



The College of  
**WILLIAM & MARY**

## Department News, Fall 2007

### *Faculty and Student Awards*

**Kendra Letchworth has been named the recipient of the college's 2007 Thomas Jefferson Prize in Natural Philosophy.**



Kendra Letchworth, a senior physics and mathematics major at the College of William and Mary, has been named the recipient of the college's 2007 Thomas Jefferson Prize in Natural Philosophy. The prize is awarded each year to a William and Mary student for academic achievement in the sciences and for leadership.

Kendra Letchworth ('07). By Stephen Salpukas

### **Ashwin Rastogi receives elite Goldwater scholarship**

Ashwin Rastogi, a junior math/physics major, has been named as one of 2007-08 Goldwater Scholars.

Kelly Hallinger and Ashwin Rastogi, students at the College of William and Mary, have been named 2007-08 Goldwater Scholars. They are among 317 U.S. sophomores and juniors recognized by the Barry M. Goldwater Scholarship and Excellence in Education Foundation.



### **Vladimir Bolotnikov wins Jefferson teaching award**



Vladimir Bolotnikov, an associate professor in the mathematics department, is the recipient of William and Mary's 2007 Thomas Jefferson Teaching Award. The honor is traditionally part of William and Mary's annual Charter Day activities. He currently teaches Math 211, Linear Algebra, and Math 403, Intermediate Analysis, but several letters supporting his nomination for the award mention the skill and patience Bolotnikov demonstrates in getting students over the hurdle of sophomore-level multivariable calculus, a class he teaches from time to time.

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"Professor Bolotnikov has had a profound impact on my academic path," wrote Ian Grooms, a former student now in the Ph.D. program in applied math at the University of Colorado, Boulder. "I took classes from him for three semesters in a row during my time at William and Mary. Those three semesters helped convince me to become a math major and to pursue a career in mathematics."

Math department Chair and Ferguson Professor Chi-Kwong Li, in a letter of nomination, pointed out that Bolotnikov's interest and dedication extends beyond his William and Mary classroom duties. He has served as a freshman/sophomore advisor as well as a primary major advisor and participated in summer Research Experience for Undergraduates programs funded by the National Science Foundation. "Professor Bolotnikov is one of the mathematics faculty members interested in mathematical education issues," Li wrote. "In particular, he has given a great deal of help in the preparation of the proposals and summer courses of the Mathematics and Science Partnership Grant of Virginia State, 2004-2006."

A native of Ukraine, Bolotnikov came to William and Mary in 1998 as a visiting assistant professor. He holds the Ph.D. from Ben-Gurion University of the Negev, Israel. Past honors at William and Mary include the 2004 Simon Prize for Excellence in Teaching of Mathematics and the 2005 Alumni Fellowship Award for Excellence in Teaching.

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## Faculty News

### New Faculty members

- [Ross Iaci](#) (Assistant Professor). Ross joins William and Mary from the University of Georgia, from which he received his Ph.D. in 2007. His research area is statistics.
- [Jianjun Tian](#) (Paul) (Assistant Professor). Paul received his Ph.D. degree from the University of California – Riverside in 2004, and then spent three years at the Mathematical Biosciences Institute at Ohio State University for three years before joining William and Mary this Fall. His research area is mathematical biology.
- [Brown, Christopher](#) (Visiting Assistant Professor)
- [Brown, Jennifer](#) (Visiting Assistant Professor) Jennifer joins William and Mary from Kenyon College, where she was visiting during 2006-2007. She received her Ph.D. in 2005 from the University of Colorado at Boulder, and during 2005-2006 she was a postdoc at the University of North Carolina at Charlotte. Her research areas are set-theoretic topology and Boolean algebra. In Fall 2007 she is teaching Math 111 (Calculus I) and Math 211 (Linear Algebra).
- [Costas-santos, Roberto](#) (Visiting Assistant Professor) joins William and Mary from the Universidad Carlos III of Madrid, from which he received a Ph.D. degree in 2007. His research areas are Special Functions, Operator Theory and Matrix Analysis. In Fall 2007, he is teaching Math 112 Calculus I, and Math 490.
- [Hagihara, Rika](#) (Visiting Assistant Professor) joins William and Mary from the University of North Carolina at Chapel Hill, from which she received a Ph.D. degree in 2007. Her research areas are Dynamical Systems and Ergodic Theory, in particular Complex Dynamics. In Fall 2007, she is teaching Math 111 Calculus I, and Math 211 Linear Algebra.

### Other Faculty News

- George Rublein is on SSRL leave in 2007-08
- Nicholas Loehr has taken a new position at Virginia Tech
- Tim Killingback has taken a new position at the University of Massachusetts – Boston
- Sebastian Schreiber has taken a new position at University of California – Davis

We wish them the best in their new positions!

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## Faculty Grants



- National Science Foundation (NSF) launched a national program called "Computational Science Training for Undergraduates in the Mathematical Sciences" (CSUMS). The nation's colleges and universities were invited to submit proposals describing their ideas about how computational mathematics should find its way into the undergraduate curriculum. A team of faculty members from the College's departments of mathematics, computer science and applied science recently received a CSUMS grant from NSF totaling more than \$800,000 over a five year period. Participating faculty members include Sarah Day, Michael Lewis, [Chi-Kwong Li](#) (director), David Lutzer, David Phillips, and Junping Shi of the mathematics department, Andreas Stathopoulos and Virginia Torczon of the computer science department and Greg Smith of the applied science department.
- Professor [Chi-Kwong Li](#) has received a research grant of \$111,868 from the National Science Foundation. The project name is **Problems in Matrix and Operator Theory** and the duration is from July 1, 2006 to June 30, 2009. In this project, he will work with collaborators and students to study problems in matrix and operator theory arising in different branches of science. The emphasis will be on establishing connections and stimulating interactions among researchers in different areas. ([Full project summary at NSF](#))

- Professors [Chi-Kwong Li](#) and [Leiba Rodman](#) are the US participants of Slovenian Research Agency project: **Non-linear preservers**. The co-ordinator of the project is Tatjana Petek, University of Maribor, Slovenia. The amount of the grant is 1.152.000 SIT (=5890 USD) in 2006 and the same amount in 2007 for the Slovenian part (travel expenses for Slovenian researchers together with accommodation and daily costs for US researchers). The project will enhance the scientific collaboration between William and Mary and Slovenian universities. Three Slovenian mathematicians visited William and Mary in September 2006 for 10 days
- Professor [Jumping Shi](#) is one of two co-PIs of a National Natural Science Foundation of China grant: **Applications of singularity theory, generalized inverse in bifurcation problems and nonlinear analysis**. The PI of the project is Yuwen Wang of Harbin Normal University, China. The duration is 2007-2009, with an amount of 267,000 Chinese Yuan (about 33,000 USD). The project will enhance the scientific collaboration between US and Chinese universities. Professor Wang visited William and Mary in December 2005; Professor Shi has co-supervised five M.S. students in Harbin Normal University during 2004-2006.

## Faculty Research Highlight



- Professor [Leiba Rodman](#)'s book (coauthored with Israel Gohberg, Peter Lancaster) [Invariant Subspaces of Matrices with Applications](#) has been reprinted by SIAM as one of the **Classics in Applied Mathematics** in March 2006. The original book was published in 1986 by John Wiley & Sons. Mathematical Reviews for this book says: "*This is a superb advanced linear algebra text and reference for analysts and engineers. The choice of topics and emphasis is original, and the book accomplishes its goal of clearly exposing the central role of invariant subspaces in linear algebra.*"

## Student Activities



- Many William & Mary undergraduate students have participated in the annual [William Lowell Putnam Competition](#) (a national college mathematical competition), and [Virginia Tech Mathematical Competition](#) (a regional college mathematical competition) in 2005 and 2006. In Dec. 2005, 15 W&M students entered Putnam competition; and 10 students entered the 2006 Putnam competition. Katie Field (Math 2007) received a score of 23 in 2005 Putnam, which is ranked 367 nationally among 3545 contestants, and a perfect score is 120; Tina Little, Derek LaMontagne, Shelley Devereaux, Lei Gao, David Rose, and Erin Catlett also received at least 9 points. Carolyn Offutt (Math/Accounting 2007) received scores of 38 (ranked 17/370) in 2005 and 37 (ranked 22/347) in the 2006 Virginia Tech Competition respectively. Seminars of problem solving have been organized by William & Mary Math faculty in every fall semester, most recently by Prof. [Nahum Zobin](#) (1999-2003) and [Jumping Shi](#) (2004-2006).  
Result of VT Competition: <http://www.math.vt.edu/events/competitions/Vtregional/Results/index.html>  
Problem solving seminar 2006: <http://www.math.wm.edu/~shij/math410-problem-solving/index.html>
- [MOST](#) is a William and Mary math club, and its members are mainly undergraduate students with a math major. It has a new website: <http://www.wm.edu/so/most/>, and the fall schedule includes several pizza problem solving sessions, a session of introduction to math grad schools, and a student lecture on an REU project. A petitioning for a chapter of [Pi Mu Epsilon](#), a national mathematical honors society, at William & Mary is active. Prof. Sarah Day and [Jumping Shi](#) are the current advisers of MOST and PME chapter.

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Created by Barbara Boyer Fall 2007

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