

SHOWCASE

LEADING-EDGE TEACHING AND RESEARCH AT TRENT UNIVERSITY



Critical Thinking for the Future

Optimism and the Challenge of Intellectual Virtue

According to Dr. Moira Howes, associate professor and chair of the Department of Philosophy, what distinguishes human beings from most, if not all, other animals is our ability to imagine the future. This ability is a great advantage to us, but it is not without its problems. "We tend to be overly optimistic," explains Professor Howes. "We imagine futures that are really just embellished versions of the present and we wrongly assume that we will feel the same way about things in the future as we do now. We imagine that we will lose ten pounds; we imagine that we will pay down our debt; but we generally don't imagine how radically different the future will be from the present." And it usually is very different.

Critical Thinking about the Future

For Prof. Howes, a more conscious and deliberate exploration of the ways in which we reason could help us make decisions about the future in more realistic ways. "Errors in reasoning (such as "wishful thinking" about the future) seem to be so common that one would hope there would be greater education about them and that we would be provided with skills in order to think of the future in a much more realistic way. One of the ways of doing this is to develop a host of critical thinking skills that would help us make better decisions about the future, and give us the kind of flexibility needed to deal with life's surprises as they come up."

continued on page two

INSIDE

Nursing for the Ages	2
Alien Nation or Alienation?	5
Posthuman Configuration	7
Toward a Sustainable Future for Trent.....	8

The Problem of Optimism and the Challenge of Intellectual Virtue

continued from page one

Dr. Moira Howes

Critical thinking about the future is just one aspect of Prof. Howes's work on intellectual virtue, a category that encompasses such characteristics as fair-mindedness, open-mindedness, intellectual courage, faithfulness to reality, intellectual trustworthiness, intellectual generosity and intellectual perseverance. For Prof. Howes, these intellectual skills are valuable resources needed to address the problems we face as individuals and as a society, both now and into the future.

Intellectual Virtue and Future Survival

"My current research looks at how intellectual virtue can improve public discourse about issues that are of great importance to our future survival – such as climate change. In spite of the advances we have made scientifically, medically, and so on, people struggle now more than ever with the issue of intellectual trust. How can you

"We imagine futures that are really just embellished versions of the present and we wrongly assume that we will feel the same way about things in the future as we do now."

trust the knowledge claims that are made by academics, or politicians, or doctors, for example? The intellectual virtues are very much related to the issue of intellectual trust. If you know that a particular group of doctors, or academics or politicians have good intellectual character, you feel more trusting of the claims they make, much in the same way we feel we can trust people with good moral characters."

In addition to helping us make better decisions about the future and providing a framework for intellectual trust, intellectual virtues address the core interactions between individuals, suggesting ways in which these interactions can be more generous, and more fruitful.

"At Trent, students do more than accumulate knowledge and develop expertise," says Prof. Howes. "They gain wisdom. This is one reason why our graduates are such an incredible gift to the world. And it is why I love teaching philosophy."

Connecting Research with Teaching

Prof. Howes takes the example of fair-mindedness, an intellectual virtue she teaches in her philosophy courses. Students practice engaging with viewpoints contrary to their own, and are challenged to see the rationale behind those points of view. "Students develop empathy for the viewpoints of others when they start to understand that, even though they disagree with those viewpoints, it makes a lot of rational sense for those other people to hold those views given their situation. It seems like a simple thing," explains Prof. Howes, "but it has such enormous societal implications. Right now we see extreme polarization in politics; it's as intense as it's ever been, maybe even more so with some people. How do you get past that kind of polarization? People get stuck and can't hear what the other side is trying to say – and hatred and intolerance and war follow. Something very basic like learning how to be fair-minded in situations that are difficult emotionally or politically, is an extremely important skill."

While the value of these intellectual tools may seem obvious, there is, according to Prof. Howes, a lack of explicit public discourse on the topic. For Prof. Howes, it is imperative that we begin to talk more openly about intellectual virtues and to share our ideas on how to make them more a part of our daily lives on a conscious level.

"The power of intellectual virtue is not simply its incredible usefulness; intellectual virtue strongly promotes wisdom and excellence in all fields of inquiry," she says. "Despite this, research in philosophy and education shows that our current educational system, and society in general, does not sufficiently appreciate or promote intellectual virtue. I think that there's a real hunger for this type of discussion and a sense that the development of these virtues would be enormously helpful to us. Given this, I seek to help others develop intellectual virtues and use them, while always working to improve my own."

Prof. Howes's most recent article "Managing Salience: The Importance of Intellectual Virtue in Analyses of Biased Scientific Reasoning" is forthcoming in the philosophy journal *Hypatia*. She is also currently writing an introductory textbook on intellectual virtues, explaining what they are and how to use them. ■



TALK ABOUT TEACHING

Nursing for the Ages

The Trent/Fleming School of Nursing

Prepares Its Graduates to Care for an Aging Population

Future Experts on Health and Aging

Talk about the future inevitably includes a discussion about our aging population. It's not surprising that the Trent/Fleming School of Nursing, led by new dean, Dr. Kirsten Woodend, strives to ensure that its programming reflects the need for research and knowledge in caring for the aging.

"Our school is located in a county with a large demographic of seniors," Professor Woodend says, reflecting on the Trent/Fleming advantage. "This gives our students the opportunity to practice primary care for the aging."

Prof. Woodend's vision for the Trent/Fleming School of Nursing is to develop leaders in both the research and practice of caring for the aging. "Nurses," she says, "possess all the qualities required of leaders in healthcare and, as the largest collective group of healthcare providers, will become a driving force in shaping our future. It is our role as educators to make nurses aware of their potential as leaders and advocates of health."

"Nurses are effective individuals," Prof. Woodend says, "with strong critical reasoning skills and the ability to cope in complex situations. They should be working to the full scope of their practice. This means being active in community health initiatives, promotion, prevention, and policy making."

The Role of Technology in Nursing Education

Technology will play a key role in preparing nursing students to take the reins. Prof. Woodend envisions the school's students completing their nursing education in rural communities, where they may perform as primary healthcare providers while completing course work remotely. "Seventy per cent of nurses work in acute care." Prof. Woodend explains, "Moving them into the community where they can play more complex roles will increase their confidence and establish them as well-regarded experts. Tools like the Ontario Telemedicine Network will make this possible by allowing students to complete lab and/or course work remotely through simulation, a technological advancement that is changing nursing education.

Experiences can be created, using simulation, that clinical placements can't always provide. Nursing lecturer Cindy Gilmer regards simulation as a way to round out clinical experiences. "We can simulate environments not every student will have the opportunity to practice in," says Ms. Gilmer. "It's a powerful tool that allows us to slow down processes, allowing students to think critically about the situation, and ask questions about why, how and what."

Simulation runs the gamut from high-tech dolls, actors who simulate patient-nurse interaction, and computer avatars. The development of the new simulation birthing suite is well underway at Trent.



Dr. Kirsten Woodend, dean of the Trent/Fleming School of Nursing, works with a student on a "sim" patient

Developing an Appreciation of Long-Term Care

Both Dr. Woodend and Ms. Gilmer see further collaboration with regional and local associations as key elements of the Trent/Fleming School's future. Continuing the School's partnership with St. Joseph's at Fleming will place students elbow to elbow with long-term care professionals and introduce them to an area of healthcare that is quickly becoming the most demanding.

"Our aging population will have an impact in all areas of health care," says Ms. Gilmer, "including emergency and acute care. Working with long-term care professionals gives students an understanding of the needs of the elderly and how to care for them in any situation." Developing an appreciation for this area of work is the key and can be accomplished by emphasizing the importance of research and policy making. "Currently we care for those in long-term care," Ms. Gilmer says, "but in the future we will need to conduct real research in this area. We need to study patient outcomes more critically so that we can improve our practice."

Student Placements in the Community

"Students in our community nursing course complete placements in long-term care facilities working with professionals, developing policy and procedure, and conducting secondary research," Ms. Gilmer explains. "This is powerful – it shows the student they can make a difference by applying their knowledge."

"We have such an opportunity to lead research and development in this area," Prof. Woodend adds. "As the first school in Ontario to be named as a Registered Nursing Association of Ontario's Best Practice Spotlight Organization and as the only nursing school in a region with no medical school, Trent can really take a leadership role." ■



"Our aging population will impact all areas of health care..."

Future Business Leaders in Durham Seek the Trent University Distinction in a B.B.A

Trent University Oshawa Thornton Road Campus now Offers Full B.B.A

“Business leaders of the future are learning that responsible business decisions are healthier for the bottom line,” says Dr. Asaf Zohar, chair of the Business Administration program at Trent. “You make more money when you pollute less and engage your community more.”

The chair of Trent University’s Business Administration program is excited to share that the Bachelor of Business Administration (B.B.A.) will now be offered at Trent University Oshawa Thornton Road Campus.

“Something really distinct has arrived in Oshawa with this program, and students are getting that edge,” says Professor Zohar. “What sets Trent apart is how we engage the learner on their terms. We offer options, alternatives and flexibility.”

Core Values on the Road to Success

According to Prof. Zohar, the road to success is through distinct values that are embedded in the Trent University culture and Business Administration program such as sustainable practices, ethics, responsible business, community engagement and a strong interdisciplinary liberal arts foundation.

Now for the first time, Trent students can complete a full Bachelor of Business Administration degree in Oshawa, along with Bachelor of Arts and Science degrees in Anthropology, English Literature, History, Psychology and Sociology.

Trent University Oshawa is a stimulating community of individuals of all ages and backgrounds engaged in intellectual enquiry and the acquisition of critical skills necessary for today’s complex world of work. Students connect with faculty who are committed to academic excellence and success of the individual student. Strong academic programming is enhanced by student services such as skills advising, career counselling, and health and wellness education.

New contemporary and modern facilities include a full-service, on-site Wi-Fi library, newly outfitted labs, classrooms, seminar rooms, lecture halls and a student commons area.



Partnerships in the Oshawa Community

Trent University Oshawa full- or part-time tuition includes Level II membership to all City of Oshawa recreation facilities, including the newly renovated Civic Recreation Complex located next door, the Legend Centre and the South Oshawa Community Centre. ■

Learn more about everything Trent University Oshawa Thornton Road Campus has to offer. Visit www.trentu.ca/oshawa or call 905-435-5100.

Debunking Political Pipe Dreams and Rural Myths

Dr. Mark Skinner scrutinizes our assumptions about the changing nature of rural populations and the role of voluntarism in responding to their rising healthcare needs.



With an aging Canadian population and fears of ballooning healthcare costs, political parties from both ends of the political spectrum have embraced voluntarism as a potential solution to budget shortfalls. Whether from the conservative notion of limited government or the social democratic ideal of grassroots community empowerment, both sides view volunteers and voluntary organizations as key pieces of the healthcare puzzle. But according to Dr. Mark Skinner, a health, rural and social geographer, neither side has a critical perspective of what voluntarism is, nor how it works. “There’s this sort of blind endorsement that voluntarism will work: that people will be there to take care of each other, that they can help out and that they will. There is very little consideration for how to enable the voluntary sector to succeed. The mentality seems to be: ‘We’re going to dump everything on to you and hope that it works out.’”

“If you don’t want to get your boots dirty, then this probably isn’t the discipline for you.”

Dangerous Assumptions about Rural Communities

Professor Skinner’s research aims to address this knowledge gap and to highlight the lived experiences of rural populations and the barriers to voluntarism in their communities. “On the one hand, the issue is under-researched both academically and in terms of healthcare policy, yet on the other it is almost over-emphasized within the broader public discourse and popular myths of how communities work. The assumption about rural communities is that they take care of themselves: they’re strong, they’re resilient, they’re more caring, and so on. But when you look at that in an empirical sense, it’s not necessarily true, and those sorts of assumptions can be very dangerous if they show up in public policy.”

Students Need to Go out into the Field

Prof. Skinner’s work brings him and his students into close contact with the communities they study, ranging from Peterborough and the Kawarthas to other parts of rural Canada, France and New Zealand. “Geography tends to be more applied,” he explains. “The applied nature of geography, whether it’s human or physical geography, comes out of a real tradition of field-based natural and social science that’s made us different from

other disciplines. Geographers need to go to where the populations they are studying live; they have to go to where the processes they are studying actually take place. If you don’t want to get your boots dirty,” he adds, “then this probably isn’t the discipline for you.”

Prof. Skinner was recently appointed co-investigator on a new three-year Canadian Institutes of Health Research (CIHR) funded project: “Refining a Decision-Support Model for Siting Palliative Care Services in Rural Canadian Communities.” Led by colleagues at Simon Fraser University, the \$301,227 project will include case study work on rural palliative care in Ontario. According to Prof. Skinner, this type of research is essential to understanding the problems facing Canada’s aging rural communities and to developing realistic policies to support them. “There’s no magic bullet to the rural voluntarism issue because you can’t just say to one community: ‘create this.’ What we can do is engage, at a community level, with the people involved to understand the actual challenges and priorities they are dealing with, because often it’s those individuals who are the source of innovative solutions to the problem.” ■



Dr. Mark Skinner



SPOTLIGHT ON



Getting the Ball Rolling on a Successful Future

Adam Majid came to Trent University from our nation’s capital, looking to get his future off on the right foot. The forensic science student came to Trent because he was excited about the high quality academics for which the school is known, but also to ply his skills on the soccer pitch as a member of the Trent Excalibur men’s soccer team.

“Coming to Trent marked the beginning of my adult life,” says Mr. Majid. “The academic facilities here and the Forensic Science program itself are helping lay the ground-work for a successful future.”

The second-year student knows that with anything, hard work is necessary. Being at Trent, and being a part of one of the best and most unique programs in the country, is going to help him learn and be an industry leader upon graduation.

“Forensic science at Trent is among the best programs in Canada and that’s really what drew me here,” he adds. “It’s easy to see why Trent is growing. It’s because of the great academic programs being offered. And that can only lead to more talented

“The academic facilities here and the Forensic Science program itself are helping lay the ground-work for a successful future.”

students coming here and raising the profile of this school even more.”

Trent University offers its students more than academics, and Mr. Majid is a prime example. In addition to his studies, taking part in varsity athletics is adding another layer of skills and experience.

World-Class Facilities Enhance the Trent Experience

“Athletics and soccer have given me a chance to get out and remain active and competitive in addition to my school work,” comments Mr. Majid. “Playing soccer has allowed me to meet more people and build friendships with team-mates that will last forever.”

Though athletics is just a part of what Trent University has to offer, it can lead to a great experience for students. Thanks in large part to its world-class facilities, Trent Athletics is building toward the future. ■

TRENT SPEAKS – ON THE FUTURE OF



Staff Perspective: Tegan Moss
Coordinator, Trent Vegetable Gardens

In order for food to continue to exist, the sustainability of its production is essential. Global agriculture is a disaster, our lands are degrading, productivity has reached a plateau,

and there is a mass migration from farming communities to cities. As someone who grows food, I can tell you that nothing about the current system of production is economically or socially sustainable. Farmers and growers are vastly overworked and vastly underpaid. Maintaining the environmental, social, and economic viability of food production is necessary to ensure that there is a future of food.

Food might be described as any substance which provides nutrition for the body. It is my belief that food encompasses a much richer and more varied place in our lives than this simplistic nutrition-based definition permits. From sharing in the breaking of bread, to fasting during Ramadan, food holds a symbolic place in our lives far above and beyond nutrition. This is not to say, however, that nutrition is not an important consideration in the defining of “food.” In a world where the poor have been known to consume cakes of mud to ease the pain of starvation, it is clear that nourishment of the body is a fundamental aspect of food. Yet we feed ourselves, in both body and mind, with foods born of social and economic systems that are not just.

I believe that the future of food is one which we, collectively, you and I, and our brothers and sisters, and mothers and fathers, and friends and neighbours, and children and grandchildren, will create. The food of the future is the food that I will grow and share with my community. It is that food which you will cook and share with those you love. The future of food does not exist “out there”; it exists in our grocery stores, and at our farmers markets; it exists in our gardens and in our fridges. The creation of a sustainable and just food system is something that requires our participation. It will not happen passively. ■

“In order for food to continue to exist, the sustainability of its production is essential.”



WORLD OF TRENT ALUMNI

Degrees of Interdisciplinarity and the Search for Life in the Universe

Trent Alumnus Michael Gowanlock Shows NASA Where to Look

“They’re looking for a shadow biosphere. They are looking for the origins of our solar system,” says Trent alumnus Michael Gowanlock, describing how, for part of his research assistantship with NASA’s Astrobiology Institute, he went out on an astrobiology retreat. “They took a boat out into the ocean where they dug down deep to take core samples from the ocean floor.”

Michael Gowanlock completed his B.Sc. at Trent, majoring in Computer Science and Political Studies. He continued on as a graduate student and received his Master of Science in Applications of Modelling in the Natural and Social Sciences (AMINSS) at Trent in 2011.

Surf’s Up for Interdisciplinarity

Now working on his Ph.D. in Computer Science at the University of Hawaii, Mr. Gowanlock is enjoying the culture in Hawaii. Fellow academics and professors go surfing in the morning, and though work is tough, life is laid back and super happy, surrounded by people who are excited about their research. He spends half of his time working as a research assistant with the NASA Astrobiology Institute, on a project that entails measuring the degree of interdisciplinarity in astrobiology documents. The other half of his time is devoted to working on his Ph.D.

The project for his research assistantship came out of the challenge of overlapping disciplines and the integration of sets of terminology. Knowledge from

many fields is often required to perform scientific research in astrobiology. Integrating terminology into a common set is a massive undertaking, requiring a huge team of scientists. Mr. Gowanlock’s job is to apply machine learning techniques that will uncover trends in bibliometric data, to measure the degree of interdisciplinarity present in papers authored by scientists funded by the NASA Astrobiology Institute.

Is There Life Out There?

For his Ph.D., Mr. Gowanlock is continuing the work he completed for his M.Sc. at Trent, where his thesis resulted in a model of habitability within the Milky Way Galaxy.

Is there life on Mars? “Not that we know of,” replies Michael Gowanlock, “but we’re looking. We have reason to believe basic life is widespread, but complex life (like a plant involved in the process of photosynthesis, for example) may not be common at all.”

If you wondered where the most habitable places in the universe might be, using Earth as a model, you would look for conditions similar in temperature that would allow for liquid water on a planet’s surface, conditions that would be conducive to the possibility of life. To begin with, you have to have a star that hosts planets.

As metallicity increases over time due to the continual birth and death of stars in certain areas of the Galaxy, chances of the development of planets increase. Metallicity refers to the abundance of elements heavier than hydrogen or helium, in other words, the stuff that planets are made of.



Michael Gowanlock



Faculty Perspective: Dr. Neil Emery
Vice-President, Research & International,
Trent University

Food is one of the urgent topics of our time. Recent generations have sleep-walked through the green revolution and enjoyed ever more bountiful crop yields through the 70's, 80's and 90's. This has brought about a complacency that enabled deep cuts to agricultural investment and research. But the green revolution wave has broken. Now is the time to reinvest as we are already walking the plank toward distressing food crises. If not convinced, look toward any media outlet and watch governments fall and regional famines come into full force. The causes can be traced back to rising food prices and failing crops.

Under business-as-usual consumption behaviour, experts predict we will need 70 to 100 per cent more food to feed the nine billion people expected by 2050. Solutions will require unprecedented innovation in science and policy. Many gains can be made by reducing waste and changing our diets by decreasing meat consumption. However, part of the solution will inescapably involve an imperative to increase crop yields on a global scale.

The green revolution was a stunning success; but it now needs to be followed by a second. To make the challenge greater, these dramatic yields must develop in the face of climate change and the poorer quality of new arable lands. We will need to grow more food under more marginal conditions in what some are calling a brown revolution. We can do it, but we need to know so much more about how crops respond, or even thrive, under hot and arid conditions. The study of plant physiology and biochemistry will uncover this knowledge.

What we do with this information seems to enter another controversy, for which pundits try to pit traditional agriculture against industrial agriculture. In my opinion, this is a misleading debate. For sustainable agriculture, at all levels of magnitude, we need a multi-prong approach. For the sake of the environment and climate, both policy and practice need to encourage local, grassroots agriculture, wherever possible. Nevertheless, on another scale, only mass agriculture will feed the masses. Every scientific tool must be considered, including the controversial use of genetic engineering. Although the concerns of the critics of modern agriculture may be understandable, the stonewalling against intensive farming is a luxury of the privileged. For those of us in the position to ask "what's on the plate and how did it get there," we should. But we also need to help those whose question is: "Will there be anything on the plate?" ■



Alumni Perspective: Shannon Mak
B.A. Trent University, Food Writer

I love food. You probably love food too. You probably appreciate it for the reasons I do: because it's nourishing and pleasurable, because of the colours, smells, spice and tastes. As someone who has developed a deep appreciation for food, and all things gastronomic, really, I think often about the future of our food, about how we will sustain its flavour, variety and abundance. Environmental pressures, increasing population, depleting resources and industrial farming are threats to food diversity and supply.

The future of food needs us to preserve heirloom seed varieties. Heirloom seeds, saved for years by conscientious farmers, are more disease and pest tolerant than their monocultural cousins. Choosing heritage varieties will help us maintain species diversity for the future while learning to preserve our seeds means we can keep growing. And – bonus – heirlooms are better looking and tasting. After all, they've survived through the ages because we like the way they taste.

The future of food will require us to eat less meat. Eating animals that are raised using tried and true old methods will affect the future in great ways. Choosing only animals that are pasture raised will decrease the amount of meat we eat, reducing carbon gasses produced during slaughter, reducing methanol produced by the animal, and reducing the amount of space used to grow crops purely for animal feed. Imagine how many people we'll feed with that space.

The future of food demands we learn to adapt. Sometimes, I take for granted olive oil, pepper, coffee, sugar, citrus fruit and chocolate. What will happen when we've depleted our fossil-fuel supply and the everyday essentials become luxury items? These items that we import, items that require fossil fuel to process, store and ship to Canada, are items that help us create colourful, flavourful, pleasurable dishes. How will we adapt our cooking in order to create decadent dishes without our favourite ingredients? I suspect that the future of food demands some creativity in the kitchen and in the garden and fields, as climate change will require us to adapt to shifting growing seasons. ■

Is there life on Mars? "Not that we know of," says Michael Gowanlock – but we're looking.

Building on Past Research toward Future Understanding in an Exciting New Field

For his M.Sc., Mr. Gowanlock modelled the disc of the Milky Way Galaxy, illustrating that the edge of the central bulge holds the highest probability of life, raising questions regarding the dangerous effects of supernovae events and the gravitational effects of nearby stars within the bulge.

For his Ph.D., Mr. Gowanlock will be looking at the bulge of the Galaxy, a challenge in its asymmetry. In order to implement calculations modelling billions of stars, a large number of computational resources are required; so much of the research focus is spent on high performance computing. Part of the research also keeps Mr. Gowanlock connected to Trent, where he continues to work with Dr. David Patton, associate professor and chair of the Department of Physics and Astronomy at Trent, in determining the underlying characteristics and model assumptions concerning the galactic bulge.

Mr. Gowanlock's recent paper, a result of his M.Sc. work at Trent, "A Model of Habitability Within the Milky Way Galaxy" will be published in the international, peer-reviewed journal *Astrobiology*.

For Mr. Gowanlock, publishing his first paper marks his official entry as a contributor to a discipline. "I'm really excited to contribute to science," says Mr. Gowanlock, "especially in a field as new and exciting as Astrobiology." ■



GRADUATE STUDIES

Alien Nation or Alienation?



Adam Guzkowski

"We Canadians shouldn't just pat ourselves on the back for being inclusive in our 'multi-cultural' society," says Canadian Studies Ph.D. student Adam Guzkowski. "Perhaps some progress has been made, but have we simply created tokens of the tolerated? I think we need to pay attention and continue to practice."

How Do We Think about Difference, and What Will Difference Mean in the Future?

Mr. Guzkowski examines how society approaches meanings of difference in his research on the figure of the "alien" in Canadian science fiction, looking at literary encounters with "the other." In his dissertation, "The Locus of Difference: Metaphorical Intersectionality and the Figure of the Alien in Canadian Science Fiction Literature," he aims to illuminate how science fiction texts can be read as creative reflections on, and critical engagements with, cultural and political implications of difference in Canada.

"To me, science fiction is a genre that is about the present in which it is written, perhaps more so than it might be about the future," says Mr. Guzkowski. "Science fiction provides us with an imaginative space within which to think critically about the consequences of our actions now, and how we might work to shape our individual and collective worlds in the future."

Ph.D. Candidate Warns Against Taking Tolerance for Granted in Future Encounters with "The Other"

The Texts and Contexts of Difference

Mr. Guzkowski uses intersectionality (analysis of interrelated forms of social inequality) in a theoretical framework to reflect on how metaphorical figures may embody historical and contemporary categories of difference such as race, gender, sexuality and ability. His theoretical framework is then applied in the examination of representations of 'alien' difference and the contexts, consequences and ethical dimensions of alien interactions in Canadian science fiction, while engaging with feminist, queer, postcolonial and critical race and disability scholarship as appropriate to analyze particular texts.

"I think we need to pay attention and continue to practice."

Drawing on literary theory and criticism as well as studies in Canadian politics and culture, Mr. Guzkowski positions readings of Robert Sawyer's *Illegal Alien* (1997), Julie E. Czerneda's *In the Company of Others* (2001), Candas Jane Dorsey's *A Paradigm of Earth* (2001), Robert Charles Wilson's *Blind Lake* (2003), Sylvie Berard's *Of Wind and Sand* (2008), and Peter Watts' *Blindsight* (2008) in relation to the science fiction genre's historical engagements with the figure of the alien, as well as the historical and contemporary contexts of 'difference' in Canada, including (de) colonization, immigration, multiculturalism, diversity and human rights.

According to Mr. Guzkowski, there is an important distinction when encountering "the other" in a contemporary Canadian context, as to whether or not any perceived difference is one that is self-defined or one that is being imposed upon a person, based on appearances or any other assumption. Sometimes the automated act of "Canadian" tolerance can be such an imposition of difference. ■



Peterborough MPP Jeff Leal and the first scholarship recipients of the newly established BMO Financial Group Future Green Leaders' Fund valued at \$500,000.

The Future is Green

The first scholarship recipients of the newly established BMO Financial Group Future Green Leaders' Fund each received a total of \$15,000, of which \$5,000 has been contributed by BMO Financial Group and \$10,000 from the Provincial Government through the Ontario Graduate Scholarship Program. \$300,000 of the total gift will be used to build an endowment to support graduate students studying within the environmental portfolio in perpetuity.

Demonstrating leadership in today's emerging green economy, BMO Financial Group's generous support will be directed to three areas:

- The establishment of a substantive endowment to support graduate students in perpetuity
- Matching support for the Ontario government's Ontario Graduate Scholarship program
- Undergraduate summer student research

Future Green Leaders Scholarship Recipients
Half-million Dollar Investment by BMO Financial Group
Supports Trent's Graduate Students

"BMO Financial Group's generous support will help further Trent's collective knowledge base to prepare us to take action to meet the environmental challenges we all face," says Dr. Steven E. Franklin, president and vice-chancellor of Trent University. "The new Future Green Leaders' Fund allows us to further build on a 40-year relationship with BMO and to ensure Trent University remains on the forefront of preparing students for jobs in the emerging green economy. We thank BMO for their generous gift of half a million dollars."

Working towards Finding Solutions

Of the eleven BMO scholarship recipients, two are working towards a M.A., four towards a Ph.D., and five are M.Sc. students. These scholars are working towards finding solutions to a wide range of environmental challenges including: controlling the harmful effects of disease and man-made pollutants in aquatic environments; protecting our food supply; monitoring the effects of climate change and pollution on endangered species of dolphins, plants, squirrels and birds; examining the impact of environmental stressors on early neonatal maternal care; and developing solutions for community-based renewable energy programs.

Trent University has been a leader in the environment since its inception in 1964. Thousands of Trent students have gone on to become highly

skilled, contributing professionals in a wide variety of occupations within the environmental/green workplace. Trent's environmental expertise at both national and international levels is focused on aquatic sciences; climate change; water contaminant analysis; environmental modelling, northern and polar studies, species conservation and biodiversity; wildlife stress and diseases; ecological restoration; community-based environmental solutions; and DNA profiling of animal and plants for effective ecosystem management. Graduates of Trent's environmental portfolio make significant contributions to helping governments, the private sector and communities affect important and positive change.

"We partnered with Trent University because of our firm belief that the BMO Financial Group Future Green Leaders' Fund would help to attract and support new leaders in Canada's green economy to Trent and cement

the University's place as a true leader in environmental education in Canada," says Lloyd Fleming, district vice-president, Central and Northern Ontario, BMO Bank of Montreal. "We're delighted to see these

eleven students rewarded for their impressive work. We congratulate them, and we look forward to the Fund supporting even more environmental leaders in the years to come."

A leader amongst financial institutions in Canada in the area of environmental sustainability, BMO is a generous supporter of many environmental initiatives in Canada. 🌱

Thousands of Trent students have gone on to become highly skilled, contributing professionals in a wide variety of occupations within the environmental/green workplace.

Back to the Future of Regulatory Markets
Fair Trade in a Dystopian Future

"Leonard Cohen said: 'I've seen the future, baby: it is murder,'" says Dr. Gavin Fridell, associate professor and chair of Political Studies at Trent, speaking on the topic of the future.

"The idea of social murder is an interesting thing," he continues. "We live in a society where we talk about violence such as genocide and war, etc., but there are other kinds of violence."

Lost Livelihoods and the Struggle for Quality of Life

The Windward Islands in the Caribbean lost 85 per cent of their banana farms in the last decade due to global trade, because the World Trade Organization (WTO) ruled against a preferential banana agreement with the United Kingdom that gave special access to the previous colony.

Family-run banana farms in the Caribbean have been forced to compete with plantations in Latin America, where labour costs are approximately three times less. "They can exploit their workers," explains Professor Fridell. "People in the Caribbean lost their livelihoods as a result." The Caribbean cannot compete with Latin America.

Prof. Fridell quotes the manager of the National Banana Growers' Association in St. Vincent and the Grenadines (SVG) whom he interviewed in Kingstown in 2008. His assessment of the human cost of cheap bananas:

"All of this nonsense ... you hear of 'cheap' [bananas]. Someone has to pay upfront. They have to pay in blood or in terms of poverty. Because the person who comes and works for you for less than a

US dollar a day, he is giving you his wealth. He is giving you the wealth of his children. (Grant, 2008, interview with the author)"

"World trade commits social murder," says Prof. Fridell. "Now these farmers lose on education and health care, resulting in lower life-expectancy rates – that is social murder."

According to Prof. Fridell, society doesn't want to address this because as inequality has grown and though income declines, you can still buy cheap stuff. "It's cheap because someone is not getting paid enough," he points out.

Free Trade, Fair Trade and the Hope for the Future

Free Trade is a myth, according to Prof. Fridell. It doesn't exist – has never existed – but it's very convenient as an idea because it appeals to people on a level of fantasy and masks social murder. "The bicycle is free to race the Ferrari, but it can't win," he says.

"Fair trade doesn't reach that many farmers. You could say that fair trade is part of the problem because people think of it as a solution, but it isn't big enough. It is simply a shining light in a depressing context. Fair-trade practice requires international standards," says Prof. Fridell.

"Is economic efficiency more important than social efficiency? In theory, you switch to another product. In reality, you cannot compete in real-world market conditions. We have to go BACK to the Future and implement regulatory systems in order to sustain healthy markets. In the future," says Prof. Fridell, "I think we need to pay a lot more for food." ■

"... Your servant here, he has been told, to say it clear, to say it cold:
it's over, it ain't going any further ... Get ready for the future: it is murder "

Leonard Cohen

Dr. Gavin Fridell



Dr. Aaron Slepkov –
Lightsmith, Physicist and
Trent’s Newest Canada Research Chair

Practical Applications of Research

For Dr. Aaron Slepkov, the newly appointed Canada Research Chair in the Physics of Biomaterials, innovation for innovation’s sake is not enough. “You might be the first to show that something is possible,” challenges Professor Slepkov, “but can you show that it is useful?”

Innovation has been the central theme of Prof. Slepkov’s post-graduate work over the past five years, from the cutting-edge photonics research he was engaged in during his postdoctoral work at Cornell, to the applied work he did at the National Research Council (NRC) with state-of-the-art imaging technology. This focus on the practical application of research is an approach Prof. Slepkov intends to bring to his work at Trent, and helps to explain why this respected physicist prefers to call himself a lightsmith.



MATTER OF COURSE

Posthuman Configurations

Posthuman Configurations

Advanced Studies in Science Fiction CUST/ENGL 4029
Special Topic: **Science Fiction and Technoculture**
Professor: **Dr. Veronica Hollinger**

“[W]hat we make and what (we think) we are coevolve. The parenthesis in the aphorism marks a crucial ambiguity, a doubleness indicating that changes in cultural attitudes, in the physical and technological makeup of humans and machines, and in the material conditions of existence develop in tandem.” – N. Katherine Hayles, *My Mother Was a Computer* (2005)

“Story telling offers a kind of thinking that brings with it an emotional aspect that theory doesn’t offer,” says Dr. Veronica Hollinger, professor in Trent’s Department of Cultural Studies and editor of the journal, *Science Fiction Studies*.

Advanced Studies in Science Fiction and Technoculture is a fourth-year, interdisciplinary course – cross-listed between the Departments of Cultural Studies and English. Students work with science fiction narratives to examine the construction of the subject, while also exploring critical theory and questions of ethics and politics.

“There is interplay between theory and fiction here; one is not privileged over the other,” says Professor Hollinger about the science fiction study.

The cyborg, the android, virtual reality and artificial intelligence are examples of posthuman configurations: constructed subjects born in the realm of science fiction, where narratives oscillate between the extrapolation of what the future might be like, and the metaphorical scenarios that reflect on the present in which they are created. This course contemplates the subject and technology, exploring both theory and fiction in the examination of representations in western technoculture.

“It is a way of thinking about how we live. We ask questions about what intelligence means and then delve into critical theory, political philosophy, technology studies ...”

The three-hour seminar is largely dialogue-based, with no lecture, challenging students to participate while marking them on their interaction – providing crucial practice in communication skills.

Students also bring their own interests to the conversation, sharing readings and presentations, supported by outstanding holdings of science fiction and utopian literature in the Bata Library. Encouraged to pursue research that interests them, in anything from robotics to cloning, students may provide their own material, while designing their research essays, on which the proposals themselves are marked. They may deal with other media such as film if they choose, as long as they include some recognition of the different narrative strategies of these other media.

“We’re all experts,” says Prof. Hollinger. “All students already bring something to the course, as we are all shaped by culture, and by technology as part of a specific culture, in our daily lives, in our bodies and in our communities. In cultural studies we are always looking at the politics of the present. We look at the cultural present and ask: What is it telling us about the way we are now – who we are? Every choice you make is a political choice.” ■



Dr. Veronica Hollinger



MEET THE INNOVATORS

The New Canada Research Chair in Physics of Biomaterials Sets up Shop at Trent

“I use the term ‘lightsmith’ now,” he explains. “It’s a new word, but I think it exactly conveys what kind of research I’m interested in. Optics is not just an application of a certain field in physics; it’s a trade in some ways. Blacksmiths or goldsmiths, for example, are specialists of their medium. They know how to take their medium, whether iron or gold, and sculpt it. They can bend it; they can fracture it; they can shape it; and they know exactly how to do that. In the same way, I’ve come to realize that what I am is a lightsmith. Light doesn’t seem to the average person like a medium that you can shape and structure, but that’s exactly what it is, and when you need to make a light technology – a new tool that uses light – you should call a lightsmith.”

Hands-On Opportunities for Students with State-of-the-Art Imaging Equipment

Students working with Prof. Slepkov can expect to be given an apprenticeship in what Prof. Slepkov likes to call ‘Lightsmithing 101.’ Prof. Slepkov’s appointment as a Canada Research Chair brings with it five-year funding to enable the building of a state-of-the-art imaging facility at Trent, with equipment being built by the students themselves under Prof. Slepkov’s guidance. “There’s going to be a very close interaction with the students, which is really the whole idea, and one of the reasons why I was so excited about coming to Trent. Students will be involved in helping to build lasers and microscopes, as well as experiments for using these tools and others for characterizing all kinds of organic molecules and biomaterials. They’re going to get a real full-fledged lightsmith education, physics education, and material science education and these are really important skills for getting jobs out of a physics degree.”

The centerpiece of the lab will be a “multi-modal” microscope that will be built to allow researchers to study their samples using several traditional microscopic technologies, but will also incorporate an emerging technique known as Coherent Anti-Stokes Raman Scattering or “CARS”. Traditionally, researchers have identified different structures within a sample by injecting fluorescent dyes that mark or “tag” only the desired component. CARS microscopy picks up on and differentiates between different inherent molecular vibrations, allowing researchers to observe specific structural interactions in samples without the risk of altering them by the injection of dyes. CARS microscopy on its own has been too expensive and too complex for use in most research labs, but the work of the NRC team has made it possible to incorporate CARS into existing microscope platforms, making it possible for smaller institutions like Trent to acquire this new technology.

“My goal is to get as many people excited about it as possible.”

“There will be probably only two or three of these in all of Canada,” explains Prof. Slepkov. “The work done at the NRC was incredibly innovative, and I’m trying to bring that innovation here. I think Trent is the perfect place for this kind of tool: Trent is ambitious, and with this initiative we have a way to get in on the ground floor on something that typically couldn’t be afforded by a small university.”

Putting Innovation to Work

For Prof. Slepkov, the innovation is not just in the technology, but in how it will be put to use. “It is cutting-edge technology, but it’s definitely not just a showpiece; it’s tremendously useful. My goal is to get as many people excited about it as possible. Currently the field is working hard to make itself applicable to biomedicine in a real way. There are a lot of very smart people working on that, but there are only a handful of us working to show that CARS microscopy is applicable to other fields.” Prof. Slepkov believes that Trent’s interdisciplinary thrust will not only make the most efficient use of the new technology, but will also open up new applications for it that have not yet been considered, in particular by Trent’s Biomaterials Research program and even beyond. “I feel that there are so many different ways in which this kind of technique can be applied outside of the field of biomedicine: in material science, in geosciences, or even in paleobiology. If we’re looking fifteen years down the road, I believe it will find a permanent niche in many of these areas.” ■

Canada Research Chairs at Trent

Trent University’s Canada Research Chairs contribute to enhancing Canada’s competitiveness in the global, knowledge-based economy, improving Canadians’ health and enriching our social and cultural life:

- Julian Aherne, *Environmental Modelling*
- James Conolly, *Archaeology*
- Celine Gueguen, *Aquatic Science and Biogeochemistry*
- Marrie Mumford, *Indigenous Studies*
- Dennis Murray, *Terrestrial Ecology*
- Bryan Palmer, *Canadian Studies*
- Davide Panagia, *Cultural Studies*
- James Parker, *Emotion and Health*
- Aaron Slepkov, *Physics of Biomaterials*
- Paul Wilson, *DNA Profiling and Forensic Science*



Prepared for the World of Business

More than Just Numbers

In the final year of his Bachelor of Business Administration degree, Dylan Hunt’s future is looking very promising. His eagerness, both academically and with regards to extra-curricular activities, illustrates just how well Trent’s learning environment prepares engaged students for their future.

As an outstanding Trent student, Mr. Hunt has travelled to China on a prestigious internship, broken Canadian records with a successful business venture and participated in conferences across the province as director of marketing for the Trent Student Business Association (TBSA). All of this before he’s even completed his undergraduate degree.

“Trent has taught me more than just numbers and what specific designation states I should learn,” Mr. Hunt says. “Courses on sustainability with Dr. Asaf Zohar and studying entrepreneurship with Dr. Ray Dart have really given me different perspectives and opened my mind to many facets of business.”

“To be competitive in the business world, you need to be versatile.”

It’s easy to imagine Mr. Hunt will find himself in demand as a fresh graduate, looking to get a start in the working world. In Prof. Dart’s entrepreneurship course, he and four teammates broke the Canadian university record by posting a profit of more than \$5,000 in one week from their MicroVenture, a marketing platform in the form of a student guide to Peterborough.

“That project taught me so much, from how to prepare and deliver a sales pitch, to having confidence in myself and my ideas, and what you can accomplish in one week when you’re determined.”

After spending the summer of 2011 in Hong Kong as the Hong Kong summer intern – an opportunity made possible by Trent’s distinguished alumnus, Mr. Justin Chiu – he’s already had a taste of what the future has to offer him. “My summer in Hong Kong prepared me for whatever the business world may throw at me,” he says. “I can see myself working in either Hong Kong or Shanghai, developing a career in marketing. That experience gave me an incredible perspective on the world and the amazing people in it.”

With an eye to future trends, Mr. Hunt spends his free time developing marketing skills and techniques he thinks will give him an edge, like perfecting video editing. “To be competitive in the business world, you need to be versatile,” he says. “You need an understanding of many areas and sub-areas of business.

“That project taught me so much, from how to prepare and deliver a sales pitch, to having confidence in myself and my ideas, and what you can accomplish in one week when you’re determined.”

“I really believe the excellent work of Trent’s Business Administration program is putting Trent on the map,” he says, reflecting on the last three years of his education. “I think the success of this program and the students in it will really show others how valuable a Bachelor of Business Administration is.”

Showcase is printed bi-annually by the Marketing & Communications Office at Trent University.

This publication is also available online in an accessible format at www.trentu.ca/showcase

For media inquiries, please contact the Marketing & Communications Office at (705) 748-1011 x6184

Distributed in accordance with Canada Post Mail Sales Agreement #40064326



Ontario: Thriving

Dr. Dimitry Anastakis is bullish about Ontario’s economic future. The province may face difficult times ahead, but Professor Anastakis predicts that by 2030, Ontario will again be a vibrant, diverse and globally competitive market.

Gas may cost three dollars or more a litre, but forward-thinking policies like the Green Energy Act will have re-oriented the economy to much more diverse sources of energy. With India, China and other manufacturing nations increasing their standard of living, North America could well be a competitive place to live, work and produce things.

Boasting a foundation of fantastic human resources, innovative companies in diverse fields such as high-tech, education, health sciences, and financial services, the province is destined to again become a place to stand and a place to grow, predicts Prof. Anastakis.

Swallowed by the Treeline

Working in the magical landscape of Churchill, Manitoba, Dr. Erica Nol revels in the quiet of the tundra interrupted only by the occasional experience of “surprising-up” a bird, like a ptarmigan or Arctic tern.

More Arctic shorebirds breed here, amongst the dry tundra, wetlands, and rocky coasts, than anywhere else in the world. Arctic shorebirds, like whimbrel, dunlin and small plovers need open areas to breed. But with a documented 30 per cent increase in tree cover since the early 1970s – largely due to climate change – this circumpolar region may soon become unrecognizable. The fate of Arctic shorebirds hangs in the balance.

Arctic Tundra: CO₂ Time Bomb or Lifeline?

About half of all the land area in Canada is covered by tundra. For the past decade, Dr. Peter Lafleur and his colleagues have been investigating the climate change response of the tundra barrens, about 300 kilometres north of Yellowknife, NWT. At present, Arctic tundra acts as a small carbon sink, removing carbon dioxide (CO₂) from the atmosphere.

But if, as predicted, the permafrost melts, organic-rich soil would be exposed, and the area would become a source of CO₂ to the atmosphere. However, in a warmer and wetter world, accelerated plant growth would sequester more CO₂. Savannahs, mixed forests, prairies, oceans, Arctic tundra: how each biome responds to climate change will impact the rate of climate warming during the next century and beyond.



A Glimpse into the Latest Findings at Trent

Irish Forests from Canadian Trees

With nearly every sizeable tree felled to build ships for the Queen of England at the turn of the last century, the Irish countryside was a mere one percent forest. Thanks to a century of intensive silviculture, and a climate that promotes some of the fastest tree growth on earth, more than ten per cent of Ireland is now forested.

Dr. Julian Aherne and his colleagues are working to understand – and increase – the sustainability in these brand new, heavily managed forests.

With factors including marginal land, extreme inputs of sea salt, air pollution, climate change and an increase in the use of wood pellets for fuel, it’s more imperative than ever to get the right trees in the right places. To date, sitka spruce, introduced from Vancouver Island, is the lead contender in most parts of Ireland.



Digging into Data

When Dr. Hugh Elton was an undergraduate, students used crayons and graph paper to plot their archeological findings. Today, using GIS and remote sensing, every team leader on his digs can instantly map – and share – their day’s findings with the click of a mouse.

Superimposing their findings with GIS maps of modern crop usage, palaeoclimatic information, and detailed Ottoman tax records, Prof. Elton and his team members are able to shed more light than ever before on their project – social structures and land use in rural Anatolia (mainland Turkey) in the medieval period.

In the next few years, this technological revolution is expected to take hold across the discipline, making findings more meaningful, and more accessible to other researchers and the public. ■



Toward a Sustainable Future for Trent

No Showcase edition about “the future” would be complete without a report on the outlook for Trent University in the coming years. “Toward a Sustainable Future: The First Integrated Plan for Trent University (2010-2015)” was approved by the Board of Governors in June 2011. Four institutional priorities were identified: Commitment to Academic Excellence, Commitment to Strategic Enrollment Management, Commitment to Achieving Financial Stability, and Commitment to Strengthening Community Engagement. In keeping with the first pillar of the Plan, consultations are currently underway for a new academic plan for the University. Led by provost and vice-president academic, Dr. Gary Boire, the Academic Plan Advisory Committee will:

- Meet with all academic departments and review the unit plans provided by all academic programs as part of the *Integrated Planning Process (2009-2010)*
- Set priorities for action in order to achieve the *Vision* and *Mission* goals
- Make pragmatic recommendations on how to achieve: increased enrolment, improved retention, and improved employee morale as it relates to the academic enterprise
- Develop strategic recommendations regarding academic programming that will ensure academic integrity within the context of financial stability

Drafts of the academic plan will be reviewed during the months of December and January, with the final plan going to the Board of the Governors for approval in February 2012.

