

# RESEARCH

## News

OFFICE of RESEARCH and SPONSORED PROGRAMS

### WELCOME FROM OUR NEW ASSOCIATE PROVOST FOR RESEARCH

*Note: After serving in an interim capacity since September 2003, Wake Forest Professor of Chemistry Mark Welker has been formally appointed Associate Provost for Research. The improved climate under his leadership has already resulted in a 40% jump in external funding for faculty research.*

I want to thank two groups on campus for an enjoyable first year as interim Associate Provost for Research: the faculty, who have been very supportive of my new role, and research administration staff, including ORSP, Foundation Relations, the Controllors Office, and Grants Accounting. They have welcomed me, given me new ideas, and listened to my ideas. I hope, first and foremost, that they view me as a facilitator and a resource.

In a typical week, I spend some time doing what I call *nuts-and-bolts* research administration, consulting on preaward, postaward, and compliance questions; some time working on faculty professional development, talking with them individually, in groups, and in departments about ways to enhance their scholarship and creative activity and to build collaborations with intramural and extramural colleagues; and some time working to publicize their scholarly accomplishments.

This year, Reynolda campus faculty and staff worked together to submit over 150 proposals, requesting over \$55 million, and receiving \$5.7 million in sponsored project support. Our scientific misconduct policy was updated, and our IRB and ORSP staff processed

over 150 protocols and developed a new *Policies and Procedures Manual* and *Investigator's Guide*. The Advancement and Development staff have supported our research efforts, and I have been pleased by the number of book signings they have coordinated as well as the increase in news stories about our creative achievements.

In the coming year, I look forward to continuing to work with faculty and staff to improve research and creative activity on the Reynolda campus.

### DIRECTOR'S MESSAGE: BANNER YEAR!

Through the hard work and dedication of faculty, Wake Forest University received \$5.7 million in external funding during fiscal year 2004, an increase of 40% over last year and the first time since FY2000 that awards exceeded \$5 million. Not included in this number are dollars received for individual fellowship support and gifts from foundations.

Proposal activity was also strong. In FY2004, the Office of Research and Sponsored Programs processed over 150 proposals requesting more than \$55 million dollars for the university community.

The federal government continues to be the major sponsor of WFU research, contributing approximately 95% of the total dollars awarded in FY04. These funds came primarily from the National Institutes of Health and the Army.

On behalf of myself and ORSP staff, I would like to congratulate those who have received external funds and recognize the efforts of all proposal writers.

OUTSTANDING PROJECT, ELLEN MILLER

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WAKE FOREST  
UNIVERSITY

## ORSP DIRECTOR ACHIEVES CRA

Lori Messer recently achieved the credential Certified Research Administrator (CRA). Passing the test of the independent, nonprofit Research Administrators Certification Council means that she has mastered the body of knowledge in proposal development and awards administration; matters of ethics and intellectual property; and legal, financial, and management requirements. We congratulate her on this accomplishment as we rely on her proven expertise.

## NEW TALENT

ORSP is delighted to welcome Gloria Stickney, formerly Benefits Assistant in Human Resources, to our staff. Our new Coordinator of Research Services will administer the Science; Social, Behavioral, and Economic Sciences; and Cross-Campus Collaborative Research Funds. She will also handle pre-award activities for the Biology Department and post-award account set-up and reconciliation.

Gloria has served Wake Forest for 5 years. She is currently a Staff Representative on the University Senate and on the Ad Hoc Committee for Reynolda Campus Staff Issues. Her husband teaches Social Studies at SE Guilford Middle School, son David is a WFU junior this fall, and Jonathan, a junior at East Forsyth H.S. Gloria coaches a Bible Bowl team at Pinedale Christian Church and teaches piano.

Kandise Connor, formerly in this position, is now Grants Administrator for the Biomedical Research Center at the Piedmont Triangle Research Park.

## WHAT PROBLEMS?

From *Report on Research Compliance* 1, 2 (April 2004) In its annual grantee audits, NSF finds an array of typical compliance problems. The most significant stem from a lack of policies and procedures and the roles and responsibilities that flow from them.

Confusion about cost sharing is also rife. Some institutions don't know which of their contributions are allowable; some forget about them; most commonly, they simply forget to document them. The complexities of time and effort reporting often trip up organizations or PIs not familiar with the concept.

Record retention is another vexed question. Federal regulations require project records to be kept for 3 years following the final expenditure report. State rules differ, and universities have their own policies. Records are subject to government inspection as long as they exist; those destroyed in compliance with regulations cannot hurt you.

## 2004 NSF GRANT PROPOSAL GUIDE ADDS COMPLIANCE LANGUAGE

from *Report on Research Compliance* 1, 5 (July 2004) The National Science Foundation has revised its Grant Proposal Guide (FAQs = <http://www.nsf.gov/pubs/gpg/faqs.pdf>.) Among the major changes:

A new section describes funding opportunity categories — Dear Colleague Letter, program solicitation, description, or announcement - and when to use them. Applicants must select the proper category on the Cover Sheet or choose “Grant Proposal Guide” if the submission is not in response to a specific opportunity.

Another new section describes the types of submissions (e.g., letter of intent, full proposal) and what each requires.

Finally, a new section called Grantee Responsibilities and Federal Requirements reinforces awardees' “full responsibility for the conduct of the project or activity supported under an NSF award.” It lists the NSF and federal guidelines to which NSF awards are subject.

The new GPG applies to all proposals submitted after 1 September 2004.

## STUDENT AND EXCHANGE VISITOR FEES

From *Report on Research Compliance* 1, 5 (July 2004) The Department of Homeland Security (DHS) will implement fees to support the Student and Exchange Visitor Information System (SEVIS). Individuals issued a certificate of eligibility on or after 1 September 2004 must pay the fee before they can receive a visa. Students pay \$100; exchange visitors pay \$100, unless participating in federally sponsored programs, which requires no fee. The summer fee is \$35; spouses and dependent children are not charged.

SEVIS aims to clear and to track foreign nationals in the United States. Several academic associations have challenged the process, because it may discourage international study and collaboration. Applicants must pay in advance; many overseas students do not have credit cards or acceptable bank accounts, and mailing a check could delay their visas.

In response, DHS is piloting the use of Western Union, batch payments by sponsors or other third parties, and having the State Department collect fees.

The Government Accounting Office says SEVIS is operating well but should be better monitored. In interviewing college and university representatives, GAO found that updates were incomplete and help desk responses slow and inconsistent.

# OUTSTANDING PROJECT PROFILES

## ELLEN MILLER, ANTHROPOLOGY, TOPS THE NSF PACK

Ellen Miller, Assistant Professor of Anthropology, and her collaborator, Dr. Ahmed El-Barkooky, Professor of Geology at Cairo University and geologist for Shell Oil, have just been awarded \$60,000 from the National Science Foundation's International Programs. US/Egypt proposals are reviewed twice: of the NSF review in December, the Program Officer told her, "reviews don't get any better than this," and if the proposal did not do as well in the Egyptian review, he would fund it out of his own budget. The Egyptian panel, administered by the US Embassy in Cairo, ranked the proposal 1 out of 45.



The team will conduct geological and paleontological investigations into early Miocene mammalian and primate evolution at two sites in the Sahara, about 100 miles from Cairo. The first, Moghra, preserves an array of extinct mammals, including an early Old World monkey and an ape from a period shortly after the two lineages diverged. At the second, Siwa, four terrestrial mammalian taxa were described but, because the exact location of the original fossil beds was lost, it remains unexamined. Almost nothing is known about the paleoenvironment at either site or about the mammals' systematics and paleobiology. The sites provide a unique perspective from which to view the nature and extent of contact between early Miocene Eurasian and African mammals.

The Moghra site is located below the escarpment where the WWII battle of El Alamein was fought. Dr. Miller said that anywhere you find negotiable paths from the plateau, you also find other artifacts of war, some of which are quite dangerous. Shell is exploring the area for natural gas, so hopefully the hazards will be cleared before she begins. Moghra itself is a classic small Saharan oasis where palm trees grow, but the water, too salty to drink, also attracts flies and snakes, so the camp is at some remove.

Dr. Miller explained how "chance favored the prepared mind." First, she was invited to attend an NSF-sponsored conference in Cairo on Egyptian/US Future Research. Investigators gave short talks on their research interests

in the morning and, in the afternoon, split into working groups. After Dr. Miller's talk, her future collaborator came up to her and said, "I'm the person you're looking for." His knowledge of the local geology is crucial for identifying promising sites, although, he confessed, he knows nothing about fossils.

At the same conference, Dr. Miller met a few NSF POs, learned about apt funding mechanisms, and was steered toward International Programs, which had earmarked funds for US-Egyptian collaboration. As a result,

she knew the program was a good match; she feels that if she had applied to the Anthropology Program of the Social, Behavioral, and Economic Sciences division, competing with the "hotter" topic of human evolution, her work might not have been so favorably received.

From then on, she played the game perfectly. She kept up contact with her PO for answers to questions and took the option of suggesting reviewers for her proposal. She reviews grants for the NSF, partly as a professional responsibility but also to network, to read sample proposals, and to learn which ones succeed.

Dr. Miller credits her dissertation director's advice for her success in grantwriting. First, lock the logistics in so firmly that the reviewer will think, "I could do this." Second, leave time to put the proposal aside for a week; then reread it to make sure it seems "doable." Reviewers should "hear the theme music" rising with their progress to the conclusion. Finally, make sure that you're applying to the right sponsor. Describe the project on the phone to assess enthusiasm; talk to colleagues; serve on review panels.

Most of the project funds will pay for travel, including daily rental of a 4-wheel drive vehicle. Buying would be more economical, but NSF deems it too problematical: who owns it, for example? Dr. Miller expects to take an undergraduate student either through the Research Fellows Program or other funds earmarked for research and hopes to find an eager, tough candidate during this semester.

## **SIMONELLI WINS VISITING PROFESSORSHIP**

Professor and Chair of Anthropology Jeanne Simonelli has been chosen Forchheimer Visiting Professor at the Hebrew University for spring 2005 to investigate peace and conflict resolution.

For the past 8 years, in Chiapas, Mexico, her qualitative ethnographic inquiry into the relationship between peace and development focused on everyday acts of reconciliation: the coping strategies communities and individuals use to maintain relative peace in the midst of war. This work continued at a summer 2004 seminar on Peace and Conflict Resolution in Northern Ireland and now moves to the hybrid hotbed of Jerusalem.

Her projects intrinsically combine research and teaching. Students' lives model daily adaptation to conflict, and they become an initial research sample. She believes that better understanding culture and values will show us how to foster peace and stability locally when little seems to succeed internationally.

Prof. Simonelli's book, *Uprising of Hope: Sharing the Zapatista Journey to Alternative Development*, co-authored with longterm research collaborator Duncan Earle, Clark University, will be issued by AltaMira Press in January 2005. A short story, "Agua Fria," was published in *Anthropology and Humanism*, and she received the 2001 poetry prize from the American Anthropological Association.

## **CONDUCTING INTERNATIONAL RESEARCH: URBAN AND RURAL INDIA**

Ananda Mitra, Associate Professor of Communication and Acting Director of the Survey Research Center, spoke on "Challenges to Qualitative Data Collection in India" with co-investigator Nancy Stark, Instructor in Hematology/Oncology at the School of Medicine. Their study collected qualitative data about patterns of tobacco use and tobacco-related information dissemination. They had many tips for faculty interested in conducting research in developing countries.

Planning is critical. First, set up collaborations in the host country. Allow for communication difficulties, from time differences to cultural differences. Know the economic and political implications of your questions for your collaborators, and don't come empty-handed: gifts, like Wake Forest office accessories, are customary and assure your commitment.

Dr. Mitra noted the primary areas for failure. Logistical: the electricity goes out. Transportation is cancelled or hopelessly delayed. Arranged locations and the moderators you've trained are suddenly unavailable. You need cash incentives, and there are no banks or ATMs.

IRB: Indian collaborators do not understand the need for consent forms. Participants cannot sign; you have to settle for thumbprints. Or they suspect the form is political. Women resist signing, because they've been asked to sign away rights and property in other contexts.

Recruitment is taken over by local officials, sometimes goons. Participants must be remunerated, adjusting for class: for the wealthier, money would be insulting, but a nice lunch is polite. Once people hear that you're giving out money, your physical safety can be jeopardized.

In focus groups, Western investigators can affect results. Women may not speak in mixed groups. If more than one language is spoken, people who speak another may feel intimidated. Some groups may not be able to master turn-taking, and, if classes are mixed, the upper-class will dominate. The recording process can fail. People may object to video-recording or even note-taking, and the notetakers may not hear or transcribe accurately. To prevent distortion, after translating results into your language, have them back-translated with the help of your host-country partners.

Lessons: Cultural sensitivity is essential. Abandon assumptions about communication patterns. A great deal of contingency planning is required on-site. Research is impossible without local collaborators.

## **FIGHTING BACK**

Dr. X sent an article to a prestigious journal, and although one review was very favorable, the other was so antagonistic, it seemed to betray a conflict of interest. Colleagues told him that contacting the editor was pointless ([OR=100:1]). However, his personal editor counseled a firm response, supported by fact, and stating exactly what he wanted in redress: another review. The journal conceded to a third reviewer, who advised publication with minor changes.

If you can demonstrate reviewer error or bias, stay civil, and specify a practicable request – in the case of an NIH grant, say, permission to submit the proposal as new, with no "strikes" against it - you may get what you want.

## IRB'S NEW POLICY MANUAL AND GUIDE ONLINE

Wake Forest University's *Policy Manual for Research Involving Human Participants*, accompanying *Investigator's Guide*, and revised forms, instructions, and samples will be uploaded to [www.wfu.edu/rsp/irb.html](http://www.wfu.edu/rsp/irb.html) in September 2004. The webpage redesign should make it easier for faculty, staff, and student researchers to comply with 45 CFR §46 and university policy governing human participants' research. An IRB binder that includes the new *Policy Manual* and *Investigator Guide*; updated forms and instructions; copies of 45 CFR §46, the FWA, and background materials will go to all departments.

The newly drafted *Investigator's Guide* guides researchers through the IRB process step-by-step. It defines the criteria for assessing protocols, informed consent, amendments, continuing review, and termination of research, and answers the larger questions: a) What is required of the principal investigator? b) What rights do human participants in research have? c) What roles do the IRB and ORSP play in the research process? d) What should the researcher know for international research or research on the internet?

## STUDENT RESEARCHERS ADDRESSED

A new IRB brochure and *Tips for IRB Student Researchers* flyer are now available online or at ORSP. Call 336/758-5888 or email [wakefihk@wfu.edu](mailto:wakefihk@wfu.edu) to request copies. The *Investigator's Guide* includes a section on research in North Carolina public schools and research for course credit.

## FOLLOW THE IRB PROCESS

1. Review the *Investigator's Guide*, available online.
2. Complete any required training in human participants' protection.
3. FORMS: Many IRB forms, instructions, and samples have been revised to comply with federal regulations involving human participants in research. **Please do not use old forms.** The IRB *will not review* applications submitted on the wrong forms. New forms include the Certificate of Confidentiality, and Short-Form, Written-Consent Document for Non-English-Speaking Participants
4. SUBMISSION: Download, complete, and submit 2 completed copies to ORSP, 117E Reynolda Hall, PO Box 7528, Winston-Salem, NC 27109, by the first Monday of the month in which the IRB meets to review protocols.

## 2004-05 Meeting Dates

Monday, 9/20/04    Monday, 11/15/04    Monday, 2/14/05  
Monday, 10/4/04    Tuesday, 12/14/04    Monday, 3/14/05  
Monday, 10/18/04    Monday, 1/17/04    Monday, 4/18/05

5. The official IRB letter and informed consent will be stamped with the date of approval.
6. Submit modifications to the approved protocol via an amendment request form.
7. Submit a continuation or closure form to ORSP before the one-year approval period ends.
8. Retain IRB records and related documents for 3 years from the project's completion date.

## EDUCATIONAL REQUIREMENTS FOR INVESTIGATORS

In addition to the requirement that all PIs with external funding complete CITI training in human participants protection, during **2004-2005**, investigators on internal funds must obtain certification. During **2005-2006**, all investigators submitting protocols to the IRB must have completed CITI training. Investigators will be asked to complete modules in one of 3 groups, depending on the type of research. All modules will take an average of 4-6 hours to complete.

A score of 80% correct is required to receive credit for CITI training. When the required modules and quizzes are completed, PIs download a Course Completion Report. ORSP will then receive electronic notification and issue a certificate denoting successful completion of the training.

## IRB MEMBERSHIP INCREASES TO 13

This year, IRB membership has grown from 8 to 13 to meet increasing research activity involving human participants: a record 151 protocols from 19 departments. Dr. Steven J. Folmar, lecturer in Anthropology, will chair the board (phone 336/758-6065, [folmarsj@wfu.edu](mailto:folmarsj@wfu.edu)). He was a director of research at Menorah Park Center for the Aging in Beachwood, Ohio, and has served on the Reynolda Campus IRB for 2 years.

Other IRB members include:

Anthropology: *Dr. Paul Thacker* (alt); Communications: *Dr. Michael Hazen* and *Dr. Steven Giles* (alt); Counseling: *Dr. Deborah Newsome* and *Dr. Laura Veach* (alt); Health & Exercise Science: *Dr. Tony Marsh* and *Dr. Patricia Nixon* (alt); Information Systems: *Nancy Crouch*; Psychology: *Dr. Cathy Seta* and *Dr. Mark Leary* (alt); Sociology: *Dr. Earl Smith*; Nonaffiliated Member: *Doug R. Lewis*.

# WFU FUNDED RESEARCH

February–July 2004

## ANTHROPOLOGY

**Ellen Miller**, *Geology, Paleontology and Biogeography of the North African Early Miocene*, National Science Foundation (NSF), International Programs, Collaborative Research, \$60,000

### **Kenneth Robinson**

- *Archaeology of Happy Hill, An African-American Community in Winston-Salem, NC*, Housing Authority of Winston-Salem, \$8284.90
- *Archaeological Documentation of the Town Spring Site in Louisburg, NC* Trading Path Preservation Association, \$2,760.53
- *Archaeological Investigation of the Spring Place Emission Site*, Georgia Department of Natural Resources, \$10,000
- *Archaeological Field School for Teachers*, Museum of Cape Fear, \$14,174.06

**Jeanne Simonelli**, fellowship to serve as Forchheimer Visiting Professor at Hebrew University, Jerusalem

**Stephen Whittington**, *Lectures on West Mexico*, North Carolina Humanities Council, \$1,200

## ART

**Yue-Ling Wong**, and **Jennifer Burg**, *COMPUTER SCIENCE, Integrated Digital Media Curriculum*, NSF, \$287,280

## BIOLOGY

**Miriam Ashley-Ross**, *From Water to Land: Salamanders as a Model for Understanding the Evolution of Tetrapod Locomotion*, NSF, \$64,250

**William Conner**, *Chemical Ecology of the Tiger Moth Genus *Utethesia* and its *Tournefortia* Hostplant Complex: Implications for the Conservation of Endemic Species in the Galapagos Islands*, National Geographic Society, \$10,000

**Kathleen Kron**, *Evolution and Diversification of *Azaleas* and *Rhododendrons**, NSF, \$9,000

**Wayne Silver**, *Multiple Mechanisms of Nasal Chemoreception*, National Institutes of Health (NIH), \$21,277

### **William Kirby Smith**

- *Alpine Treeline Stability: Mechanisms of Conifer Tree Seeding Establishment*, NSF REU supplement, \$5,625
- *Global Change and Natural Stabilization of Barrier Island Sanddune Ecosystem*, North Carolina Sea Grant, \$4,926

## CALLOWAY SCHOOL OF BUSINESS AND ACCOUNTANCY

**Yvonne Hinson**, Jessie Ball duPont Fund, \$63,001

**G. Page West**, *Entrepreneurship and Liberal Arts: Building Campus Culture and Developing an Integrated Educational Model*, Kauffman Foundation, \$600,300

## CHEMISTRY

**Ulrich Bierbach**, *Novel DNA-Metalating Hybrid Anti-cancer Agents*, NIH, \$224,639

**Paul B. Jones**, *New Photochemistry for Visible Light-Initiated Photoactivation of Enzymes and Biocides*, NIH, \$215,530

### **Angela Glisan King**

- *Urban Systemic Program in Science, Mathematics, and Technology Education Program: SCIMAX*, NSF, \$119,530.69 for Year 3; \$100,048 for Year 4
- *Rural Exposure to Biotechnology*, North Carolina Biotechnology Center, \$4,925

**S. Bruce King**, Cost Extension for NIH Minority Supplement, *Nitric Oxide-Producing Reactions of Hydroxyurea*, NIH, \$30,279

**Abdessadek Lachgar**, *Inter-American Materials Collaboration: Hybrid Inorganic-Organic Materials*, NSF CONACYT, \$33,000

## COMMUNICATION

**Steven Giles**, *Building Teacher Mastery via an Internet Training System*, NIH, \$123,538

**Allan Loudon**, and **Pia Wood**, *INTERNATIONAL STUDIES, Southeastern Europe Youth Leadership Institute (SEELYI)*, Open Society Institute and United States Department of State, \$174,919

## Ananda Mitra

- *Evaluating an Internet-Based Curriculum*, National Library of Medicine, \$43,100
- *Rapid Response*, NIH, \$4,849

## COMPUTER SCIENCE

### Robert Plemmons

- *Postdetection Processing and Inverse Problems in Ground-Based Imaging*, Air Force Office of Scientific Research (AFOSR), subcontract with University of New Mexico, \$65,000
- *Pupil Phase Engineering and Wavefront Coding for Iris-Recognition Systems*, Army Research Office (ARO), \$250,000; Phase III, \$400,000

**Yue-Ling Wong**, ART, and **Jennifer Burg**, *Integrated Digital Media Curriculum*, NSF, \$287,280

## DIVINITY

**Bill Leonard**, expansion of course offerings and a theological librarian, Luce Foundation, \$180,000

## ECONOMICS

**Jac Heckelman**, *American Founding: Motivation of the Framers at the Constitutional Convention*, NSF, \$27,777

## EDUCATION

**Leah McCoy**, *An Opportunity to Learn Advanced Mathematics in the Rural South: A Comparison of Curriculum and Instruction in High and Low-Performing High Schools*, Mid-Continent Research for Education and Learning, \$4,000

## HEALTH AND EXERCISE SCIENCE

**Peter H. Brubaker**, *ACTION – A Congestive Heart Failure Trial Investigating Outcomes of Exercise Training*, NIH, \$3,700

### Shannon Bozoian Mihalko

- *Research on Optimal Recovery Practices: A Pilot Study in Women with Ductal Carcinoma in Situ (DCIS)*, WFU Health Sciences, \$49,998.45
- *Recovery Strategies Following Breast Cancer Treatment*, US Army, \$21,747

**W. Jack Rejeski**, Mentor for Dr. Whitt's K-Award, NIH, \$1,604

## INTERNATIONAL STUDIES

**Kent Greer**, *Culture in the Country*, NAFSA: Association of International Educators, \$2,000

**Pia Wood**, and **Allan Loudon**, COMMUNICATION, *Southeastern Europe Youth Leadership Institute (SEELY-LL)*, Open Society Institute and United States Department of State, \$174,919

## LAW

**Kate Mewhinney**, *The Client Needs Funds*, North Carolina Bar Foundation, Inc., \$2,000

## LIBRARY

**Susan Smith**, *Z. Smith Reynolds Library Special Collections Finding Aid Conversion Project*, State Library of North Carolina, \$20,700

## MATHEMATICS

### Robert Plemmons

- *Postdetection Processing and Inverse Problems in Ground-Based Imaging*, AFOSR, subcontract with University of New Mexico, \$65,000
- *Pupil Phase Engineering and Wavefront Coding for Iris-Recognition Systems*, ARO, \$250,000; Phase III, \$400,000

## PHYSICS

**David Carroll**, *Charge Transfer Nanocomposites: The Effects of Scale Hierarchy*, AFOSR, \$151,000

### Richard Czerw

- *Improved Chemical and Biological (CB) Sensors (Phase I)*, AFOSR, \$31,000
- *Nanocomposite Organic Photovoltaics using Star Polymers (Phase II)*, AFOSR, \$31,000
- *Photovoltaic Devices Based on Water-Soluble Porphyrins and Pthalocyanines with Carbon Nanotubes*, American Chemical Society, \$50,000

**Natalie Holzwarth**, *Computational Study of Transition Metal Phosphate Materials*, NSF, \$143,000

**Daniel B. Kim-Shapiro**, *Effects of Nitric Oxide in Sickle Cell Blood*, NIH, \$308,938

## SOCIOLOGY

**Charles F. Longino**, *Health and Other Predictors of Expected and Actual Mobility*, NIH, \$58,108

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RESEARCH  
*News*

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