law School, Robert E. Scott, former dean, and G. Edward White; in religious studies, James Childress, Robert L. Wilken, and professor emeritus Nathan Scott Jr; Dean of the College of Arts and Sciences Edward Ayers; Merrill Peterson, emeritus professor of history; Ralph Cohen and E.D. Hirsch Jr, professors emeriti in the English department; Jerome McGann and Charles Wright in the Department of English Language and Literature; and John D. Summers, professor of art history.

The University of Virginia is one of 41 academic institutions affiliated with the American Academy with an interest in supporting its Visiting Scholars Program. For more information, visit www.amacad.org ■

2004 IATH Fellowship Opportunities Request for Proposals

The mission of the Institute for Advanced Technology in the Humanities (IATH) is to explore and expand the potential of information technology as a tool for humanities research. To that end, we provide a Fellows Program for U.Va. faculty. Fellows are chosen based on projects they propose with the proposals evaluated on the intellectual merits of the project, the impact of the project on the faculty's research, and the degree of innovation (relative to the specific discipline) in the use of technology. Fellows are provided with consulting, technical support, applications programming, and networked publishing facilities. While many projects have resulted in an electronic resource (e.g., a repository of digital materials), the only requirement is the publication of a research report at the end of the fellowship term.

ELIGIBILITY

Faculty members involved in humanities research through any department of the University are eligible to apply to the Fellows Program. We interpret "humanities" very broadly as can be seen from the spectrum of disciplines represented in previous projects, including Anthropology, Architecture, Art History, Drama, Engineering Humanities, English, History, Music, and Religious Studies.

Links to specific projects can be accessed through the list at

<http://www.iath.virginia.edu/researchactive.html>, while reports from the projects are available at

<http://www.iath.virginia.edu/reports.html>.

FELLOWSHIP SUPPORT

Fellowship support is for a two-year period and will include: half-time teaching release in the first year (by home department), office space at the Institute, equipment and software, training, computer programming, budget resources, research assistants, and development assistance to raise additional grants and gifts to support the research project.

APPLICATION DEADLINE

Applications for the 2004-2006 fellowship are due by February 27, 2004. The selection committee decision will be made by the end of March, and the fellowship will begin July 1, 2004. Guidelines and application forms are available at the Institute or through the Web at

<http://www.iath.virginia.edu/iath/fellowships.info.html>.

Faculty planning to submit an application are encouraged to meet with the IATH Directors to discuss their proposals in advance of the application deadline.

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AAALAC Is Coming to Town

The holidays are long over and it's back to business as usual... but not quite. Members of the Office of V.P. for Research and Graduate Studies, the Center for Comparative Medicine, and the Animal Care and Use Committee have been hard at work preparing for the upcoming inspection by the organization that accredits our animal research program, the Association for Assessment and Accreditation of Laboratory Animal Care, Intl. This inspection process typically occurs once every three years,

Renovations are ongoing in several of the vivaria to bring them into compliance. These renovations impact animal housing space and have direct impact on research programs.

but because the last review of the University's animal care program almost resulted in revocation of our accreditation status, the program is undergoing re-evaluation by AAALAC in early March this year.

WHAT DOES THIS MEAN FOR YOU?

Renovations are ongoing and extensive in several of the vivaria to bring them into compliance. This includes physical

plant renovations to provide better temperature and humidity control, sufficient fresh air flow into all animal rooms, backup emergency air handling systems and power, and other facility improvements. These renovations impact available animal housing space and thus have direct impact on your research programs.

The Animal Care and Use Committee is carefully reviewing animal use protocols and updating ACUC policies and procedures to ensure that all of these are consistent with both institutional policies and federal regulatory requirements. You may receive requests to modify your protocols that previously received full approval. You may be told to change some of the practices in your laboratories that previously went unnoticed, due to more frequent inspections of the animal research laboratories. Additional training may be required of your laboratory staff.

The consultants from AAALAC will visit most of the laboratories using animals during their stay. Please be prepared by reviewing the "Do's and Don'ts" article on the back page in the past issue of *Research News*, reviewing the laboratory checklist available from the ACUC website at <http://www.healthsystem.virginia.edu/internet/iacuc/> and reading all relevant policies to make sure the laboratory is fully compliant and conducting animal research in a humane and safe manner. The performance of, or even just the perception of less than superb practices in just one laboratory can alter the dynamics of the entire AAALAC review. ■

Richard Guerrant Elected to the Institute of Medicine

In October, Richard L. Guerrant, M.D., Thomas H. Hunter Professor of International Medicine and director of the Center for Global Health in the School of Medicine, was honored by being elected one of 65 new members of the Institute of Medicine. "Members are elected through a highly selective process that recognizes those who have made major contributions to the advancement of the medical sciences, health care, and public health. Election is considered one of the highest honors in the fields of medicine and health," said IOM President Harvey V. Fineberg.

The Institute of Medicine is unique for its structure as both an honorific body and an

The Institute recognizes those who have made major contributions to the medical sciences, health care, and public health.

analytic and advisory organization. Established in 1970 by the National Academy of Sciences, the Institute has become

recognized as a national resource for independent, scientifically informed analysis and recommendations on issues related to human health. With their election, members make a commitment to devote a significant amount of volunteer time to serve on IOM committees, which engage in a broad range of studies on health policy issues. An unusual diversity of talent among members is assured by the Institute's charter, which stipulates that at least one-quarter be selected from outside the health professions. Such fields as the natural, social, and behavioral sciences, as well as law, administration, engineering, and the humanities are represented among their ranks. There are now 1,382 elected members and 71 foreign associate members. ■

High Tech Business Conference Upcoming in Roanoke

A conference on managing and financing small high tech companies will be held at the Hotel Roanoke & Conference Center, Roanoke, on April 22 and April 23, 2004. Speakers will include: Richard Martin, CEO of Noesis, on successfully managing decisions for high technology companies; Marc Stanley, director of the advanced technology program at NIST, on funding high risk technology development; Alan Letzt,

President and CEO of Adherence Technology Corp., on growing a new business without sales and venture capital; and Howard Kossak of AAH Financial Partners, who will chair a panel of four specialists in arranging venture capital and angel investing. To access full agenda and registration information, see <http://www.sw.edu/pac.html> or e-mail the organizer at kcdas@msn.com ■

IBC Adopts Biosafety Policy for Use of Human Cells

Consistent with a national trend, the University's Institutional Biosafety Committee (IBC) has adopted a formal policy clarifying biosafety precautions required for activities involving human cells. According to the policy, all cell and organ cultures of human origin, including well-established cell lines, must be handled in accordance with the OSHA Bloodborne Pathogens Standard and under Biosafety Level 2 (BSL2) containment. The IBC encourages investigators to take measures now to ensure compliance by July 1, 2004. Questions and comments may be directed to the University Biosafety Officer, Dr. Tom Leonard, at tleonard@virginia.edu. The policy, including background information, may be viewed at the University's biosafety Web site at <http://keats.admin.virginia.edu/bio/home.cfm> ■

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