

## DANCING BETWEEN WORLDS

by Zelda Stern

It's the middle of winter, and sparks are flying in Spencer Studio Art building. Students in Satyan Devadoss' Winter Study class are busy at work welding pieces of metal together as he looks over their shoulders. "I think visually," says the professor. "Art is concrete." Spoken like a true—mathematician?

The course, "Geometric Modeling," which was cross-listed with studio art, had students constructing an array of tetrahedrons and polyhedrons, among other things, in an effort to probe "tons of unsolved problems I was working on," Devadoss says. "I kept it completely open for the students to be creative in terms of expressing or studying these ideas using any tools they wanted."

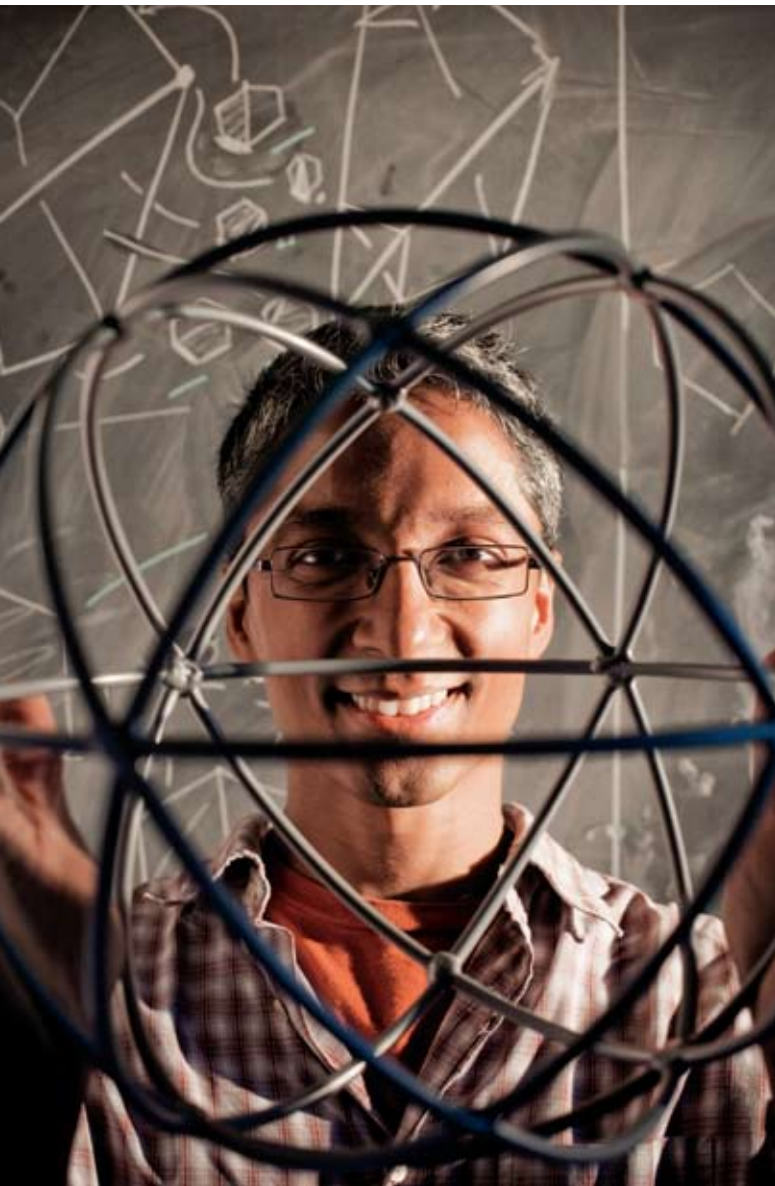
"IT'S BEEN A DREAM OF MINE TO COLLABORATE WITH ARTISTS TO PUSH THE FRONTIERS OF MATH."

Devadoss is drawn to almost any field containing geometric shapes. Juggling, cartography, origami and computer animation are among the subjects he has explored mathematically, and he regularly collaborates with experts in non-math disciplines. "I love to connect stuff that isn't normally connected," he says. "I love dancing between worlds."

What Devadoss brings to each encounter is a set of mathematical tools that enables him to keep track of how shapes change when they are folded, stretched, compressed, twisted or otherwise distorted. He also has a knack for coming up with what he calls a "pretty question," one that has the potential to yield "a gorgeous answer"—that is, "a solution that reveals a mathematical property you didn't know existed," he says.

Among those pretty questions: What happens if origami paper has thickness? "Traditional origami theory assumes that paper is infinitely thin," Devadoss says. But after studying thick origami for a year with one of his students, he discovered that "introducing thickness changes the key questions that need to be asked, making simple many of the difficult questions of classical origami yet introducing new, fascinatingly difficult ones."

As it turns out, "thick origami theory" has many uses. NASA, for instance, wants to send into space a telescope



Scott Barrow

that's about the size of a football field—40 times the size of the Hubble. "You can't physically put that in a space capsule," Devadoss says. "So what do you do? You fold it and put it in the shuttle and unfold it in space."

But there's another challenge. To collect data, the telescope's mirror has to be curved. "You can't fold it too much, because with each crease line, you lose information," says Devadoss. "So the question becomes, 'How can you fold a curved piece of paper efficiently?'"

It's a pretty question—reason enough for a theoretical mathematician to attempt an answer, which is exactly what Devadoss hopes to find with the help of his students. And who knows where such questions and answers may lead?

"Theoretical work extending the symmetries of cubes done in the 1840s became the heart of quantum mechanics more than 50 years later," Devadoss says. "When we make a discovery, it's building a brick in a wall; eventually someone will lean on it." ■



Williams professors and others weigh in on the issues of the day. For a complete listing of media appearances, visit [www.williams.edu/admin/news/inthenews](http://www.williams.edu/admin/news/inthenews)

Men as a group "often seem to make bad choices ... as a way of protesting, and subverting, a feeling of individual impotence," writes [Jim Shepard](#), the J. Leland Miller Professor of American History, Literature and Eloquence, in his essay "[Why Men Do Crazy Things](#)," published in the July issue of *O*, the Oprah Magazine.

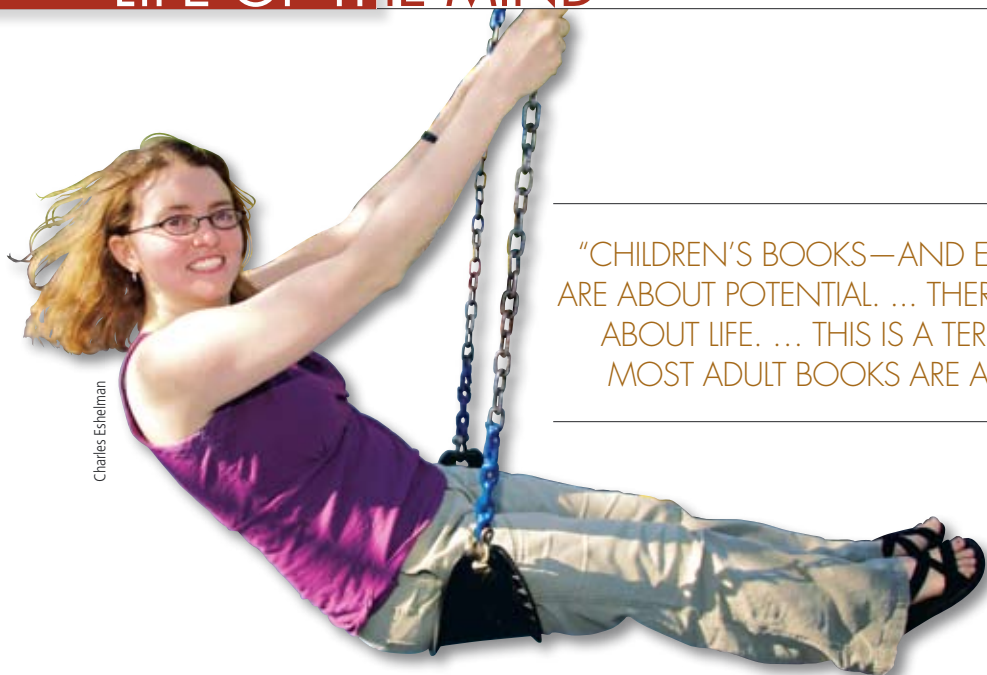
Though the [hottest segment of children's literature these days is about surviving the end of the world](#), books such as *City of Ember* might also be interpreted as having a Christian message about "the need to ascend to a higher place to escape the despair of everyday existence," according to religion professor [Glenn Shuck](#) in a July 21 *Newsweek* article.

## IN THE NEWS

"If aliens are out there, then pi would be important to them. If I were someone set on making something look alien, this is the number I would pick," says [Colin Adams](#), the Thomas T. Read Professor of Mathematics, in a June *Science* article about a 12-year-old crop circle in Wiltshire, England, that may have been a hoax delivered by mathematicians.

A July 17 article in *Slate* about the recent recovery of a Shakespeare folio stolen 10 years ago from Durham University library in England recalls the last such [theft of a 1623 First Folio—from Williams' library in 1940](#). Because the folios are precisely identifiable, down to individual grease spots on the pages, the Purple Valley perpetrator was unable to sell it after four months and turned himself in.

The June 23 *Health & Medicine Week* cites a study by psychology professor [Marlene Sandstrom](#) clarifying the [relationship between self-esteem and aggressive behavior in children](#). She found that children with high explicit self-esteem only (what they say about themselves) are more likely to be aggressive than those with high implicit self-esteem (measured by automatic responses, such as how they associate words with favorable or unfavorable connotations with themselves).



Charles Esheleman

"CHILDREN'S BOOKS—AND ESPECIALLY TEENS' BOOKS—ARE ABOUT POTENTIAL. ... THERE'S SO MUCH EXCITEMENT ABOUT LIFE. ... THIS IS A TERRIBLE GENERALIZATION, BUT MOST ADULT BOOKS ARE ABOUT WASTED POTENTIAL."

## MAKING A NAME FOR HERSELF

by Denise DiFulco

Few writers ever make it to the bestseller list. But at 30 years old, children's book author Tui Sutherland '98 already has seen several of her works featured on the infamous grids at the back of *The New York Times' Sunday Book Review*. "Technically I've had five bestsellers, but it has been really weird," she says. Not a single one has been under her actual name.

Sutherland is probably best known (or unknown) as Erin Hunter, the nom de plume for the four women responsible for *Warriors*, a popular young-adult series that chronicles clans of feral cats through generations. The books' success led to a spinoff series, *Seekers*, which details the lives of three polar bears as they embark on dangerous treks through the wilderness. Sutherland wrote the debut volume, which was released in May 2008. It not

only hit the *Times'* list but also was chosen as a kids' book club pick by Al Roker for NBC's *Today* show.

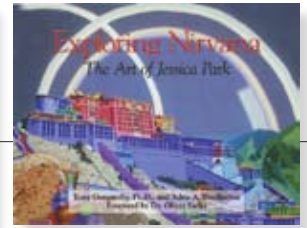
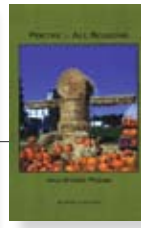
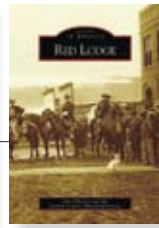
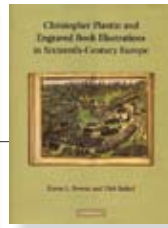
Of the nearly 30 children's and young-adult books that Sutherland has published, she's been credited as herself on only about half of them, including her new *Avatars* apocalyptic fantasy series and a teen romance novel, *This Must Be Love*. It's somewhat ironic considering that she possesses such a singular name—one that so wonderfully captures her personality and zeal. Her first name, Tui, comes from her mother's homeland, New Zealand, and is derived from a Maori word for a large, noisy bird native to the island.

Sutherland's readers also know her as Tamara Summers, a pen name she chose in order to write teen romance titles for two different publishers. Tamara is her

middle name and Summers the surname of the title character of her favorite TV show, *Buffy the Vampire Slayer*. ("That's my superdork coming out," she admits.) She used the name Heather Williams for her work on the *Little House* series. Heather is the middle name of her sister Kari Sutherland '02. And since she needed a last name beginning with "W" for the books to be shelved with the original Laura Ingalls Wilder novels—well, her choice of last name needs no explanation.

Sutherland, who lives outside Boston with her husband Adam Sterns '98, says she enjoys switching genres and bylines. "It helps me to not get bored," she explains. "If I was writing just about funny romances, I'd feel stuck." In addition to completing another episode in the *Seekers* series, she's currently writing as Tamara Summers on what she calls "a vampire paranormal romance beach read," and, finally, as herself on a new Scholastic series called *Pet Trouble*.

So which type of writing does she enjoy most? It's like asking a mother to pick her favorite child. "My favorite thing," she says, "is always the last thing I've written." ■



## FROM THE BOOKSHELF

**Organizing for Good: What it Takes to Achieve Sustainable Excellence.** By Michael H. Annison '65. Outskirts Press, 2008. A guide for managers in the 21st century.

**For Kin or Country: Xenophobia, Nationalism, and War.** By R. William Ayres '91 et al. Columbia University Press, 2008. An investigation of territorial claims based on shared ethnic ties across international boundaries after the collapse of Communism in Eastern Europe and the former Soviet Union.

**Christopher Plantin and Engraved Book Illustrations in Sixteenth-Century Europe.** By Karen L. Bowen '86 et al. Cambridge University Press, 2008. An interdisciplinary study of Plantin's pioneering role in the production and distribution of books with engraved and etched illustrations in Antwerp and beyond.

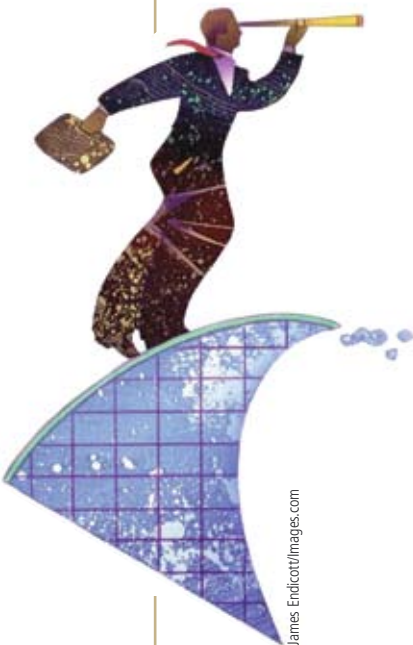
**Images of America: Red Lodge.** By John Clayton '85. Arcadia Publishing, 2008. Almost 200 annotated historic photos of a small Montana town, including construction of the Beartooth Highway into Yellowstone National Park.

**Poetry for All Seasons, and Other Poems.** By Francis Currier (Currier Smith '39). Self-published, 2008. A collection of seasonal and ruminative poems.

**Harnessing Hibernate.** By James Elliott '89 et al. O'Reilly Media, 2008. An introduction to the framework that easily and efficiently allows Java developers to work with information from a relational database.

**Exploring Nirvana: The Art of Jessica Park.** By Tony Gengarely '88 et al. MCLA, 2008. A catalogue of selected works, along with essays on the artist's life and work and the influence of autism on both.

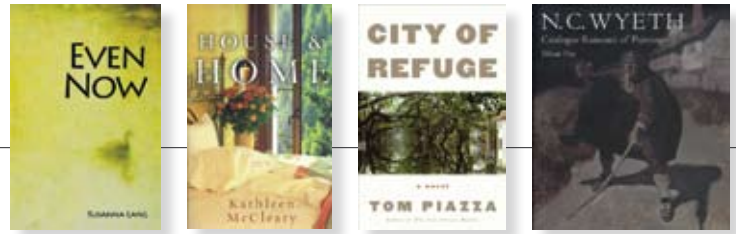
## SUMMER SESSION



With mud season a distant memory and the theater season in full swing, it's easy to imagine Williams professors and students fleeing the Purple Valley to pursue some summertime R&R. But a great many remain on campus, working side by side on a variety of research projects. The largest number is in the sciences—with nearly 200 students working with more than 80 faculty members this past summer. Another 28 students conducted research with 25 professors in the humanities and social sciences. Here's just a small sampling of their work:

**Betsy Todd '08** helped Classics professor **Kerry Christensen** develop a new course to be taught this fall on oratory and rhetoric in 4th century Athens by reading, summarizing and evaluating relevant scholarship. **Ina Liu '10** created a digital archive of urban maps, English and Gujarati newspapers and images of ethnic genocide from the state of Gujarat, India, to be used in courses taught by sociology professor **Arafaat Valiani**. Four students—**Elizabeth Esparza '10**, **Matthew Limpar '09**, **Elizabeth Pasipanodya '09** and **Charles Shafer '10**—worked on dating fossils from Mozambique, Egypt, Morocco and France for chemistry professor **Anne Skinner**. **Marijke DeVos '11** worked with psychology professor **Noah Sandstrom** on studies exploring the mechanisms through which estrogens protect the brain from damage resulting from disrupted blood flow.

# LIFE OF THE MIND



**The New Teacher's Guide to Success.** By Matthew Haldeman '02. Shell Education, 2007. A comprehensive guide to help beginning educators prepare for their first year in the classroom.

**Guide to Evidence-Based Physical Therapy Practice.** By Dianne V. Jewell '84. Jones & Bartlett, 2007. A pocket reference to facilitate PT practice in both the classroom and the clinic.

**Even Now.** By Susanna Lang '77. Backwaters Press, 2008. The first collection of poems by the writer, whose poems, essays and translations from the French have appeared in journals such as *The Baltimore Review*, *Kalliope* and the *Chicago Review*.

**The Examination of Racism in America (and Reconciling McCain vs. Obama with Racism in America).** By Yung-Kuan 'Tim' Ma '92. Xulon Press, 2008. A Christian perspective on finding solutions to the problem of racism.

**House & Home.** By Kathleen McCleary '81. Hyperion, 2008. A woman who has it all is about to lose it all, including the house she adores, and she is willing to do just about anything to keep it.

**City of Refuge.** By Tom Piazza '76. Harper, 2008. A novel about two families, one white and one black, whose lives are torn apart by Hurricane Katrina and then pieced back together in ways they could not have imagined.

**N.C. Wyeth: Catalogue Raisonné.** By Christine Podmaniczky '80. Scala, 2008. A two-volume compilation of nearly 2,000 works by the famous artist known for his illustrations of classics like *Treasure Island* and *The Last of the Mohicans*.

**Essentials of Physical Medicine and Rehabilitation: Musculoskeletal Disorders, Pain, and Rehabilitation.** By Thomas Rizzo '81 et al. Elsevier, 2008. The new edition delivers easy access to the latest advances in diagnosis and management of musculoskeletal problems.

**Exploring the Gender Dimensions of the Global Health Workforce.** By Suzanne Skjold '97 et al. Global Equity Initiative, 2008. A study identifying issues that might be addressed to strengthen health care delivery and improve gender equity.

**James Merrill, Postmodern Magus.** By Evans Lansing Smith '72. University of Iowa, 2008. A study of Merrill's poetry with particular focus on the influence of Homeric narratives.

**The Intercultural Campus: Transcending Culture & Power in American Higher Education.** By Greg Tanaka '70. Peter Lang, 2007. A study of the underlying sources of racial fragmentation on campuses with programs to provide a new framework for diversity.

**Orthopedic Pathology, 2nd ed.** By Vincent J. Vigorita '72. Lippincott Williams & Wilkins, 2007. A comprehensive practical guide to diagnosing musculoskeletal disorders.

**The Literature of Collecting and Other Essays.** By Richard Wendorf '70. Oak Knoll, 2008. A collection of essays exploring the world of books, libraries and the visual arts, including chapters on Sir Joshua Reynolds and the Boston Athenæum.

## NEW MUSIC

**A la Carte.** By The Tonic (including Fred Dittmann '75). A recent a cappella release out of Philadelphia, Pa., the album includes Al Jarreau's "Boogie Down," "Stitched Up" by John Mayer and Herbie Hancock, and Jerry Garcia's "Black Muddy River." Available by e-mailing [dittmann@penntrust.com](mailto:dittmann@penntrust.com).

