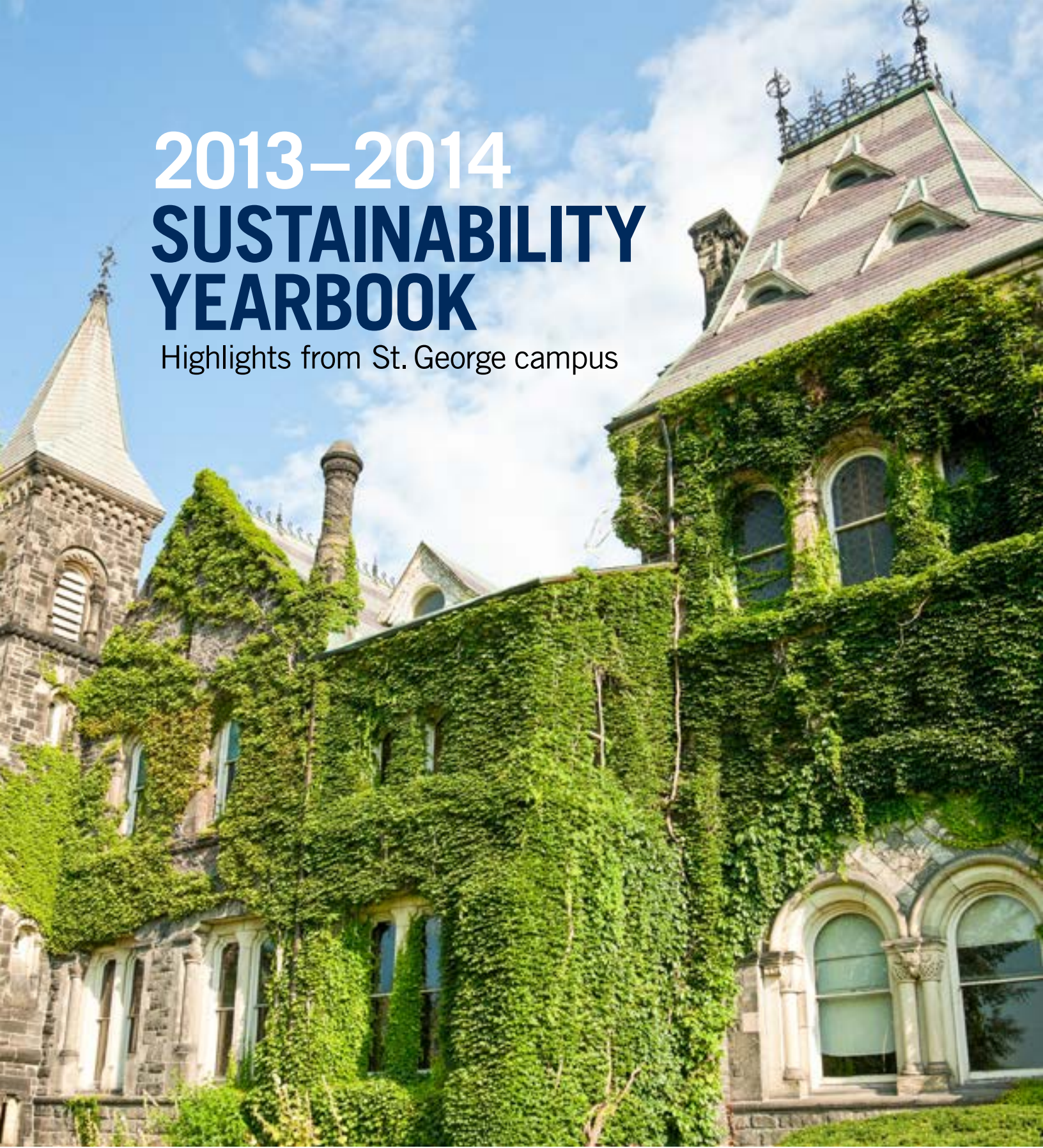


2013–2014 SUSTAINABILITY YEARBOOK

Highlights from St. George campus



UNIVERSITY OF
TORONTO



MESSAGE FROM THE PRESIDENT



“An innovative culture of sustainability thrives on our three campuses thanks to the combined efforts of students, faculty, and staff.”

OVER A CENTURY AGO,

the University of Toronto constructed one of Canada’s first institutional district energy systems to supply campus buildings in an energy- and cost-efficient manner. Today, the venerable Russell Street chimney serves as a reminder of U of T’s longstanding commitment to environmental stewardship.

Over 60 environmentally focused student groups are working to green our university and shape future generations of environmental leaders. Award-winning researchers and innovators are addressing global issues of climate change, resource availability and biodiversity losses. Dedicated staff are advancing conservation initiatives and achieving impressive results. To cite just a few examples, since 1973 we have conserved 79 billion litres of water and avoided over one million tonnes of greenhouse gas emissions. Moreover, U of T has an industry-leading waste diversion rate of 72 percent and is a leading public sector purchaser of local sustainable food in North America.

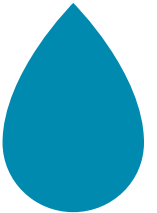
These accomplishments are just the beginning, and they powerfully illustrate how an engaged community can effect meaningful change. I would like to salute and thank students, faculty and staff for their leadership, hard work, and initiative in seeking environmentally sound solutions to pressing challenges. Congratulations on the publication of this remarkable inaugural *Sustainability Yearbook*.

Meric S. Gertler
President

TOP 10 REASONS WHY IT’S GREENER IN HERE



The campus features more than 35 acres of **green, naturalized spaces**, providing an escape from the busy urban surroundings.



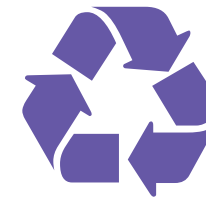
Since 2010, the University has saved over 1 billion litres of **water**.

More than 80% of the St. George community uses low- or no-carbon **transportation** to get to campus.



Our highly efficient District Energy System provides **heat and hot water** to 97 campus buildings and 10.7 million square feet of space.

In 2013, our overall **waste diversion rate** was 72.1%—one of the highest institutional diversion rates in North America.



We’re the leading public sector purchaser of **local sustainable food** in North America.



We can produce more than 25% of our **electricity** needs on campus.



More than 60 environmentally focused student groups thrive on campus. From urban agriculture to sustainable engineering, **we’ve got a club for that!**

There are over 400 U of T **researchers** doing work in the area of environment and sustainability.



The Sustainability Office has been advancing environmental initiatives and **communications** for students, staff and faculty for almost 10 years!



Image credits: Front cover: University College, by Arthur Kwiatkowski. Photography by David Bodenstein (unless noted otherwise). The researchers provided their own photos. All photographs are the property of the University of Toronto. The following icons are attributed to The Noun Project: Water Bottle by Kelvin Scale; Shower by Jaclyne Ooi; Beehive by Andrea Greco.

Sources: For further details about any of the facts in this yearbook, including a list of sources, please contact the Sustainability Office at sustainability@utoronto.ca. Unless otherwise stated, all facts refer to the 2013 school year.

Concept and design: Green Living Enterprises



BUILDINGS AND GROUNDS

Despite our urban location, we have more than 35 acres of **green, naturalized spaces** on campus, including lawns, gardens and trees.



Q+A: KATIE MACDONALD
4th-Year Student







What is your favourite green feature at the St. George campus?
Philosopher's

Walk. Its meandering pathway is such a beautiful feature on the U of T campus. Whenever I am having a stressful day, a stroll down Philosopher's Walk always helps to clear my mind.

What's the "best kept secret" in terms of green spaces on campus?
Definitely the different green roofs on campus, including the one on St. Hilda's residence of Trinity College. The green roof is an oasis on campus with a beautiful terrace that students can study or relax on.

PHOTOGRAPH: JOHN GUATTO

Discover these environmental features on campus.

-  Solar Installation
-  Inspiring Green Space
-  Student-Run Eatery
(local, sustainable, vegetarian options)
See page 11 for more details!
-  Green Roof
-  Veg and Learning Garden
-  Rainwater Cisterns
See page 6 for more details!



DID YOU KNOW?

2,327 tonnes



PHOTOGRAPH: ARTHUR KWIATKOWSKI

That's the amount of greenhouse gases avoided in the first year of an innovative energy reduction project at the **Medical Sciences Building**. A new automated system was installed in this busy building which includes 24-hour labs, classrooms and offices. Thanks to cutting-edge wireless thermostats to adjust air flow and temperature, the Medical Sciences Building is now more effective and comfortable for everyone.



TAKE ACTION ↑ Watch for the "It's Greener in Here" badge around campus, and investigate the initiatives that interest you!

WATER

Since 2010, the University has saved more than **1 billion litres** of water.



Q+A: DIONE DIAS

Dione heads up the student-led Public Water Initiative (PWI)

What has PWI been focused on in the past year?

PWI has focused on the testing of water, public outreach, advocating for more water fountains and mapping of water fountains on campus.

In your opinion, what have been positive outcomes from the 2011 bottled water ban on campus?

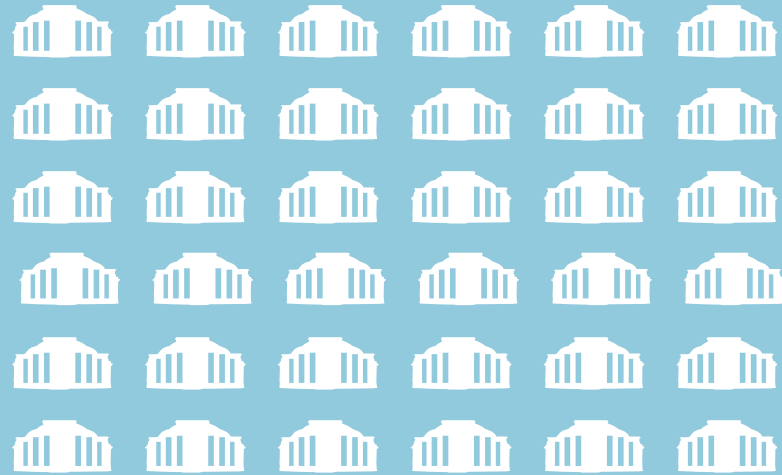
While the ban was a huge success, there has also been greater awareness about the merits of public water and the environmental, social and economic issues related to bottled water.



What other positive changes have you seen on campus in the past few years?

Noticeable increases in the number of people using reusable bottles, as well as the installation of water fountains and refill stations, and upgrades to existing fountains.

That's enough water to fill Convocation Hall **36** times!



+ We've been conserving water for more than 40 years! Since 1973, we've saved more than **79 billion litres**.

PHOTOGRAPH: JOHN GUATTO/JON HORVATH

TAKE ACTION →

Use a refillable water bottle at the various water bottle refill stations throughout campus. Find your nearest water location here: map.utoronto.ca/water



DID YOU KNOW?

63,790 L That's the amount of rainwater that the St. George campus can capture as of 2013 in its 15 underground water cisterns (one of which holds 28,430 litres!). This rainwater is then used by a smart irrigation system, which only waters our lawns if the forecast isn't predicting rain. These are a few of the many water-saving initiatives on campus that help us reduce our water consumption.

TRANSPORTATION

More than 80% of the St. George community commutes to campus using low- or no-carbon transportation, including **walking, cycling and using public transit**.



Our campus community can access free bike sharing and repair at Bikechain on Bancroft Ave.

Location: College St. and King's College Rd.

Carpooling saves you money and reduces emissions

Walking is free

Cycling is an affordable, quick and healthy way to travel

Get an entire year of Bixi for less than \$100

On the TTC, students save \$30 a month over regular fares, and staff can purchase a pass at a reduced rate, saving \$16 per month

PHOTOGRAPH: MICHAEL BAKER



TAKE ACTION ↑

Not commuting in a low-carbon way? Save money, time and the environment by choosing one of the low-carbon commuting options above!

DID YOU KNOW?

20,000 That's the number of services that Bikechain, U of T's do-it-yourself repair shop, has now surpassed.



Q+A: ALEX MACISSAC

Manager, Transportation Services

What is the most common form of low-carbon transportation used on campus?

The most common is public transit (TTC). Given the fact that the campus is served by multiple subway lines, streetcars and buses, it makes sense.

What options are there for students to reduce their transportation footprint?

The first and most popular option is the TTC; the discounted Metropass for post-secondary students makes it a viable option. Biking is a second option that many make use of.

What about faculty or staff who might need to drive in order to do their job?

There are informal carpools that staff and faculty organize on their own. Car sharing is also an option!

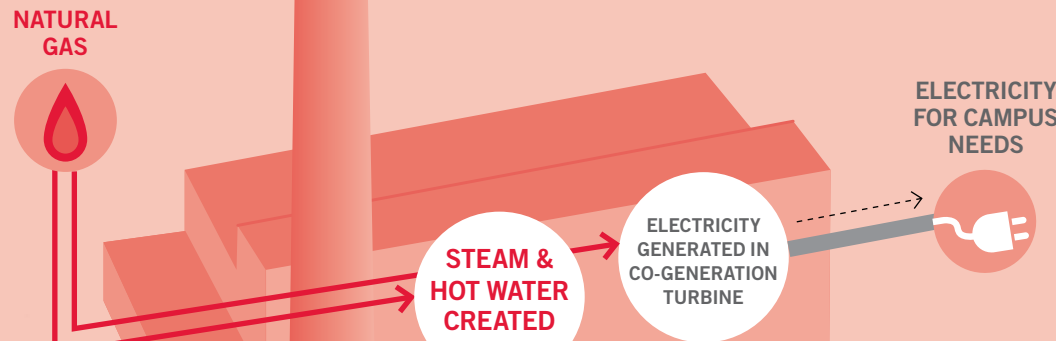


HEATING

For more than 100 years, the iconic chimney of our District Energy System has been a trailblazing symbol of innovation at U of T, producing **heat and hot water** for 97 campus buildings and 10.7 million square feet of space.

How does it all work?

A simplified look at our highly efficient District Energy System



14.5 km of traversing underground pipes provide **97 campus buildings** with space heating, domestic hot water and humidification.



DID YOU KNOW?

1 in 5 of all the hot showers in the Warren Stevens Athletic Centre are provided by energy from the sun, thanks to the 100 solar thermal panels on the building's roof.

Q+A: BOONTEAK LEE Chief Engineer and Guru of the Central Steam Plant



How does the District Energy System affect people on campus?

The District Energy System provides a centralized efficient energy supply and reduces the amount of equipment, space and emissions on campus. Everyone sees the chimney from afar but seldom associates it with the heating and electric power source for their offices and classrooms.

How is U of T continuing this history of energy innovation today?

This System has been at the forefront of innovation, from the burning of natural gas in the mid-60s, to the co-gen system in 1990, to emissions reductions in 2000, and finally to the new control system being installed now.

TAKE ACTION → Feeling overheated or overcooled? Call 416-978-3000 to let your building manager know something is off. Although we think of our building managers as superheroes, they can't be everywhere at once!

ELECTRICITY



We can produce more than 25% of our electricity needs on campus. How? Thanks to our electricity-producing co-generation turbine and two solar photovoltaic systems (one 57-kW system on **Trinity College's Larkin Building** and one 30-kW system on the Lassonde Mining Building).



Q+A: SARAH LEVY President of the Trinity College Environmental Society

What is the Solar Bursary program?

Trinity's solar panels generate electricity that is sold to the Province of Ontario. Part of these

funds are used to pay back the initial investment, and part of the funds are allocated to 25 student bursaries and a number of research opportunities for students to travel abroad.

How has the bursary benefited Trinity students?

To encourage environmental awareness in students from the start of their time at Trinity, a Solar Panel First-Year Award is given out to a student demonstrating environmental responsibility. I am very proud of this bursary program at Trinity, as it's a concrete example of how sustainable initiatives benefit not only the environment, but countless others as well.

DID YOU KNOW?

730

That's the number of Ontario homes that could have been powered through the almost 6,500,000 kWh of electricity saved by St. George campus during the 2012–2013 academic year.

TAKE ACTION → Laptops and monitors use "standby" electricity even when you think they're off! This wasted energy is known as "phantom" power. Take a bite out of your energy bill and save electricity by unplugging unused equipment. It will also extend the life of your electronics!



WASTE MANAGEMENT

In 2013, our overall waste diversion rate was 72.1%—one of the highest institutional diversion rates in North America!

Q+A: RENO STRANO

Campus Waste Guru



What does “waste diversion rate” really mean?

The basic meaning of waste diversion is simple: when items are recycled, reused or not produced in the first place, they avoid disposal and, thus, are “diverted” from landfill.

What is the single biggest challenge you face in trying to reduce waste?

Fighting human nature is the biggest obstacle to waste reduction. People are not naturally wired to think about their waste. Most people don’t think about how much waste goes into producing and shipping the things they want or what happens to it after they are done with it.



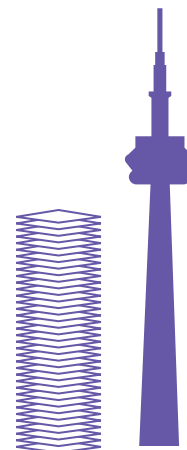
TAKE ACTION → Head to the U of T Swap Shop. In 2012–2013, the Swap Shop helped to put 40 tonnes of gently used items back into use. That’s the equivalent weight of 200 offices’ worth of furniture!



DID YOU KNOW?

3 million

Sheets of paper saved since our campus libraries set their printers to double-sided defaults in 2010. That’s just over half the height of the CN Tower! Credit goes to Gerstein Library, who first piloted paper saving initiatives in 2009!



FOOD AND DINING



A partner of Local Food Plus since 2006, we’re the leading public sector purchaser of local sustainable food in North America.



Eco-trays provide you with a clean, reusable container for your tasty meals

Location: Medical Sciences Cafe

If it grows, it goes in compost bins

Refill your water bottle at one of the many stations (more on page 6)

Recycling starts here—think before you sort your waste

Lug-a-mug and save 25 cents on hot drinks at most campus locations

Q+A: ESTELLE CHETTIAR

Food Services Intern and Local Food Crusader



What is Local Food Plus?

Local Food Plus (LFP) is a not-for-profit organization that certifies, promotes and encourages farms and processors in Ontario that practise environmentally and socially responsible farming techniques.

What does “local sustainable food” mean at U of T?

At the University of Toronto, local food is any food or food product that is partially or completely grown, raised or produced in Ontario.

What is the easiest way to find local sustainable food on campus?

The Local Food Standards and Local Food label are part of the overarching Local Food Challenge launched in September 2013. The Challenge encourages students, staff and faculty to buy local food on campus by looking for the Local Food label.

TAKE ACTION → Participate in Veggie Mondays! After all, you save more water by not eating one pound of meat than you would by not taking a shower for 6 months. The impact of everyone on campus taking part in Veggie Mondays cannot be understated!

DID YOU KNOW?

120 lb.

The amount of honey produced by the 300,000 bees in 5 beehives operated by U of T’s B.E.E.S.





EDUCATION AND RESEARCH

There are more than 400 U of T researchers doing work in the area of environment and sustainability, leading to **award-winning** and world-renowned research, **innovations** and **start-ups**.



Q+A: INGRID STEFANOVIC

Founding Director of the Centre for Environment (now School of the Environment) and Professor of Philosophy

How does U of T stack up against other universities in terms of the amount of research being done?

U of T is consistently ranked among the top universities in the world when it comes to environmental research. Our researchers win major awards and regularly contribute to the work of the prestigious Intergovernmental Panel on Climate Change.



PHOTOGRAPH: MARTIN TURNER

↑ AeroVelo Inc., formed by alumni Todd Reichert and Cameron Robertson, made history by winning the Sikorsky Prize for the first-ever sustained flight of a human-powered helicopter.

→ Olivier Trescases with A2B, the world's only completely Canadian designed and made electric car



PHOTOGRAPH: JOHN GUATTO



Kim Strong (Faculty of Arts and Science): Professor in the Department of Physics and Director of the School of the Environment

Dr. Strong measures atmospheric composition to improve our understanding of air quality, ozone depletion and climate.



Greg Scholes (Faculty of Arts and Science): Professor in the Department of Chemistry

Dr. Scholes is finding new ways to harness the power of light and is learning from plants to build better solar panels and energy storage.

DID YOU KNOW?

20+ The School of the Environment offers undergraduate programs and collaborative graduate programs with more than 20 other departments. The School also offers many professional development courses and workshops.



PHOTOGRAPH: JOHN HRNIVLIK

David Zingg (Department of Psychology): Professor and Director of the Institute for Aerospace Studies, Director of the Centre for Research in Sustainable Aviation

Dr. Zingg is working to shrink the environmental footprint of the aviation industry. By optimizing aircraft design to reduce drag, his work is helping reduce fuel consumption and carbon dioxide emissions.



PHOTOGRAPH: NANOLIGHT



↑ Alumni Christian Yan, Tom Roderger and Jimmy Chu developed the NanoLight LED bulb, "the world's most energy-efficient light bulb," which uses only 12 watts of electricity to produce light equivalent to that of a 100-watt bulb.



Miriam Diamond (Faculty of Applied Science and Engineering): Professor in the Department of Earth Sciences

Dr. Diamond's goal is to connect our everyday activities with their environmental consequences. She is currently exploring a planetary boundary for chemical pollution and developing a "chemical footprint" that can help keep us within that limit.



Dan Dolderman (Department of Psychology): Professor of Environmental Psychology

Applying psychology to environmental issues to help communities reach their environmental goals, Dr. Dolderman is encouraging people to be politically active. His main focus is Unstoppable Snowball, a social networking experiment to increase democratic participation in environmental issues across Canada.



Clare Wiseman (Faculty of Arts and Science): Assistant Professor and Coordinator of the Graduate Collaborative Program in Environment and Health in the School of the Environment

Dr. Wiseman has joined forces with local organizations to find ways to minimize the health risks associated with growing food in urban environments, while maximizing the health benefits.



PHOTOGRAPH: BLUE SKY SOLAR RACING

↓ Solar car team: B-7, the latest racing car from the University's Blue Sky Solar Racing team

TAKE ACTION → Get your course Green Certified at www.uoft.me/greencourses

COMMUNITY

More than 60 environmentally focused student groups thrive on campus. From urban agriculture to sustainable engineering, we've got a club for that!

Just a few of U of T's Sustainability Groups



Q+A: ELYSE HENDERSON

Founding Member of the Green Chemistry Initiative

What is the Green Chemistry Initiative (GCI)?

The GCI is a group of graduate students in the Department of Chemistry who joined together to promote sustainable practices in the lab and in everyday life.

What impact has the GCI had so far?

Graduate students have learned about green chemistry methods and how to implement them in their everyday research from experts in the field.

How has your involvement changed you personally?

By working with the GCI, I have seen real, positive changes in the green awareness of my fellow graduate students. It has been an extremely gratifying experience! I have also learned valuable entrepreneurial skills.



Sustainability Office staff and student team, fall 2013

COMMUNICATION



The Sustainability Office has been advancing environmental initiatives and communications for students, staff and faculty for almost 10 years!



Q+A: TYLER HUNT

Project Coordinator in the Sustainability Office (and man behind the Green Superhero mask)

What can you share about the fantastic work being done at the Sustainability Office?

We've had so many big wins in recent years! Whether we're knocking out bottled water, kicking waste to the curb or squashing emissions, the Sustainability Office is helping to make U of T a "greener" place!

What's your mission for the coming year?

I'm helping the Sustainability Office to reach the far corners of the universe (and campus) to find, foster and celebrate sustainable initiatives. There's so much passion and initiative on campus—we just have to find it and harness it!

Who are you planning to team up with in the near future?

We're really excited about our staff and faculty collaborations. Student Life, the School of the Environment, and Food Services are just a few of the groups we're working with... with plenty more partnerships to come!

↑ HARVEST NOON CAFE

Serves local sustainable food and offers cooking and preserving workshops (see map on page 5 for location).



U of T B.E.E.S.

Public Water Initiative at the University of Toronto (PW)



Sustainable Engineers Conference 2013



Dig In! Campus Agriculture Network

DID YOU KNOW?

500+ That's the number of staff, students and faculty to date who have taken a pledge to be "U of T green."

TAKE ACTION → Interested in joining an environmental club? Visit: ulife.utoronto.ca/interests/list/type/environment

DID YOU KNOW?

In the summer of 2013, the Sustainability Office undertook a survey of the campus population to better understand the views and opinions of those who call our "greener" campus home. Here are some of the results based on responses from our 2,576 amazing participants:

71% think that U of T is a "green" campus.

79% consider themselves passionate about environmental issues.

80%+ consider the presence of a Sustainability Office, the promotion of sustainability initiatives and campus sustainability awareness to be important.

43% associate eating less meat with sustainability.

38% associate buying organic with sustainability.

The campus' **Veggie Mondays** program and **Local Food** initiatives are looking to increase this awareness!

TAKE ACTION → Feel the need for a little more "green" in your work life? Join the Green Ambassadors Network and help make our campus—and the world—a better place. Visit www.uoft.me/greenambassadors to sign up.

FOOD & DINING
ENVIRONMENT
STUDENT GROUPS
BUILDINGS & GROUNDS
INNOVATION
PLEDGE
WATER
TAKE ACTION
IT'S GREENER IN HERE

Take the pledge to be “U of T green” at
uoft.me/greener



/SustainableUofT



@SustainableUofT



/SustainableUofT

COMMUNITY
CLIMATE CHANGE
WASTE MANAGEMENT
REUSE
ENERGY
TRANSPORTATION
GREEN AMBASSADORS
EDUCATION
& RESEARCH
GARDENS



Download the Yearbook at
www.sustainability.utoronto.ca