

# focus

## UMMS welcomes microRNA pioneer Ambros

An established scientist in the field of microRNA research, Victor R. Ambros, PhD, of Dartmouth Medical School will join the faculty at UMass Medical School this January in the Program in Molecular Medicine.

"In my field, there is unique expertise at UMass Medical School, which has recently gained the recognition it deserves as one of the international centers of RNA biology," said Dr. Ambros. "With the numerous RNA experts at the Medical School, including Phil Zamore, Craig Mello, Joel Richter, Melissa Moore and many others, I know my post-docs and graduate students will be in a terrific environment where they can find experts in any aspect of RNA biology they can imagine. I see UMass Medical School as one of those rare environments where people feel that they are part of a remarkable community, and that they are contributing to something important."

Ambros completed his undergraduate and graduate degrees and his post-doctoral research at the Massachusetts Institute of Technology. After his post-doctoral fellowship, Ambros joined the faculty at Harvard in 1984 and remained until 1992, when he accepted a faculty position at Dartmouth. The following year, Ambros' lab was the first to discover

a microRNA, in this case the product of the heterochronic *lin-4* gene in *C. elegans*. (MicroRNAs are single-stranded RNA molecules that play a critical role in gene regulation.) Since this discovery, Ambros and others have identified a large range of genes for diverse microRNAs in animals and plants. Today, Ambros continues his research on microRNA function and gene regulation during development and is focused on understanding the genetic and molecular mechanisms that control cell division and differentiation in animals.

"Dr. Ambros and his lab group are a fabulous addition to our Program in Molecular Medicine and the Medical School faculty, greatly enhancing our growing RNA community," said Michael P. Czech, PhD, professor and chair of molecular medicine and professor of biochemistry & molecular pharmacology. "UMass Medical School will benefit from his expertise as an international leader in microRNA research and from his outstanding qualities as a partner, mentor, colleague and collaborator."



Victor Ambros, PhD

In recognition of his research on gene regulation, Ambros was elected to the National Academy of Sciences this past May. He has received numerous honors for his scientific achievements, including the 2005 Lewis S. Rosenstiel Award for Distinguished Work in Basic Medical Research, which he shares with Gary Ruvkun, PhD, from Massachusetts General Hospital, and 2006 Nobel Laureates Andrew Z. Fire, PhD, of Stanford University and Craig C. Mello, PhD, Howard Hughes Medical Institute Investigator, *Blais University Chair in Molecular Medicine* and professor of molecular medicine and cell biology at UMMS. ■

## HHMI Investigator Moore joins UMMS

UMass Medical School is continuing to build upon its reputation as an international leader in the field of RNA research by appointing Howard Hughes Medical Institute (HHMI) Investigator Melissa J. Moore, PhD, as a professor of biochemistry & molecular pharmacology. An expert in messenger RNA, Dr. Moore will collaborate with other UMMS investigators in groundbreaking RNA research.

"I'm excited to join the UMass Medical School faculty—this community is a remarkably collaborative one, and I look forward to being part of that environment," said Moore. "Moreover, UMass Medical School is one of the best places in the world for RNA research, and I'm eager to see my collaborations with my new colleagues broaden the impact of my work and bring my research closer to the clinic."

Moore joins UMMS from Brandeis University, where she was professor of biochemistry. She received her doctorate in biological chemistry from the Massachusetts Institute of Technology and completed post-doctoral research there. As a post-doctoral fellow, she began working on RNA metabolism and developed a widely adopted technique for manipulating RNA molecules.

Moore was named an HHMI

Investigator in 1997 and joins UMass Medical School HHMI Investigators Roger J. Davis, PhD, the *H. Arthur Smith Chair in Cancer Research*; Michael R. Green, MD, PhD, the *Lambi and Sarah Adams Chair in Genetic Research*; and 2006 Nobel Laureate Craig C. Mello, PhD, the *Blais University Chair in Molecular Medicine*. HHMI funding supports laboratory and research enterprises, as well as graduate student training, library resources and other needs.

Moore's lab is focused on pre-mRNA splicing and its connections to intracellular messenger (mRNA) localization, translation and degradation. Her research is currently funded by the National Institutes of Health, as well as HHMI.

"We are so pleased to welcome Dr. Moore to UMass Medical School. She is an accomplished member of a class of



Melissa Moore, PhD

young investigators who have already had a substantial impact on biomedical research," said C. Robert Matthews, PhD, the *Arthur F. and Helen P. Koskinas Professor of Biochemistry & Molecular Pharmacology* and chair of the department. "As an emerging leader in biomedical research, we are looking for people who ask big questions and take risks—Dr. Moore is certainly one of those scientists. She has that special talent and perseverance that will no doubt lead to major scientific breakthroughs and medical advances." ■

### Focus on the Web

In addition to online access to *Focus* via the Medical School's Intranet, the monthly newsletter is now widely available via the UMMS Internet Web site. For a PDF file of this monthly publication, visit [www.umassmed.edu/pap/pubs/focus/index.cfm](http://www.umassmed.edu/pap/pubs/focus/index.cfm).



## Witman receives prestigious MERIT Award

The National Institutes of Health recently recognized George B. Witman, PhD, the *George F. Booth Chair in the Basic Sciences* and professor of cell biology, for his research project *Flagellar Motility and Assembly*, awarding him the prestigious Method to Extend Research in Time (MERIT) Award. The award is given to an investigator who has an excellent record of scientific productivity from previous research and provides the investigator with continuous support and a grant extension, eliminating the administrative burdens associated with the grant renewal process. Dr. Witman has received continuous NIH funding for this project since 1974 and is expected to receive nearly \$3 million over the next five years.

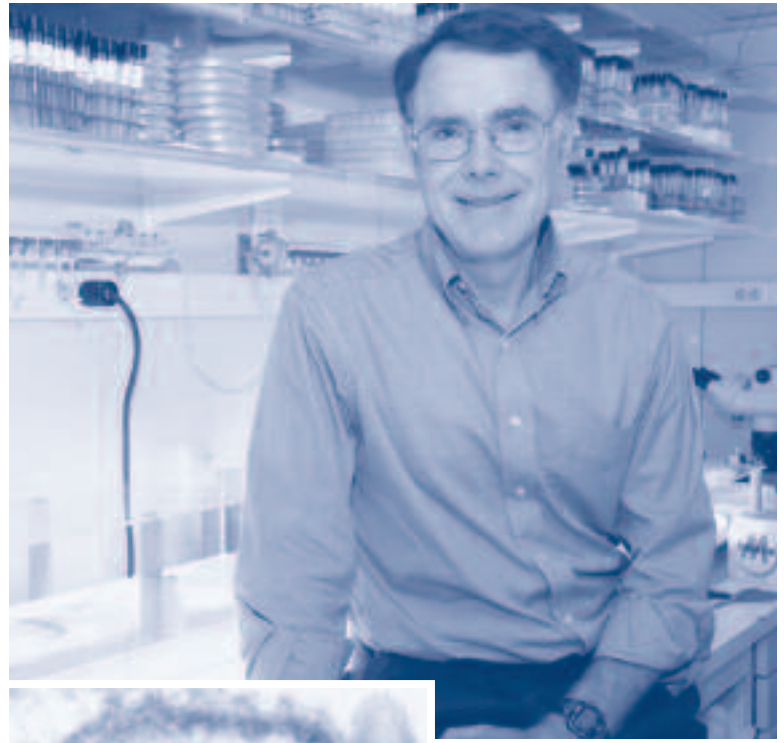
It was a lonely field nearly 40 years ago when Witman began his research on cilia and flagella, the tiny, hair-like structures that project from cells. “There were probably no more than a

half-dozen labs focusing on these fascinating structures,” said Witman. That has changed dramatically in the last five years, due in large part to discoveries Witman and his collaborators have made.

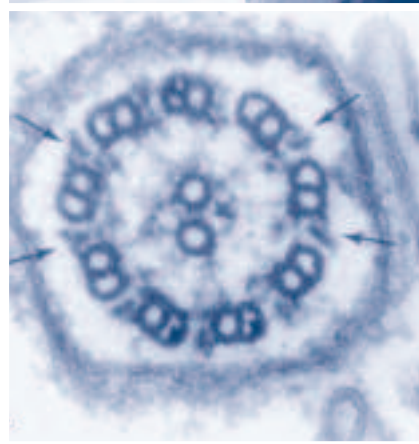
the discovery that they play important roles in diverse functions in cells and organs. As a result, defects in these structures lead to a multitude of human disorders, including cystic kidney disease, blindness, obesity, chronic airway disease, hydrocephalus, developmental abnormalities and male infertility.

Much of Witman’s research has utilized the flagellate green alga *Chlamydomonas* as a model system. *Chlamydomonas* is ideal for both genetic and biochemical studies, so it is easier to gain knowledge about flagella by studying this organism rather than humans. “Fortunately, cilia and flagella have been highly conserved throughout evolution, so much of what we learn from *Chlamydomonas* is applicable to humans,” said Witman.

“The MERIT Award is not just an honor for me; it also recognizes the past and current research by my graduate students, post-docs and colleagues, who have contributed innovative ideas and a great amount of time to understanding the roles of cilia and flagella in human disease.”



George Witman, PhD



Research in the Witman lab helped identify the human genes that cause loss of the flagellum’s outer arms, which are pinpointed here in a *Chlamydomonas* flagellum, in patients with primary ciliary dyskinesia, or PCD.

Throughout the research project’s 34-year history, Witman has worked with numerous collaborators, including UMass Medical School faculty members Gregory J. Pazour, PhD; Karl-Ferdinand Lechtreck, PhD;

Michael J. Sanderson, PhD; and Jovenal D. San Agustin, PhD; post-doctorate associates Philippe Delmotte, PhD; Yuqing Hou, PhD; and Junya Awata, PhD; and research associate Deborah Cochran. ■

**“The MERIT Award is not just an honor** for me; it also recognizes the past and current research by my graduate students, post-docs and colleagues.

George Witman, PhD

## achievements

■ **David C. Ayers, MD**, the *Arthur M. Pappas, MD, Chair in Orthopedics* and professor of orthopedics & physical rehabilitation, delivered the invited lecture, “Total Knee Replacement in the United States: the Current State of the Art in 2007,” at the Nuffield Orthopedic Centre, Oxford University, Oxford, England, during ceremonies celebrating the grand opening of the newly renovated Nuffield Orthopedic Centre. The free-standing orthopedic hospital is the home for the musculoskeletal center of excellence for Oxford University.

■ **Susan B. Gagliardi, PhD**, professor of cell biology and neurology, is the first recipient of the Master Teacher Award presented by the International Association of Medical Science Educators. The award, which will be given each year to a member who demonstrates a long-standing record of teaching excellence, is based on student and peer evaluations of teaching and contributions to medical education and educational scholarship.



Following are faculty who have joined UMMS as professors or associate professors or who have been promoted to those positions, as documented by the Office of Faculty Administration:

- **Mark S. Kaplan, MD**, appointed clinical associate professor of orthopedics
- **Andrew B. Leiter, MD, PhD**, appointed professor of medicine
- **Charles A. Specht, PhD**, appointed research associate professor of medicine

- **Stuart A. Anfang, MD**, promoted to clinical associate professor of psychiatry
- **Edward Peskin, MD**, promoted to clinical professor of obstetrics & gynecology
- **John L. Woodhead, PhD**, promoted to research associate professor of cell biology



**On August 8, a Topping-off Ceremony for the Advanced Clinical, Education and Science Building\* was held**, symbolizing the completion of its structural steel frame. Pictured is the final beam being raised by iron workers. As is tradition, the beam was autographed by the entire work crew as well as representatives of UMass Medical School and UMass Memorial Health Care. Keep an eye on construction progress—next steps include pouring the concrete floors and installing the exterior glass curtain wall.

\*This new building name, which reflects the three core activities that will take place inside, was recently adopted.

## Twelve investigators awarded Worcester Foundation 'seed' grants

The Worcester Foundation for Biomedical Research (WFBR) has awarded 12 UMass Medical School investigators Annual Research Grants. These "seed" grants of \$25,000 each allow researchers to pursue innovative research for which they may not currently have funding, enabling them to produce preliminary data they can use to compete for federal and other grant funding.

"This year's application pool constituted a boomlet of translational research projects, reflecting the enormous opportunities at hand," said WFBR Director Thoru Pederson, PhD, the *Vitold Arnett Professor* and professor of biochemistry & molecular pharmacology. "The committee was particularly struck by the innovative nature of the proposals."

Two of this year's projects—*A New Approach for the Early Diagnosis*

*of Heart Attacks in the Emergency Department: Measurement of Platelet Stickiness*, by Chad E. Darling, MD, and *Vagus Nerve Stimulation and Food Intake in Humans* by Sherry Pagoto, PhD—exemplify this innovation.

Dr. Darling hopes to develop a simple, five-minute diagnostic test of platelet function, known as stickiness, for emergency room use. While it is a risk factor for heart attack, there is currently no method for measuring

platelet stickiness that is fast and precise enough to signal an imminent heart attack. Since 70 percent of patients who present in emergency rooms with chest pain and who are admitted for further analysis are found to have not suffered a heart attack, Darling explained that the test "would help us sort out those patients who have not yet had a heart attack but whose degree of platelet stickiness indicates high risk for one in the near future."

The vagus nerve plays a central role in short-term regulation of food intake. Research suggests a relationship between weight loss and a thera-

py called vagal nerve stimulation (VNS), an FDA-approved treatment for epilepsy and treatment-resistant depression. "Our goal is to identify what characteristics in subjects are related to weight loss with VNS," said Dr. Pagoto. She will also collaborate with Howard Hughes Medical Institute Investigator Roger Davis, PhD, the *H. Arthur Smith Chair in Cancer Research* and professor of molecular medicine and biochemistry & molecular pharmacology, to examine how VNS affects appetite-related hormones like leptin and insulin in order to identify potential new targets for weight-loss therapies.

### 2007 Annual Research Fund award recipients



**Kurt C. Barringhaus, MD**, assistant professor of medicine: *RNA Silencing in Arteriosclerosis*



**Steven R. Grossman, MD, PhD**, assistant professor of cancer biology and medicine: *Turning Cancer Against Neurodegenerative Disease: Targeting the ARF Tumor Suppressor to Rescue Neurons in Huntington's Disease*



**Richard A. Perugini, MD**, assistant professor of surgery: *Correlation of Insulin Resistance, Cardiovascular Morbidity, and Gene Expression in Subcutaneous and Visceral Adipose Tissue in Patients Undergoing Gastric Bypass*



**Jason J. Chen, PhD**, assistant professor of medicine: *Cdt1 in HPV-induced Genomic Instability and Cervical Cancer*



**Lawrence J. Hayward, MD, PhD**, associate professor of neurology and physiology: *Amyotrophic Lateral Sclerosis: Proteomics-Based Biomarker Discovery*



**Shimul A. Shah, MD**, assistant professor of surgery: *Mechanisms of Hepatitis C Induced Hepatocellular Carcinoma*



**Chad E. Darling, MD**, assistant professor of emergency medicine: *A New Approach for the Early Diagnosis of Heart Attacks in the Emergency Department: Measurement of Platelet Stickiness*



**Eric S. Huseby, PhD**, assistant professor of pathology: *Induction of CNS Autoimmunity by CD8 T Cells*



**Motojiro Yoshihara, PhD**, assistant professor of neurobiology: *Molecular Mechanism of Synaptic Plasticity*



**Ellen M. Gravalles, MD**, professor of medicine: *Impaired Bone Formation in Joints Affected by Rheumatoid Arthritis*



**Sherry Lynn Pagoto, PhD**, assistant professor of medicine: *Vagus Nerve Stimulation and Food Intake in Humans*



**Hong Zhang, PhD**, assistant professor of cell biology: *Characterization of Genetic Pathways of Senescence*

## employees infocus

### September Employee of Distinction Award

#### Vitals

##### Julie Forgione

Associate Director of Business and Organizational Development Center for Health Care Financing, Commonwealth Medicine

**Year started:** 1999

**Hometown:** Nahant

#### Professionally Speaking

How can a former social worker find happiness and success in a financial role? If she is September Employee of Distinction Julie Forgione, she does it by applying her passion for human services to the financial side of health care, developing and implementing initiatives for Massachusetts and other states that help public agencies identify revenue sources so they can concentrate on meeting clients' needs.

With her goal to help keep elders and people with disabilities at home if they want to be, she explained that, "It's a balancing act between putting together a good service package

for an individual and making sure the resources are available to pay for it." Forgione decided early on to become a "master of the game" at health care financing because of the important role it plays in health care delivery. She has developed skills in the field that she continuously shares. "I'm proud that the money the Center for Health Care Financing saves for the Commonwealth comes back into the system to help more citizens," she said.

#### Points of Pride

Forgione gained national recognition when she was invited to make a presentation about a Center for Health Care Financing project she spearheaded to maximize Medicare benefits for home-based health care at the National Association for Medicaid Directors 2001 annual conference. "The proposals Julie developed has earned the Center national recognition for Medicare appeals and has generated millions of dollars in savings for our clients," wrote nominator Mary Fontaine,

managing director of benefit coordination for the Center.

Forgione also enjoys contributing to "Growth through Collaboration," the title of last fall's staff retreat which she coordinated for the department. "It's all about developing staff to keep them energized and motivated," she said. Her other efforts in staff development include bringing Human Resources Workplace Learning courses previously available only in Worcester to Center for Health Care Financing offices in Boston.



# Calendar

## Research computing services expanded

As the establishment of the Clinical & Population Health Research Division and the Clinical and Translational Science Department demonstrate, health sciences research has quickly become one of UMass Medical School's research priorities. Information Services (IS) is pleased to announce the acquisition of a new high-speed statistics server called STATS for performing data analysis on large datasets such as those commonly used in health sciences research. Analysis of such datasets often took days on the older statistics server and on PCs. STATS is faster and able to perform numerous analyses simultaneously. For more information about STATS, visit [inside.umassmed.edu/IS/ACS/ResearchComputing/stats\\_serv/facilities.aspx](http://inside.umassmed.edu/IS/ACS/ResearchComputing/stats_serv/facilities.aspx).

IS also provides ArcGIS software (through a shared license with UMass Amherst), which allows researchers to map locations of things such as disease occurrences and analyze the spatial relationships of occurrences graphically. This software can be installed on any UMMS-owned computer. Visit [inside.umassmed.edu/content.aspx?id=20630](http://inside.umassmed.edu/content.aspx?id=20630) to learn more about downloading ArcGIS.

For more information about research computing, contact Stephen Baker at x-62625 or via global e-mail or visit [inside.umassmed.edu/is/acs/ResearchComputing/index.aspx](http://inside.umassmed.edu/is/acs/ResearchComputing/index.aspx).

■ This year's Civility Awareness Event will be held on Tuesday, Sept. 18, from 11:30 a.m. to 1:30 p.m. in the Faculty Conference Room. The event is part of the institution's effort to promote civility by raising awareness of its importance in the workplace. The keynote address will be delivered by Daniel Goleman, PhD, author of the best-selling book *Social Intelligence*. The event is sponsored by the Civility Committee, a sub-committee of the Council on Equal Opportunity and Diversity. RSVP by Friday, Sept. 14, to Nellie Toney via global e-mail.

■ A reception for the sixth installment of the Artist in Residence series will be held at 5 p.m. on Tuesday, Sept. 18, in the Lamar Soutter Library. The exhibit, Textures of Nature in Paint and Pastel, features the artwork of James "Barry" Hanshaw, MD, professor emeritus of pediatrics. The works will be displayed on the first floor of the library through Friday, Oct. 26. For information, contact Nancy Harger at x6-3334 or via global e-mail.

■ The second annual Prostate Cancer Symposium will take place on Wednesday, Sept. 19, from 8:30 a.m. to 3:30 p.m. in the Lazare Research Building. The event offers the opportunity to learn more about prostate cancer for men who are at risk for or have been diagnosed with prostate cancer, survivors of prostate cancer and their loved ones and health care professionals.

Robert "Bruce" Montgomery, MD, an associate professor at the University of Washington School of Medicine and attending physician at the Seattle Cancer Care Alliance, will deliver the keynote address. The symposium is free, but seating is limited. To register, call 508-793-6525.

■ The ninth annual Walk to Cure Cancer will be held Sunday, Sept. 23, beginning at noon on the UMass Medical School campus. The five-mile walk around Lake Quinsigamond, sponsored by Massachusetts AFL-CIO in partnership with Blue Cross Blue Shield of Massachusetts, supports cancer research programs at UMMS. Registration begins at 10 a.m. Participants are invited to an after-walk party on campus featuring music legend Chubby Checker. For more information, call event manager Tamara Hampton at x6-5512 or visit [www.walktocurecancer.com](http://www.walktocurecancer.com)

■ Presented by the Consortium of New England Trauma Centers and the Office of Continuing Medical Education, the 12th annual New England Regional Trauma Conference will be held on Thursday, Sept. 27, from 7:15 a.m. to 5 p.m. at the Hoagland-Pincus Conference Center in Shrewsbury. For more information about the program and registration, visit [www.umassmed.edu/cme/events](http://www.umassmed.edu/cme/events).

## ID badge update and schedule



The ID badge exchange for **employees\*** takes place in the old Medical School Lobby. Students will receive their new badges when they renew their parking permit.

If your scheduled ID badge exchange week has already passed and you did not get your new badge, you must go to the Parking and Access Control Office to complete the exchange.

For additional information, visit [inside.umassmed.edu/parking](http://inside.umassmed.edu/parking) and click on news & updates.

\* Individuals who park in the Clinical Lot can pick up their badges from the Office of Parking and Access Control located in Room HA-531.

### September

**Tuesday/Thursday, 6:45-9:30 a.m. and 2:30-4 p.m.**

Sept. 4 and 6: Unreserved parking, name begins with M  
Sept. 11 and 13: Unreserved parking, name begins with N and O  
Sept. 18 and 20: Unreserved parking, name begins with P and Q  
Sept. 25 and 27: Unreserved parking, name begins with R

### October

**Tuesday/Thursday, 6:45-9:30 a.m. and 2:30-4 p.m.**

Oct. 2 and 4: Unreserved parking, name begins with S  
Oct. 9 and 11: Unreserved parking, name begins with T, U and V  
Oct. 16 and 18: Unreserved parking, name begins with W, X, Y and Z

## Chancellor's Forum

Tuesday, Oct. 9, 2007

12:15 to 1:15 p.m.

Faculty Conference Room

Suggestions for agenda items and questions may be sent to Rosalie Noone in Public Affairs via e-mail or interoffice mail.

## grants infocus

□ **Silvia Corvera**, MD, professor of molecular medicine and cell biology: *PI-3 Kinase Effectors in Insulin-Responsive Systems*, National Institute of Diabetes and Digestive and Kidney Diseases, one year, \$299,813; recommended for three more years, \$899,439.

□ **James G. Dobson**, PhD, professor of physiology and medicine: *Myocardial Adenosine Receptors*, National Heart, Lung and Blood Institute, one year, \$406,250; recommended for three more years, \$1.2 million.

□ **John P. Gusha**, DMD, instructor in family medicine & community health: *Central Massachusetts Oral Health Initiative*, Robert Wood Johnson Community Health Leadership Program, three years, \$120,000.

□ **Donald J. Hnatowich**, PhD, professor of radiology: *PET/SPECT/CT Camera for Research Imaging at UMMS*, National Center for Research Resources, one year, \$870,000.

□ **Sougata Karmakar**, PhD, post-doctoral fellow in the lab of Ellen M. Gravallese, MD, professor of medicine: *The Role of BMP3 in the Pathogenesis of Focal Articular Bone Loss in Inflammatory Arthritis*, Arthritis National Research Foundation, one year, \$50,000.

□ **Timothy F. Kowalik**, PhD, associate professor of molecular genetics & microbiology: *Cytomegalovirus and Nuclear Tumor Suppressors*, National Institute of Allergy and Infectious Diseases, one year, \$390,625; recommended for four more years, \$1.6 million.

□ **Sarah E. Mortimer**, PhD, post-doctoral fellow in the lab of Lawrence J. Stern, PhD, professor of pathology and biochemistry & molecular pharmacology: *Kinetic and Structural Investigation of the Mechanism of Action of HLA-DO*, National Institute of Allergy and Infectious Diseases, one year, \$46,826.

□ **Shimul A. Shah**, MD, assistant professor of surgery: *Signaling Mechanisms of Hepatitis C-induced Hepatocellular Carcinoma Before and After Transplantation*, American Society of Transplant Surgeons-2006 ASTS-Astollas Faculty Development Award, two years, \$70,000.

□ **Neal Silverman**, PhD, associate professor of medicine: *Intracellular Innate Immune Recognition in Drosophila*, Burroughs Wellcome Fund-2007 Investigators in Pathogenesis of Infectious Disease Award, five years, \$500,000.

□ **Kathleen Walsh**, MD, assistant professor of pediatrics: *Studying Outpatient Medication Errors in Children with Chronic Conditions*, Robert Wood Johnson Foundation Physician Faculty Scholar, three years, \$299,957.

focus

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