



## A Letter from the Department Chair

by **Robert R. Pinger, Chair**  
*Department of Physiology and Health Science*

Dear Alumni and Friends,

As the fall 2003 semester begins, we welcome two new faculty members and one returning faculty member to our department.

David Marini, who has been working as an instructional designer in the University's Teleplex, will rejoin the department after being assigned to that unit for nine years (See the article on page 4).

Denise Seabert, who comes to Ball State from Purdue University, brings expertise in school health programs, and Beth (Neilson) Hahn, who joins us from

Clarian Health Partners, in Indianapolis, will strengthen our teaching in work site health promotion.

The lead article in this issue is about two national level research grants recently awarded to department faculty. But it is important to remember that our faculty and students continue to receive many smaller grants that keep our department running ahead of the pack. For example, Larry Ganion annually receives funding for service contracts for the electron microscopes. Others receive grants to implement innovative teaching strategies, to provide internship experiences for students, or to support travel.

**"Chair's Letter" continued on page 3.**

## New grants to fund tick research, purchase confocal microscope

Substantial grants received by department researchers over the summer will fund a study of the ways harmless and disease-causing microorganisms interact inside ticks. Grants also will fund the purchase of a confocal microscope that will be central in a future digital imaging facility for research and teaching.

Department chair Robert Pinger, along with Indiana University researchers Keith Clay, Curt Lively, Michael Wade, and Clay Fuqua, received \$1.88 million from the National Science Foundation and the National Institutes of Health. Ball State's portion of the grant is \$375,000. "This grant would not have been possible without the participation of Fresia Steiner, my research associate," said Dr. Pinger.

The five researchers plan to evaluate bacterial diversity within tick species using molecular methods, determine how interspecific interactions affect microbial community structure within ticks, develop epidemiological models that incorporate microbial interactions within ticks, and determine the conditions

under which multiple infections interfere with or amplify one another.

Ticks themselves are only a minor nuisance, but some of the microorganisms they carry cause diseases, among them, Lyme disease, Rocky Mountain spotted fever, tularemia, and human monocytic ehrlichiosis. According to the Centers for Disease Control and Prevention, more **"Grants" continued on page 2.**

### In This Issue...

- (2) Neilson Scholarship helps health science graduate students
- (3) Successful alumnus James Bell reaches out to community
- (4) Focus on Faculty: David Marini

An enhanced version of this newsletter is available online at [www.bsu.edu/physiology/newsletter](http://www.bsu.edu/physiology/newsletter)

Read more about the Department of Physiology and Health Science at [www.bsu.edu/physiology](http://www.bsu.edu/physiology)

## Grants continued from page 1

than 15,000 cases of Lyme disease are reported in the United States each year.

Center for Medical Education assistant professor Derron Bishop, along with Center for Medical Education faculty member Larry Fromm, Department of Physiology and Health Science faculty members Larry Ganon and Najma Javed, and Department of Biology associate professor Clare Chatot, received a grant of an estimated \$300,000 from the National Science Foundation to fund the purchase of a confocal microscope.

Housed in the Department of Physiology and Health Science, the confocal microscope will be used by researchers from the Center for Medical Education, the Department of Biology, and the Department of Physiology and Health Science.

Research using the microscope will include understanding cellular mechanisms underlying rewiring of the developing nervous system, localize proteins that regulate the development of the mouse embryo, explain molecular mechanisms of synapse formation, determine functional roles for annulate lamellae and their interaction

with endoplasmic reticulum, and understand neuroimmune interactions in the digestive system.

"It is difficult, if not impossible, to see deep within biological tissues with a normal microscope," Dr. Bishop said. "It is analogous to shining a flashlight into a muddy pond. The confocal microscope allows us to see in the 'muddy pond.' This is accomplished by scanning a laser through fluorescently-labeled biological samples to create 'optical slices.' The 'optical slices' are then stacked together to make a completely in-focus, three-dimensional reconstruction." Because the microscope takes "optical slices" rather than "physical slices," this procedure can be performed even on living tissue.

The confocal microscope will be the only one of its kind in this region, and coupled with the scanning and transmission electron microscope that the department already owns, will become part of a planned high-resolution imaging facility. Undergraduate and graduate students will have access to the microscope for sponsored research and in a newly revised course that will focus on electron and confocal microscopic imaging.

## Neilson Scholarship helps health science graduate students

In the spring of 1992, professor Elizabeth A. Neilson and her brother George H. Neilson provided funds to establish the Elizabeth A. Neilson and George H. Neilson Scholarship.

Each academic year, the scholarship provides assistance to a graduate student specializing in the promotion of comprehensive health information through education, not concentrating in one single interest area.

Elizabeth A. Neilson, Ed.D, was a professor, a college administrator, founder of Consultant Health Education major programs throughout the country, and an author of health education texts. She received several honors and awards, including the William A. Owe Award, the Distinguished Service Award of the American School Health Association, and Northeastern University's Outstanding Alumni Award.

George H. Neilson, MBA, a graduate of Harvard



**Mark Neilson and his mother, Dorothy Neilson, present the Neilson Scholarship to Peggy Chute at the 2003 Honors and Awards Banquet.**

University, was a business administrator. Four of George and Dorothy Byrnes Neilson's eight children are Ball State graduates. All have become distinguished professionals.

Elizabeth Neilson Hahn, George and Dorothy's daughter and a Ball State alumna, recently joined the Department of Physiology and Health Science faculty at the beginning of the fall 2003 semester to teach Introduction to Community Health.

If you would like to contribute to this scholarship or any of the other funds which support the Department of Physiology and Health Science, you may do so online, by telephone, or by mail.

Visit [http://www.alumniconnections.com/donate/ball\\_state](http://www.alumniconnections.com/donate/ball_state) or contact the Ball State

University Foundation, P.O. Box 672, Muncie, IN 47308, (765) 285-8312, [giving@bsu.edu](mailto:giving@bsu.edu). Please indicate the account number and name of the fund you wish your contribution to support. A list of the funds that support the Department of Physiology and Health Science appears on page three of the newsletter.

## Chair's Letter *continued from page 1*

Please send us alumni news that we can share on our Web site or in a future issue of this newsletter. One such item, sent to us by Elaine Bell regarding her son James, appears just below. Many of you have news items to share, so please send them to us.

Finally, I wish to remind you that we have launched our Quest for Excellence fundraising effort. You should have

received a letter from me this summer, and we will be following this letter up with a phone call in October.

Please consider making a pledge to the department this year. A pledge that can be fulfilled over a five-year period is sometimes preferable. It reflects a long-term commitment and relationship between you and the department and reduces the need for annual requests.

## Successful alumnus James Bell reaches out to his community

*Provided by Elaine Bell*

Ball State University Department of Physiology and Health Science alumnus James R. Bell recently received the Illinois Department of Public Health Red Ribbon Award for outstanding dedication, compassion, and effectiveness in the field of HIV/AIDS care.

Bell holds both a bachelor's and a master's degree in health science/community health from Ball State, as well

as a registered nursing degree from Truman College in Chicago, which he most recently received with honors. He is a 1983 graduate of Warsaw Community High School in Warsaw, Indiana.

Bell has been employed at Howard Brown Health Center in Chicago for the past five years where he coordinated an outreach HIV prevention and testing program. He is an R.N. in both the primary care clinic and in public health outreach at the center.

## BSU Foundation Fund Accounts for Physiology and Health Science

**#6901 General Fund:** Use of the funds in this account is unrestricted.

**#6903 McGovern Lecture Series:** Funds the annual McGovern lecture.

**#6904 Public Health Entomology Lab:** Supports Public Health Entomology Laboratory research.

**#6916 Physiology/Health Science Research:** Supports the purchase of lab equipment for students.

**#6917 Henzlik Physiology/Anatomy Research:** Supports the research project of a physiology master's degree student.

**#6950 Physiology/Health Science General Scholarship:** An unrestricted scholarship fund.

**#6951 Siverly Memorial Scholarship:** Supports/rewards student research in public health entomology.

**#6952 HSC Faculty Scholarships:** Scholarship for health and safety teaching major/minor or HSC major/minor.

**#6953 Neilson Scholarship:** Supports a graduate student specializing in the promotion of comprehensive health information through education.

**#6954 Paschall Scholarship:** Rewards an anatomy and physiology graduate assistant for excellence in teaching.

**#6955 Carroll Health Education Scholarship:** Provides a scholarship for a health science graduate student.

**#6956 Jones Health Education Scholarship:** Provides a scholarship for a sophomore or junior health science major.

**#6957 Wilma Bartels Henzlik Scholarship:** Provides assistance to students in physiology.

**#6958 McKenzie-Walkup Book Scholarship:** Provides textbook money for one or more health and safety or health science majors (junior or senior).

**#6959 Zeberl Family Scholarship:** Provides at least one scholarship for students in community health science; it can also provide administrative support for the internship program.

Department of Physiology and Health Science  
Ball State University  
Cooper Science Building, CL 325  
Muncie, IN 47306-0510

Nonprofit  
U.S. POSTAGE  
PAID  
Ball State  
University

# Focus on Faculty: David Marini

Returning to the department in fall 2003 is a familiar face, David Marini. Marini has a long history with the department beginning with a graduate assistantship from 1973 to 1974. He earned a B.S. in health education from Central Michigan University in 1973, then came to Ball State to earn an M.A.E. in health science/public health in 1974. Later, he earned a Ph.D. from the University of Maryland in health education and human sexuality.

In 1980, Marini returned to Ball State University and the Department of Physiology and Health Science as an assistant professor teaching human sexuality, statistics, epidemiology, health communications, introduction to community health, and graduate workshops in HIV prevention, sexual wellness skills, and technologies for health education.

He served as director of the London Centre from 1985-1986 and as a faculty associate for the Center for Teaching and Learning from 1991-1993. He was promoted to associate professor in 1984 and received Ball State's Outstanding Young Professor award in 1985. He also taught Multimedia Design and Production for the telecommunications department for three years.

In 1994, however, Marini left the Department of Physiology and Health Science and accepted a position as an instructional designer for the University Teleplex. As an instructional designer, he planned, designed, and managed the development of technology-rich approaches to learning in all disciplines on campus. He led the internal faculty grants program for the Teleplex from 1997-1999 and was involved in faculty training initiatives for technology infusion and literacy.

Marini has now returned to teach health, sexuality, and family life and principles of community health. "I feel like I've been on a nine-year leave and return very refreshed and ready to get back to my roots as a teacher," he said. "I miss the autonomy of a faculty position and I am also interested in working on several projects of my own, which relate to the effects of technology-rich approaches to authentic learning and the perception of learning responsibility."



**David Marini**