focus trent

11 Sept. 2003

*Your connection to news at Canada's **Outstanding** Small University*

in the news

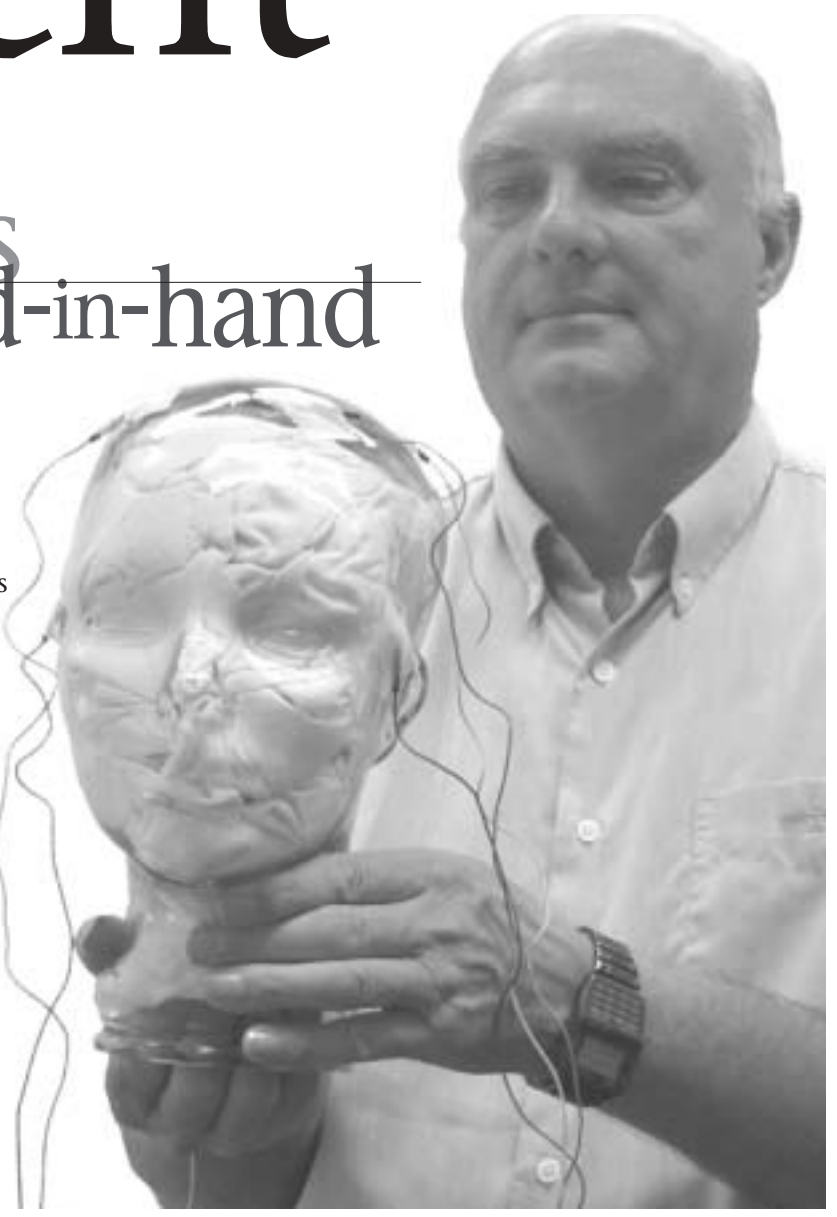
Globe and Mail staff photographer Fred Lum spent an August day on campus with his camera. Among his subjects was mathematics professor and associate dean of teaching and learning, Dr. David Poole, recipient of one of this year's 3M national Teaching Fellowship Awards. The photos are to be included as part of the *The Globe and Mail*'s report card on universities.

Front page coverage of Trent's Introductory Seminar Week activities appeared in *The Peterborough Examiner* on September 5.

The Peterborough Examiner and *CHEX Newswatch* covered Trent's School of Education and Professional Learning orientation, which welcomed 190 full and part-time students to the program. This first class of Consecutive Education students met President Bonnie Patterson, School of Education Director Dr. Deborah Berrill and new faculty and staff members.

The *Guelph Mercury* on June 7 ran a photo of the first, second and third-place winners of an annual Ontario map-making competition sponsored by Trent's Geography Department. The public school students featured were among seven at their school who earned honourable mention for their work.

sleep and smarts go hand-in-hand



Dr. Carlyle Smith demonstrates, on a model, the positioning of electrodes as they are used in the measurement of sleep.

There's never been a better excuse to sleep in, so says Trent University's Dr. Carlyle Smith, whose "trademark" is the study of sleep and its affect on learning and memory. One of few Canadian researchers exploring the topic, his work is internationally known.

"There is an advantage to people who sleep; it has to do with understanding," says Prof. Smith of the University's Psychology Department.

This simplified hypothesis is the basis for his recently released book, *Sleep and Brain Plasticity,* published by Oxford University Press. Prof. Smith authored two of the 17 chapters and, with Dr. Pierre Maquet of Belgium's University de Liege and Dr. Robert Stickgold of Harvard Medical School, edited the work of close to 50 contributors.

The book was introduced this summer in Chicago to the more than 5,000 members of the Association of Professional Sleep Societies (APSS), an international society devoted to the study of sleep and its disorders.

While the role of sleep in brain development, and in learning and memory, continues to be debated, the preface in *Sleep and Brain Plasticity* states "…the book is edited by researchers having some conviction about the role of sleep in brain plasticity." In speaking to Prof. Smith, it's evident he has no doubt about the connection between sleep and, learning and memory.

"The old idea is that sleep is for restoration, or for recharging your batteries…It probably does that, but it also does this," he says. "The idea that you are at rest when you go to sleep is wrong; your brain is busy working hard."

As research to support this theory started to emerge from different disciplines, the book's editors decided it should be compiled and documented. And while they knew this type of research was underway, the editors were pleased to realize its profundity. Prof. Smith is intending to use *Sleep and Brain Plasticity* as the text in an undergraduate sleep seminar, and says his co-editors likely plan to do the same.

The book presents an array of evidence to support the idea that sleep is important to continued memory processing. After you learn, memory consolidation takes place over the next several days and is greatly accelerated as you sleep. Evidence of this comes from a variety of scientific approaches and one can find chapters in *Sleep and Brain Plasticity* on results from human studies that touch on everything from motor learning to dream content.

There is also material in the book that deals with the importance of sleep in the young for proper neural growth and development. Animal studies examine the role of sleep on memory consolidation at the behavioural, neural and biochemical transmitter levels. Several chapters include very detailed ideas about how and when the brain does this memory consolidating.

"The hope is that we will turn on young people who will do the next generation of sleep research…We want a lot of young people to read this book," he says.

"It's important enough that everyone should know about it. It's as important as knowing you need to brush your teeth to avoid cavities. This is really helpful stuff."

Thirty years ago in his post-doctoral studies, Prof. Smith chose the study of memory and sleep over the study of pharmacology and sleep, having been motivated to determine whether proper sleeping habits could make someone smarter. Today, he says that theory is clearly true.

Prof. Smith also recently published a paper on the pitfalls of drinking too much alcohol before bed. Titled *Alcohol, Sleep and Memory Loss*, the paper was published this spring in *SLEEP,* the official journal of the APSS. Prof. Smith and Danielle Smith, B.A., studied the affect of alcohol on sleep and thus, on memory.

They concluded the consumption of alcohol before bed can result in memory impairment for recently learned procedural tasks (those requiring the understanding of a problem). Those who learned the task and drank orange juice before bed were more successful in repeating the task, than those who drank alcohol. Coincidentally, there was no memory impairment for individuals who learned the task and drank alcohol in the afternoon.

The alcohol modified the "architecture" of the sleep and therefore its potential to help in the processing of information, says Prof. Smith.

"We saw in people, that if they are sleep deprived after learning, they forget."

Needless to say, Prof. Smith's advice is apparent and has some important implications for learners. So take note students, those late-night study sessions may not be as advantageous as you thought. For best academic results, have a drink of orange juice followed by a good night's sleep.

flattery in the form of a newly-named beetle

A tribute to his abilities as a teacher, Trent University graduate student Michael Butler has had a newly-discovered species of beetle named after him.

Mr. Butler collected the now-named *Platycoelia butleri* beetle as a participant on a 1996 field trip to the eastern slope of the Andes in Bolivia – a so-called biodiversity hotspot. As one of hundreds of unidentified insects collected, the beetle was given by Mr. Bulter to one of his former students, to become part of his personal research collection.

That student, Dr. Andrew Smith, of Ottawa, now a research assistant professor in entomology at the University of Nebraska State Museum, recently contacted Mr. Butler with a mysterious request for his mailing address. Several weeks later, Mr. Butler found in his mailbox a package containing a 200-page monograph describing 19 new species, among them, Butler's Platycoelia.

"It was a total surprise," says Mr. Butler, a master's degree student in the Watershed Ecosystems Program. "I opened it up, and there it was – I had a species named after me…I got the cover beetle, it's the only species illustrated in colour."

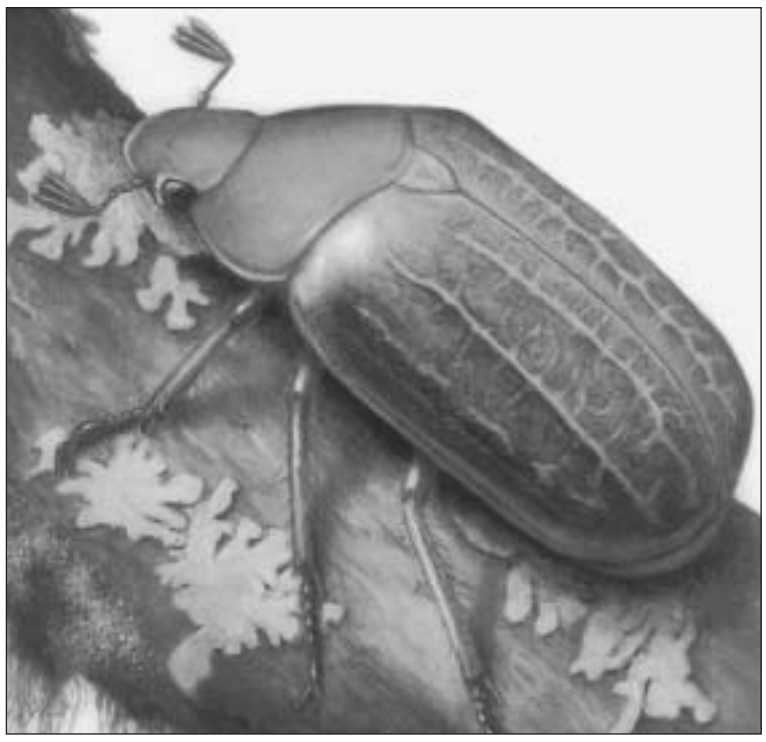
Prof. Smith says he names new species after those who have helped him "along the way" or those who have influenced him – it's an honour he has also bestowed upon his wife.

The monograph states, "*Platycoelia butleri* is named in honor of Michael Butler of Peterborough, Ontario. Mike spent a rainy night in a boggy area in the 'middle-of-nowhere,' Bolivia, to collect the allotype of this species (while the rest of the expedition enjoyed a steak dinner in Cochabamba)." Mr. Butler, who helped introduce Prof. Smith to the study of tropical beetles, says he had "foolishly" chosen to camp out alone, in the rain, the night he collected Butler's Platycoelia. And while the beetle looked "different" somehow, he explained that all of the insects were diverse due to the high concentration of endemic species in a small geographical area.

But the minute Prof. Smith received the specimen in a jar with other unidentified insects, he knew that if he had the opportunity, he would name one of the beetles after Mr. Butler who, in part, inspired him to pursue the study of tropical insects.

"The enthusiasm he (Mr. Butler) had and the knowledge he had about what was going on with tropical insects really opened my eyes," said Prof. Smith, who earned his master's degree at the University of Toronto and his Ph.D. at the University of Nebraska.

At the time, Mr. Butler co-instructed a course on biodiversity in Costa Rica. This fall, he will be teaching at Trent University – something he hopes to continue throughout his career.



Excerpted from the cover of Bulletin of the University of Nebraska State Museum with permission from Dr. Andrew Smith.

A scientific illustration of the *Platycoelia butleri.*

"I love teaching…I think it's one of the most important contributions we can make as scientists," says Mr. Butler, whose research involves the documentation of relationships among populations and species of fish, specifically the esocid (pike and muskellunge) family, which according to its fossil record, is more than 60 million years old. Whether it's flora or fauna, Mr. Butler is interested in its evolution. And when it comes down to a specific species of beetle or family of fish, it's all the more intriguing. So who better, to be the namesake of a newly identified species – known from only five specimens worldwide?

"More than anything, it's nice recognition for a teacher; it's a student letting you know you made a positive impression on him," says Mr. Butler. "The real credit goes to Andrew."

Professor Peter Lafleur and geography student Robbie Hember examine a sonic anemometer and a carbon dioxide analyzer – equipment that will be used in the Arctic.

investigating carbon cycling in the Arctic

Dr. Peter Lafleur has received a grant of $475,850 from the Canadian Foundation for Climate and Atmospheric Sciences to investigate the exchange of carbon in the lower Arctic with three colleagues from other universities.

The award is one of 22 grants the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS) provided. The funded initiatives will generate new knowledge in all areas of climate science.

The field choice is to be finalized this month, though the main prospect is Daring Lake, which is 300 kilometres north of Yellowknife. Daring Lake has a number of different tundra types. The North West Territories Natural Resource Department established an ecological monitoring site there in 1996. This site already has a landing strip, monitoring equipment and background information on the plants and ecology of the region.

Very few people are studying carbon exchange in the Arctic. This gives Prof. Lafleur the opportunity to research something that is unexplored as well as a topic of current interest.

"There has been a steady decline in research in Canada's north in the past two decades," says Prof. Lafleur. "My vision is that this project will help get research going there again, particularly on carbon issues."

Since the Kyoto Protocol focuses on carbon exchange, Prof. Lafleur's study will aid in determining whether the Arctic region is a net-source or a net-sink for carbon. The more Canadians understand about carbon exchange, the more we will be able to address our national commitments for the Kyoto Protocol, he says.

Prof. Lafleur is planning field campaigns from mid-May to the end of August 2004 that will involve student help – both graduate and undergraduate – for field assistance. He also plans to make some winter trips to fully understand annual carbon exchange in the lower Arctic.

CFCAS supports university-based research through project grants and research networks; it promotes research partnerships among universities, governments and the private sector, and the advanced training of students and research personnel, to meet future climate challenges.

evidence of a unique camp experience

Youth from across Canada came to Trent University's DNA Forensic Camp this summer for proof that forensic science was the right fit for the future.

Trent's Natural Resources DNA Profiling and Forensic Centre together with Conference and Hospitality Services offered the Camp for high school students with a fascination for forensics. As expected, the fascination was widespread among 14 to 18 year-olds and the 120 student spaces at the Camp quickly sold out.

"I'm taking courses at high school to prepare me for a career in forensic lab work," says Stephanie Dobson, 16, a camper. "This is definitely the job I want to do."

Encompassing all aspects of the DNA profiling process, activities included mock crime scene investigation, search techniques as taught by an Ontario Provincial Police (OPP) forensics officer and wildlife case studies led by Ministry of Natural Resources (MNR) conservation officers. Students undertook evidence collection, analysis of bone, fibre, blood and hair,

Stephanie Dobson, 16, and Megan Clark, 18, take samples from a bloody shoe print at a mock crime scene.

and a true-to-life courtroom re-enactment.

These activities were startlingly realistic. Dressed in hooded plastic suits, face masks, rubber gloves and shoe protectors, students meticulously investigated four mock crime scenes – that of a sexual assault, a physical assault, a homicide, and a break-and-enter robbery. As the students collected evidence from the scenes, they were vigilant; knowing what happened there would affect the outcome of the blood, hair and fibre analysis they would perform at the lab.

"The kids have an amazing capacity to learn when the topic is of special interest to them," says Ashvin Mohindra, Camp director. "Re-creating crime scenes from memory makes them really develop their senses."

Mr. Mohindra is a scientist with the Natural Research in DNA Profiling Forensics Centre and is a sessional instructor in Trent's Biology Department.

Under Mr. Mohindra's direction, students worked diligently on personal DNA profiles that provided them with an up-close-and-personal idea of what profiling involves. They swabbed their mouths and through various processes, their DNA was purified and amplified for observation and study. Their profiles were compared to the Canadian Society of Forensic Science (CSFS) database, to illustrate the unique nature of each person's genetic makeup. The exercise demonstrated why DNA profiling is the most accurate method of identification today.

"Profiling is like a mystery … it's all puzzles and challenges because every situation is different," says Megan Clark, 18, at the Camp.

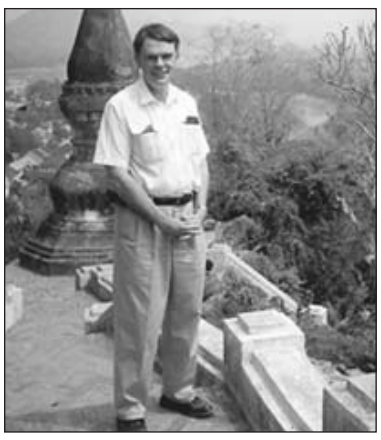
At the Camp students learned about forensic science from field specialists. Foremost among them is Trent's Dr. Brad White – an internationally-renowned DNA researcher who has discovered genes associated with cancer and autism. The camp is Dr. White's brain-child, and his participation in planning the camp's curriculum and in acquiring funding, has been essential.

Working in tandem, Dr. White and Mr. Mohindra have devoted endless hours to developing and solidifying their vision.

The Camp was a true partnership, having received a three-year grant from the National Science and Engineering Research Council (NSERC) and support from Fleming College, Peterborough Lakefield Community Police, OPP, MNR, Maxxam Analytics and many businesses. The initiative supports sciences at a high school level and gives students a realistic view of the field.

Camper Brandon Legere, a Grade 12 student, best summarizes the experience; "I want to be a DNA profiler because I like the science and the community involvement that goes along with it. The Camp gave me the basics of what the field is about, and showed me different insights into forensics. The Camp confirmed my career choice and has met all of my expectations – I'd give it a 9.5 out of 10!"

research will give insight into indigenous communities



Dr. Don McCaskill in the Greater Mekong River Sub-region.

Native Studies professor Don McCaskill has received a significant grant from the Rockefeller Foundation to conduct a comparative study looking at the impact of globalization, regionalism and nationalism on the cultures, social systems and environments of selected ethnic minorities.

Together with colleagues from Chiang Mai University, Prof. McCaskill has been awarded $142,133 U.S. to carry out this research. Once contributions from participating universities are added in, the total project grant equals $238,463 Canadian.

The study will focus mainly on the Hill Tribe people of Northern Thailand, Laos, Vietnam and Yunnan province in China. Trent University and the Social Research Institute in Thailand were integral in the success of the grant. Together the two institutions had met and identified serious problems for the Hill Tribe people due to globalization in the Greater Mekong River Sub-region.

The project will develop an ongoing collaborative network among educational institutions in the five countries which will lead to greater regional capacity in transboundary research and development, gain an understanding of indigenous knowledge of selected ethnic groups in the Greater Mekong Sub-region, and train graduate students and ethnic researchers in communities in social science research methods. Findings from the project are expected over a two-year period and the group will host a conference and publish a book to share the results and make recommendations.

Many of the researchers involved will be members of the Hill Tribe themselves. One desired outcome for the project is the development of a consortium of educational institutions in the Greater Mekong Sub-region, one that could carry on research on topics of mutual interest in the region.

Graduate level researchers from Trent University, three of whom are of aboriginal origin, will participate along with Prof. McCaskill. He predicts that their research findings will have significant connections to the aboriginal experience here in Canada – and provide an opportunity to inform similar studies here.

"We hope that this study will help people in villages to understand and control social and cultural changes in their communities," says Prof. McCaskill. He believes that the process alone will legitimate the experiences of the Hill Tribe people and empower them to take a proactive role in their future.

Professor McCaskill has published a book that looks into these issues. *Development or Domestication: Indigenous People of South-East Asia* was published in 1998 by Silkworm Books.

The Rockefeller Foundation is a knowledge-based global foundation with a commitment to enrich and sustain the lives and livelihoods of poor and excluded people throughout the world.

Forensic Science degree at Trent-Fleming in 2004

A new Forensic Science degree, to be offered at Trent in September 2004, will feature another collaboration between Trent University and Fleming College, and enhance Peterborough's readiness to expand as a centre for excellence through the DNA Cluster Project.

The Forensic Science degree is designed to provide students with an education in a fast-evolving professional field characterized by a rich integration of science and significant social and legal issues.

The degree will contribute to the success of Peterborough's DNA Cluster (PDC) project – a strategic alliance between private and public sector partners. The primary focus of the PDC is to advance research of DNA and forensic science and develop its practical applications.

Although the Forensic Science degree will be a Trent University degree, two courses will be designed in collaboration with Fleming College's Centre for Law and Justice, which will contribute six courses or approximately 20 per cent of the degree program.

The formal start date for the program is September 2004 with an enrolment of approximately 25 to 50 students. For further information, visit *www.trentu.ca/academic/forensicscience/*.

TRENT UNIVERSITY
Canada's OUTSTANDING Small University

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grapevine news

Building Community, Changing Lives...

The University's annual United Way Campaign will run from September 29 to October 17, 2003 with a kick-off barbecue planned for October 1 from 11:30 a.m. until 1:30 p.m. outside Champlain College, on the bridge level. Celebrity chefs will be on-hand as well as this year's campaign co-chairs Prof. Eric Helleiner and Julie Crook.

Weekly prize draws are scheduled throughout the campaign and faculty and staff members interested in donating a prize should contact Brenda Blackburn at *bblackburn@trentu.ca* or by calling Ext. 1600.

For further information on the barbecue, weekly prize draws and campaign totals, visit *www.trentu.ca/unitedway*. Let's each do our part to raise more than ever before!

A "First Class" Kick-off!

Trent University President Bonnie Patterson stood alongside School of Education Director Dr. Deborah Berrill, brand new faculty and staff as the "first class" of Consecutive Education students streamed in for an orientation day on August 25, 2003.

The mood was jubilant as 190 full and part-time students gathered at Wenjack Theatre. President Patterson and Dr. Berrill applauded the many individuals in the room who had come from far and wide – and from a variety of backgrounds – to join the program. Hers was a congratulatory message as she pointed out that the students in the room had been selected from close to 3,000 applicants.

The part-time portion of the program is the first of its kind in Ontario and affords teacher candidates the opportunity to continue working while studying evenings and weekends. Classes were underway at the School of Education on August 26.

International Volunteers on Campus

Visitors from the British Trust for Conservation Volunteers (BTCV) paid $750 as well as their own airfare, to spend their summer holiday upgrading nature trails in the Lady Eaton Drumlin and Wildlife Sanctuary nature areas along with members of the Federation of Ontario Naturalists (FON).

The volunteers were at the University from August 16 to 24, 2003 and were assisted by several local volunteers. They completed a project started last summer, blazing a trail in the Wildlife Sanctuary Nature Area through fields and a swamp to the Ninth Line of Douro-Dummer, where two stiles were erected to connect the trail around the swamp.

The upgraded nature trail is now open to anyone wishing to stroll over and admire stunning views of the main campus and the Otonabee River. For further information about the nature areas, consult *www.trentu.ca/biology/tna*.

Shine Patrol in Full Force

As part of its contribution to the national Shinerama fund-raising campaign, Trent students are looking to collect $22,000 for Canada's largest post-secondary school fundraiser. Shinerama involves students from more than 60 college and university campuses across the country and supports the fight against cystic fibrosis.

Trent students, as part of the Shine Patrol, hit the streets of Peterborough on September 6 to wash cars, paint faces and shine shoes in exchange for a donation to the Canadian Cystic Fibrosis Foundation. The campaign continues until October 31 and will wrap-up with a party and cheque presentation on October 23. For further information, contact April Taylor, Shinerama director, (705) 748-1000.

Grant for DNA Cluster Project

The Greater Peterborough Area DNA Cluster Project was awarded a grant of $200,000 from the Biotechnology Cluster Innovation Program (BCIP) to create a business plan for the proposed DNA Cluster Research and Development Centre, to be constructed at Trent.

The Peterborough DNA Cluster Project (PDC) is a strategic alliance between private and public sector partners such as Trent University, Fleming College, Ontario Ministry of Natural Resources and Maxxam Analytics. The purpose behind the PDC is to advance DNA Research and the forensic sciences as well as develop its practical uses.

Who Takes the Lead?

While orientation for first-year students is typical at Trent, the Student Affairs Office this year held parent information sessions that focussed on the logistics of university life and its affect on parent-child relationships. Titled *Who takes the lead? The challenge of the dance called university life,* there was a resoundingly positive response from parents.

More than 1,600 first-year students and parents attended separate orientation sessions offered by the University. The student orientation focused on eliminating some of the surprises that come with first-year. Meanwhile the parent information session was intended to bring issues such as the difficulty of "letting go" to the forefront. With the advent of the double-cohort, it was an opportune time to talk about such topics as freedom of information and privacy, and alcohol policies.

CFI Funding Supports Two Researchers...

Professor Chris Metcalfe, Dean of Research and Graduate Studies at Trent University this summer welcomed the news of the Canada Foundation for Innovation's (CFI) total investment of $319,086 to support the leading research being conducted by Professors Janet Yee and Dirk Wallschläger.

"Trent University appreciates the support of the CFI providing research equipment and infrastructure for our new faculty," remarked Dr. Metcalfe. "Dr. Yee and Dr. Wallschläger have both come to Trent recently and this financial support from CFI will allow them to advance their world-class research programs in the field of water quality."

Dr. Yee's research is addressing from a medical perspective, the development of a new target for drugs that can kill Giardia lamblia, the microscopic single-celled parasite that occurs in some water sources and can cause Giardiasis, better known as "beaver fever."

Dr. Wallschläger's research focuses on understanding the breakdown of metal-based contaminants in the environment. This research has many practical applications, including how to clean up and eliminate toxic chemicals from industrial environments.

Embedded in Exile

PEN Canada in collaboration with Champlain College and Peter Gzowski College at Trent University present a free two-part roundtable and reading on October 5 from 2-10 p.m. at Wenjack Theatre. 2-3:30 p.m. Pressing Incivilities: Perspectives on Press Freedom, Journalists in Exile and Writing War with Charles Foran, Tesfaye D. Kumsa, Haroon Siddiqui, and Goran Simic; 3:50-5:10 p.m. Splitting Heres: Literary Elucidations of Exile, Refuge, Voice & Identity with Maggie Helwig, Saghi Ghahraman, Ann Ireland, Sikeena Karmali and Drew Hayden Taylor followed; 5:15-6:15 p.m. Reception and Launch of Ann Ireland/ Goran Simic Chapbook, co-published by Champlain College / Readers & Writers; 8-10 p.m. Doubling Voices: A Literary Evening with Saghi Ghahraman, Maggie Helwig, Ann Ireland, Sikeena Karmali, Goran Simic and Drew Hayden Taylor

30 Years for Concurrent Education

The Queen's-Trent Concurrent Education program celebrated 30 years at an event at Gzowski College at Argyle Street on September 11. Director Rolland Laframboise announced local host teacher and host school award to recognize the dedication of students and teachers at the two local schools. Students, faculty, staff and board representatives from throughout the region gathered for cake and a celebration.

UPCOMING EVENTS

Sept. 17: Trent University's Writers Reading Series – Betsy Struthers reads from her new book of poems, *Still*, 7:30 p.m., Titles Bookstore, 379 George St.
Sept. 17: One of Canada's most engaging journalists and biographers, Charlotte Gray will speak about "Who is the Real Pauline Johnson?" based on her book, *Flint and Feathers: The Life and Times of Pauline Johnson, Tekahionwake*, 8 p.m., Traill College Junior Common Room.
Sept. 23: Senate meeting, 2 p.m., AJM Smith Room, Bata Library.
Sept. 26: Open Session – Board of Governors meeting, 10 a.m., AJM Smith Room, Bata Library.
Oct. 2: A Literary Evening with PEN Canada featuring Charles Foran, Sikeena Karmali and Shyam Selvadurai, 7:30 p.m., Peterborough Public Library, $5-10 at the door, sliding scale.
Oct. 4 and Oct. 5: Head of the Trent.
Oct. 5: PEN Canada, in collaboration with Champlain College and Peter Gzowski College at Trent University, presents Embedded in Exile – A two-part round table (Please see Grapevine News), 2-10 p.m., at Wenjack Theatre.
Oct. 13: Thanksgiving Day.
Oct. 20-27: Residential Reading and Laboratory Week–Classes resume Oct. 27.
Oct. 23: Shinerama wrap-up party and cheque presentation, 9 p.m., Second Floor Lounge, Simcoe Street.
Oct. 23: Dr. David Healy will discuss "The Anti-Depressant Age and the Creation of Psychopharma-cology", time and place to be announced.
Oct. 30: Margaret Laurence Lecturer: Naomi Klein, an award-winning journalist and author of the best-seller, *No Logo: Taking Aim at the Brand Bullies*. Time and place to be announced.

For more information about events at Trent, please visit *www.trentu.ca/news/events*