

```
#include <iostream>
using namespace std;

main(){
    cout <<
        "Welcome to IOI 2010!"
    << endl;
}
```

THE 22ND INTERNATIONAL OLYMPIAD IN INFORMATICS WATERLOO

AUGUST 14TH - 21ST, 2010 | WWW.IOI2010.ORG | ONTARIO, CANADA



THE 22ND INTERNATIONAL OLYMPIAD IN INFORMATICS WATERLOO, ONTARIO, CANADA AUGUST 14TH - 21ST, 2010

ORGANIZED BY:

The CENTRE for EDUCATION in MATHEMATICS and COMPUTING

University of Waterloo
200 University Avenue West
Waterloo, Ontario Canada N2L 3G1
Phone: 519-888-4808

<http://www.cemc.uwaterloo.ca>

ORGANIZING COMMITTEE:

Operations:

- Troy Vasiga - Chair
- Frank DeMaio
- Ian VanderBurgh

Logistics:

- Jennifer Couture

Host Scientific Committee Members:

- Gordon Cormack - Chair
- Derek Kisman
- Ondrej Lhotak
- Abel Molina
- Tor Myklebust
- Richard Peng
- David Pritchard
- Malcolm Sharpe

Host Technical Committee Members:

- Terry Bae
- Jim Bell
- Ersal Cahit
- Bruce Campbell
- Dave Gawley
- Dan Hergott
- Bob Hicks
- Bill Ince
- Abel Nieto
- Robert Yawney

Communications, Publications, and Photography:

- Karen Cole
- Steve Furino
- Kim Schnarr

Volunteer Coordinator:

- Jen Nissen

Ceremonies Coordinator:

- Judith Koeller

Guest Program Coordinators:

- Joanne Kursikowski
- Dean Murray

Assistants:

- Andrea Blezy
- Mike Eden
- Barbara Forrest
- Sandy Graham
- Angie Hildebrand
- J.P. Pretti
- Linda Schmidt
- Rachael Verbruggen

Dear IOI 2010 Participants,

It is with great pleasure that I welcome you to Waterloo to experience the 22nd International Olympiad in Informatics. I hope you find Waterloo a warm, welcoming place.

On behalf of the organizers of IOI 2010, I hope that you will find the activities, accommodation, food and excursions, interesting, unique and enjoyable.

Specifically for the competitors, I hope that you find the competition accessible, interesting, challenging, educational, thought-provoking and enjoyable. I know that the Scientific Committee has worked hard to make this year's competition fit all of these descriptors!

On a personal note, having been at Waterloo as an undergraduate, graduate and lecturer for many years now, and I am extremely happy and proud to show you a campus that feels like home to me. I hope it feels like home to you.

I wish you all a wonderful week here.



Troy Vasiga

Troy Vasiga
Chair, 2010 IOI Organizing Committee
Lecturer, David R. Cheriton School of Computer Science
University of Waterloo

Dear IOI 2010 Participants,

Welcome to Waterloo! It's an honour for us to host this year's IOI.

Representing your country at the International Olympiad in Informatics is a tremendous achievement. You should be very proud of your accomplishments.

Enjoy this opportunity to challenge yourselves, and also to get to know one another. This is your chance to meet new friends and future colleagues from around the world, who share your passion for problem solving.

I would like to extend my thanks to RIM/BlackBerry, our IOI title sponsor, and to the army of volunteers, led so capably by Troy Vasiga from Waterloo's Cheriton School of Computer Science.

Ian Goulden
Dean, Faculty of Mathematics
University of Waterloo



Ian Goulden

Dear IOI 2010 Participants,

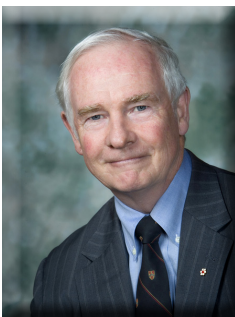
We are very pleased to welcome IOI 2010 contestants, leaders, organizers and guests to the University of Waterloo.

Located at the heart of Canada's Technology Triangle, Waterloo is one of Canada's leading comprehensive universities. We're home to 30,000 full- and part-time undergraduate and graduate students who are dedicated to making the future better and brighter. Waterloo is known for excellence in the mathematical and computing sciences, as well as enterprising partnerships in learning, research and discovery.

I wish all contestants the best of luck, and trust that your time in Waterloo will create wonderful memories.

Sincerely,

David Johnston
President, University of Waterloo



David Johnston

ENJOY YOUR STAY AT THE UNIVERSITY OF WATERLOO

VILLAGE 1



Leaders and guests will enjoy accommodation at Village 1. This Village consists of 16 interconnected “houses”, arranged into 4 “quads”. Each house is connected to at least one other house by an elevated walkway. Houses contain 3-4 floors of approximately 16 beds per floor. Each floor has a shared washroom and each house has a TV lounge with fridge and microwave.

The Community Centre of Village 1 includes the cafeteria and dining hall, lounge with big screen TV, laundry room, games area and Internet Cafe.

<http://www.housing.uwaterloo.ca/residences/village1/>

NEED ASSISTANCE?

The Conference Centre Front Desk, located in **Ron Eydt Village** is open daily from 06:00 to 01:00. Services include selling stamps, calling cards and laundry cards. If you need immediate assistance between 01:00 and 06:00, a staff person is available by calling **519-465-4207**.

Forget something? Check with front desk to see if they have it!

Toothpaste, toothbrush, shaving cream, razor, etc. are all available for purchase.

Need directions? Just ask at the Front Desk and they will get you there!

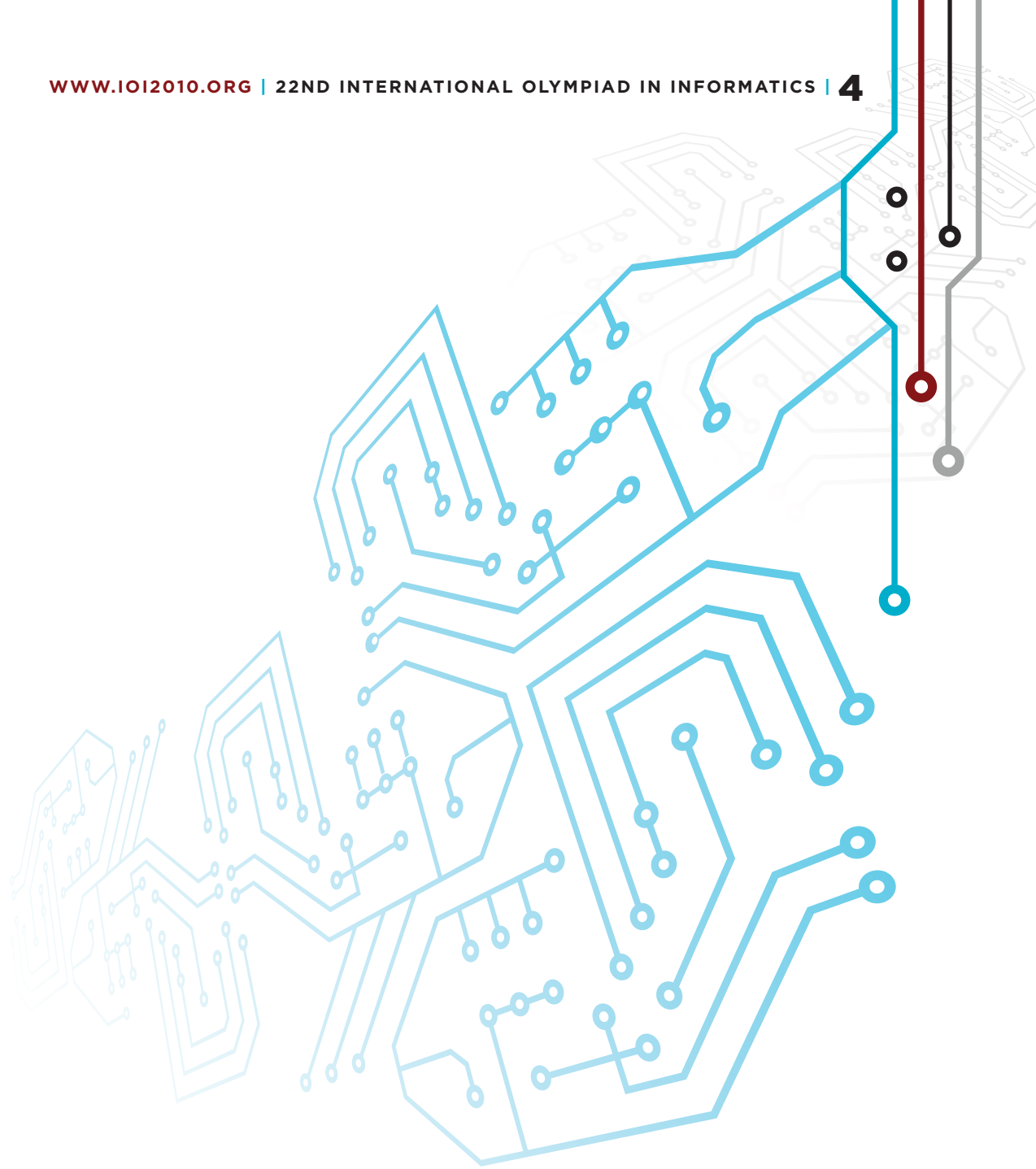
RON EYDT VILLAGE

Students will enjoy accommodation at Ron Eydt Village (REV). Each floor consists of 24 rooms with 2 large washrooms per floor (1 male and 1 female) along with a common lounge for after-hours networking.

The Community Centre of REV includes the cafeteria and dining hall, TV lounge, games area, Internet cafe, and the Front Desk.



<http://www.housing.uwaterloo.ca/residences/rev/>



SCHEDULE »



SATURDAY AUGUST 14, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Breakfast		
08:00 - 09:00			
09:00 - 10:00	Arrival - Registration / Activities (All Day)		
10:00 - 11:00			
11:00 - 12:00			
12:00 - 13:00	Lunch (In Village 1 Cafeteria)		
13:00 - 14:00			
14:00 - 15:00			
15:00 - 16:00	Arrival - Registration / Activities (All Day)		
16:00 - 17:00			
17:00 - 18:00			
18:00 - 19:00	Dinner until 21:00 (In Village 1 Cafeteria)		
19:00 - 20:00			
20:00 - 21:00	Welcome Party (Davis Centre - DC)		
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			

SUNDAY AUGUST 15, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Breakfast (In Village 1 Cafeteria)		
08:00 - 09:00			
09:00 - 10:00	Walk to Waterloo Recreation Complex		
10:00 - 11:00	Official Opening Ceremony (Waterloo Recreation Complex)		
11:00 - 12:00			
12:00 - 13:00	Lunch (In REV Cafeteria)	Lunch (In Village 1 Cafeteria)	
13:00 - 14:00			
14:00 - 15:00	Practice Session (Physical Athletics Complex - PAC)		Elora Gorge
15:00 - 16:00			
16:00 - 17:00	GA Meeting (DC 1350)		
17:00 - 18:00	Dinner		Dinner
18:00 - 19:00		Dinner	Free Time
19:00 - 20:00	Evening Lectures: Exploring Computer Science	GA Meeting	
20:00 - 21:00		Tasks Translation until 03:00	
21:00 - 22:00	Quarantine		
22:00 - 23:00			
23:00 - 24:00			

MONDAY AUGUST 16, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Breakfast - Served starting at 06:00		
08:00 - 09:00	Competition Day 1 (PAC)	Clarification	Free Time
09:00 - 10:00		Requests	
10:00 - 11:00		IOI Conference (DC 1302)	Grand River Cruise
11:00 - 12:00			
12:00 - 13:00		Lunch 11:30 - 14:30	
13:00 - 14:00	Lunch 13:30 - 15:00		
14:00 - 15:00		Results and Analysis Mode	
15:00 - 16:00	Results and Analysis Mode		
16:00 - 17:00	Results and Analysis Mode		
17:00 - 18:00		GA Meeting	
18:00 - 19:00	Dinner		
19:00 - 20:00	Evening Lectures: Exploring Computer Science		
20:00 - 21:00	Evening Lectures: Exploring Computer Science		
21:00 - 22:00	Free Time		
22:00 - 23:00	Free Time		
23:00 - 24:00	Free Time		

TUESDAY AUGUST 17, 2010

TIME	EVENT				
	CONTESTANTS	LEADERS	GUESTS		
07:00 - 08:00	Breakfast - Served starting at 06:30				
08:00 - 09:00					
09:00 - 10:00	Canada's Wonderland				
10:00 - 11:00					
11:00 - 12:00					
12:00 - 13:00	Lunch				
13:00 - 14:00					
14:00 - 15:00	Canada's Wonderland				
15:00 - 16:00					
16:00 - 17:00					
17:00 - 18:00				Dinner	Dinner
18:00 - 19:00				GA Meeting	
19:00 - 20:00					Tasks translation until 03:00
20:00 - 21:00	Dinner				
21:00 - 22:00	Quarantine				
22:00 - 23:00					
23:00 - 24:00					

WEDNESDAY AUGUST 18, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Breakfast - Served starting at 06:00		
08:00 - 09:00	Competition Day 2 (PAC)	Clarification	Free Time
09:00 - 10:00		Requests	Stratford Festival
10:00 - 11:00		IOI Conference (DC 1302)	
11:00 - 12:00			
12:00 - 13:00		Lunch 11:30 - 14:30	
13:00 - 14:00	Lunch 13:30 - 15:00		
14:00 - 15:00			
15:00 - 16:00	Results and Analysis Mode		
16:00 - 17:00			
17:00 - 18:00		GA Meeting	
18:00 - 19:00	Dinner		
19:00 - 20:00	Evening Lectures: Exploring Computer Science		
20:00 - 21:00			
21:00 - 22:00	Free Time		
22:00 - 23:00			
23:00 - 24:00			

THURSDAY AUGUST 19, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Niagara Falls (Breakfast information will be provided on Wednesday, August 18th.)		
08:00 - 09:00			
09:00 - 10:00			
10:00 - 11:00			
11:00 - 12:00			
12:00 - 13:00			
13:00 - 14:00			
14:00 - 15:00			
15:00 - 16:00			
16:00 - 17:00			
17:00 - 18:00	Dinner		
18:00 - 19:00	<div style="border: 1px solid black; padding: 5px; text-align: center;"> GA Meeting (DC 1350) </div>		
19:00 - 20:00			
20:00 - 21:00	Free Time		
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			

FRIDAY AUGUST 20, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Breakfast		
08:00 - 09:00			
09:00 - 10:00	Free Time	GA Meeting (DC 1350)	St. Jacobs Train and Shopping
10:00 - 11:00			
11:00 - 12:00			
12:00 - 13:00	Lunch		
13:00 - 14:00			
14:00 - 15:00	Free Time		
15:00 - 16:00			Free Time
16:00 - 17:00			
17:00 - 18:00	Closing Ceremony		
18:00 - 19:00			
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			

SATURDAY AUGUST 21, 2010

TIME	EVENT		
	CONTESTANTS	LEADERS	GUESTS
07:00 - 08:00	Breakfast		
08:00 - 09:00			
09:00 - 10:00	Departure		
10:00 - 11:00			
11:00 - 12:00			
12:00 - 13:00			
13:00 - 14:00			
14:00 - 15:00			
15:00 - 16:00	Departure		
16:00 - 17:00			
17:00 - 18:00			
18:00 - 19:00			
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			

IOI 2010 Evening Lectures: Exploring Computer Science

We are excited to offer a new way to showcase the exciting and challenging field of computing. On three evenings, speakers will be giving short presentations on campus exploring the breadth and depth of computer science. IOI contestants are strongly encouraged to attend from 19:00 until 20:15 on Sunday, August 15, Monday, August 16 and Wednesday, August 18. Leaders and guests are welcome to come when they are available and may be particularly interested in attending on Monday, August 16 when talks will be given in seven different languages. All lectures will be held in J.R. Coult's Hall (RCH) and given by faculty members and graduate students from the David R. Cheriton School of Computer Science.

Sunday, August 15

- 19:00 - 19:30 RCH 101 Creating artistic images using half-toning
19:45 - 20:15 RCH 101 A short introduction to mind reading

English Dr. Craig Kaplan
English Dr. Charlie Clarke

Monday, August 16

- 19:00 - 19:30 RCH 101 Algorithms for quantum computers
RCH 204 Хорошо забытое старое... (1)
RCH 205 مزج البيانات غير المهيكلية على الإنترنت (2)
RCH 206 Une marche intelligente pour personnes agées (3)
19:45 - 20:15 RCH 101 How you see: the neuroscience of vision
RCH 204 Ein Durchbruch bei der Komplexität von ratenbasierten Paketschedulern (4)
RCH 205 使用离散种子提高字符串近似匹配的速度和灵敏度 (5)
RCH 206 Computación paralela en arquitecturas multicore (6)

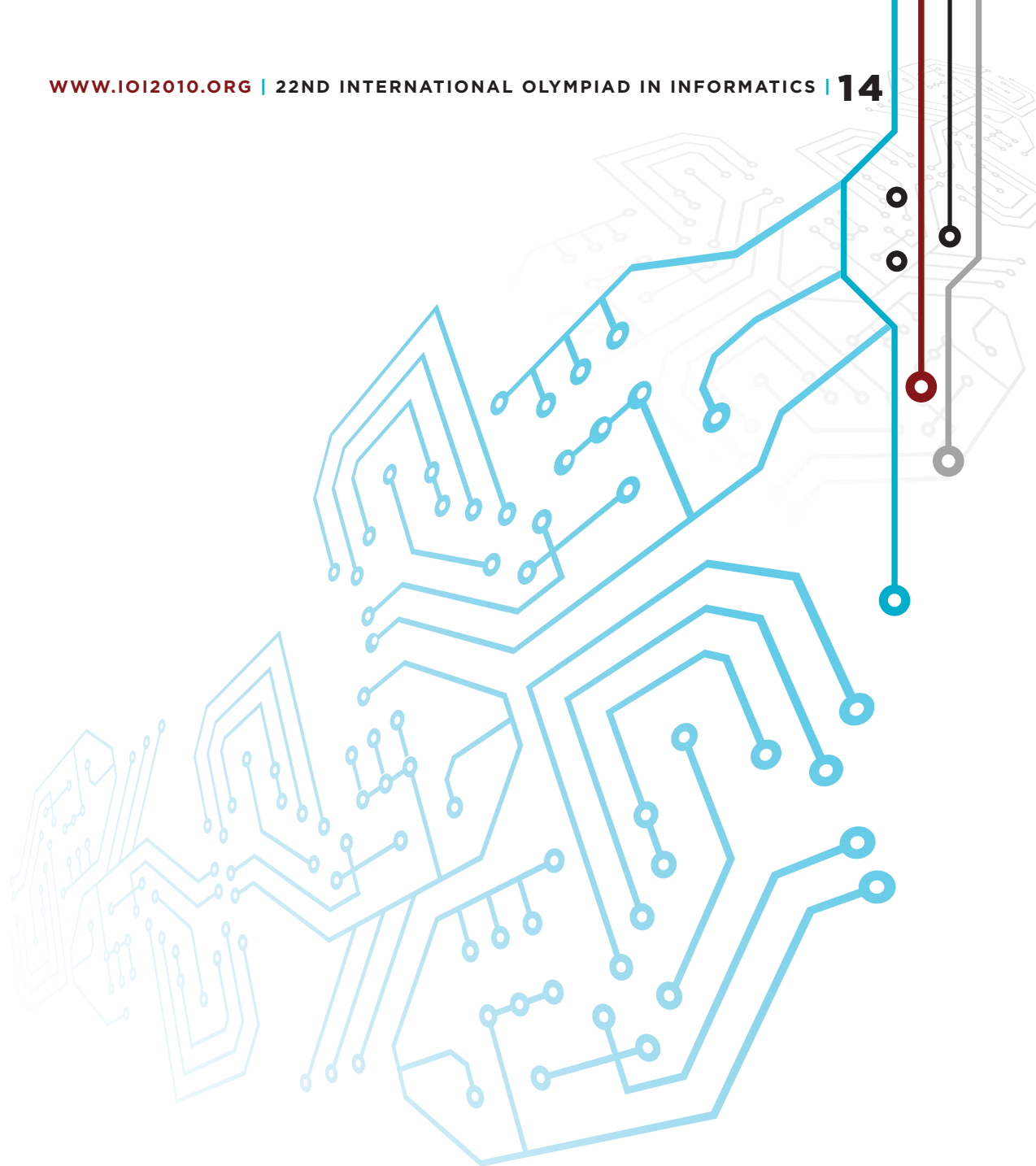
English Dr. Andrew Childs
Russian Dr. Eugene Zima
Arabic Mr. Mohamed Soliman
French Dr. Pascal Poupart
English Dr. Jeff Orchard
German Dr. Martin Karsten
Mandarin Dr. Bin Ma
Spanish Mr. Alejandro Salinger

- (1) Well forgotten old...
(2) Building mashups of unstructured data sources
(3) A smart walker for older people
(4) Breaking through the complexity limits of rate-based packet scheduling
(5) Faster and more sensitive similarity search with spaced seeds
(6) Parallel computing in multicore architectures

Wednesday, August 18











- 19:00 - 19:30 RCH 101 Private information retrieval
19:45 - 20:15 RCH 101 From DNA to Jay-Z: automatic detection of rap music rhymes using ideas from computational biology










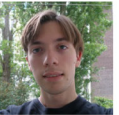











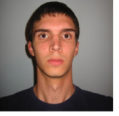

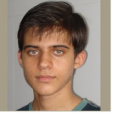










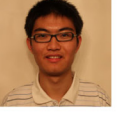


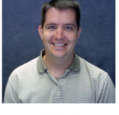


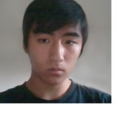

English Dr. Ian Goldberg
English Dr. Dan Brown



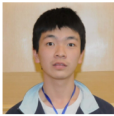
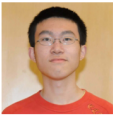
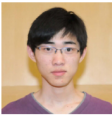


































TEAMS »












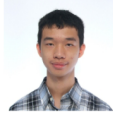



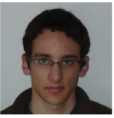













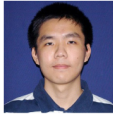

















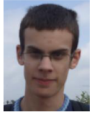








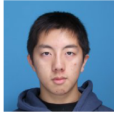


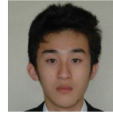




















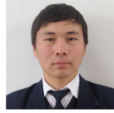


	LEADER	DEPUTY LEADER	COMPETITORS			
Albania	 Ilia Ninka		 Ledio Berdellima	 Iris Fuli	 Klevis Mino	
Argentina	 Hugo Ryckeboer	 Alejandro Deymonnaz	 Gonzalo Avila Alterach	 Martin Fixman	 Lucas Tavoraro Ortiz	 Ariel Zylber
Armenia	 Vahram Dumanyan	 Armen Andreasyan	 Aleksandr Chatrchyan	 Eduard Grigoryan	 Hayk Tepanyan	 Armen Vardanyan
Australia	 Bernard Blackham	 Jarrah Lacko	 Luke Harrison	 Evgeny Martynov	 Robert Newey	 Kenneth Wong
Austria	 Helmut Achleitner	 Johann Fellner	 Fabian Hammerle	 David Madl	 Michael Rader	 Christoph Sperl
Azerbaijan	 Ramin Mahmudzade	 Ismayil Sadigov	 Zaur Abbasbayli	 Eshah Hajiyev	 Azad Salahli	 Allahverdi Suleymanov
Bangladesh	 Mohammad Kaykobad	 Tanvir Kaykobad	 Sakib Shafayat			

	LEADER	DEPUTY LEADER	COMPETITORS			
Belarus	 Irina Kirinovich	 Anatoli Aksenchyk	 Yauheni Hrytskevich	 Pavel Kalinnikov	 Aliaksei Kolesau	 Gennady Korotkevich
Belgium	 Damien Leroy	 Sébastien Combéfis	 Guillaume Derval	 Charles Hubain	 Joseph Lange	 Benoit Legat
Bosnia and Herzegovina	 Haris Gavranovic	 Jasmin Hodzic	 Adnan Ademović	 Damir Ferizović	 Daniel Ferizović	 Amer Mešanović
Brazil	 Ricardo Anido	 Wanderley da Silva	 Caique Lira	 Andre Pereira	 Renato Pinto Junior	 Felipe Souza
Bulgaria	 Emil Kelevedjiev	 Stoyan Kapralov	 Anton Anastasov	 Vladislav Haralampiev	 Rumen Hristov	 Mihail Kovachev
Canada	 Ian Munro	 J.P. Pretti	 Brian Bi	 Yu Cheng	 Zhi Qiang Liu	 Jacob Plachta
Canada II	 Ian Munro	 J.P. Pretti	 Tyson Andre	 Aurick Qiao	 Cyril Zhang	 Jonathan Zung









































	LEADER	DEPUTY LEADER	COMPETITORS			
China	 Hong Wang	 Baolin Yin	 Qiwei Feng	 Luhang Lai	 Yuchao Pan	 Yi Wu
Colombia	 Mario Cruz	 Alfredo Bayuelo	 Rafael Mantilla	 Diego Niquefa	 Jaime Silva	 Christian Zuluaga
Croatia	 Ivo Šeparović	 Luka Kalinovič	 Stjepan Glavina	 Ivan Katanić	 Ivica Kičić	 Adrian Satja Kurdija
Cuba	 Francisco Hernández		 Leandro Castillo	 Javier Noa		
Cyprus	 Philippos Michael	 Ioannis Ioannoy	 Marios Hadjimichael	 Georgios Illampas	 Ioanna Mousikou	 Talia Tseriotou
Czech Republic	 Zdeněk Dvořák	 Zbyněk Falt	 Vlastimil Dort	 Hynek Jemelík	 David Klaška	 Jan Polášek
Denmark	 Jørgen Nielsen	 Knud Fjeldsted	 Nikolaj Kammersgaard	 Mathias Knudsen	 Asbjørn Nordentoft	 Jeppe Petersen

































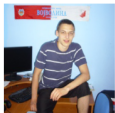









	LEADER	DEPUTY LEADER	COMPETITORS			
Egypt	 Mostafa Ezzat ElBatsh	 Safwat Eskandar	 Omar ElAzazy	 Ahmed Salem	 Emad William	 Hosam Zarara
Estonia	 Ahto Truu	 Heno Ivanov	 Ago Allikmaa	 Dmitri Gabbasov	 Morten Piibelet	 Jaagup Rep�n
Finland	 Heikki Hyro	 Antti Laaksonen	 Nuutti H�ltt�	 Joonas Haapala	 Santtu Keskinen	 Johannes Laire
France	 Mathias Hiron	 Mehdi Bouaziz	 Amaury De la vieuville	 Simon Forest	 Paul Kirchner	 Jules Pondard
Georgia	 George Mandaria	 Zaza Gamezar-dashvili	 Nodari Ambroladze	 Nika Begiashvili	 Mariam Kobiashvili	 Tsotne Tabidze
Germany	 Wolfgang Pohl	 Hans-Christian Ebke	 Simon B�rger	 Fabian Gundlach	 Aaron Montag	 Klaas-Hendrik Poelstra
Ghana	 Francis Dogbey	 Ama Peprah Asare	 Cecil Arthur	 Elias Konadu Awudu	 Jonathan Mishiame	





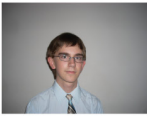













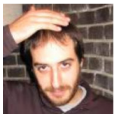

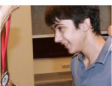
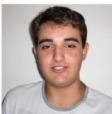





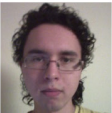
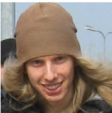








	LEADER	DEPUTY LEADER	COMPETITORS			
Greece	 Michael Chatzopoulos	 Nikolaos Papispyrou	 Kyriakos Axiotis	 Arsenis Gerasimos	 Alexandros Tasos	 Nikolaos Tzamos
Hong Kong	 Atkin Lui	 Che-hung Danny Cheng	 Man-hin Jeffrey Hon	 Man-lok Wong	 Tak-hei Yu	 Chak-fai Yuen
Hungary	 Gyula Horváth	 László Zsakó	 Attila Dankovics	 Márton Hunyady	 András Mészáros	 Zsolt Wagner
India	 Madhavan Mukund	 Narayan Krishnan	 Keshav Dhandhanian	 Archit Karandikar	 Siddharth Krishna	 Anish Shankar
Indonesia	 Suryana Setiawan	 Brian Marshal	 Alham Aji	 Christianto Handojo	 Ashar Fuadi	 Harta Wijaya
Iran	 Ghassem Jaberipur	 Mohammad Ali Safari	 Ali Babaei Chshmebah-madrezaei	 Seyed Mehran Kholdi	 Behrouz Rabiee	 Mehrdad Tahmasbi
Ireland	 Charlie Daly	 Michael Cotter	 Jared Auty	 Donncha O Gearbhaill		










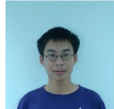





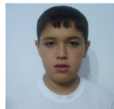

























	LEADER	DEPUTY LEADER	COMPETITORS			
Israel	 Oren Becker	 Ella Tzur	 Aviel Atias	 Gal Dor	 Daniel Hadas	 Rotem Liss
Italy	 Luigi Laura	 Nicola Galesi	 Massimo Cairo	 Alessandro Dovis	 Giovanni Paolini	 Luca Wehrstedt
Japan	 Seiichi Tani	 Tetsushi Ito	 Masaki Hara	 Kensuke Imanishi	 Shogo Murai	 Hiroshi Yamashita
Kazakhstan	 Bakhyt Matkarimov	 Azhar Rakhletova	 Madiyar Aitbayev	 Ali-Amir Aldan	 Azizkhan Almakhan	 Ali Dautalinov
Korea	 Hee Chul Kim	 Chan Su Shin	 Dooho Chang	 Myungwoo Chun	 Donggu Kang	 Wonryong Ryou
Kuwait	 Salwa Albaijan	 Bushra Albahar	 Abdulaziz Alqallaf	 Talal Alsheqaih	 Ebraheem Ashkanani	 Abdalla Mohammed
Kyrgyzstan	 Pavel Pankov		 Mederbek Akmatov	 Azamat Islambekov	 Zakirdin Lamiev	 Zubaidullo Niimatullo uulu



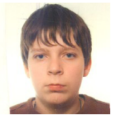

















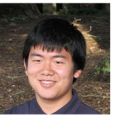


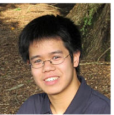








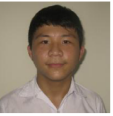



	LEADER	DEPUTY LEADER	COMPETITORS			
Latvia	 Martins Opmanis	 Arturs Verza	 Peteris Erins	 Eduards Kalinicenko	 Olegs Osmjans	 Normunds Vilcins
Libya	 Majdi Ashibani	 Mohamed Glaïow	 Amna AboTurkia	 Masoud Abuadba	 Wafa Elshibani	 Eyman Gabril
Lithuania	 Jūratė Skūpienė	 Vytyis Banaitis	 Matas Brazdeikis	 Marijonas Petrauskas	 Antanas Uršulis	 Kęstutis Vilčinskas
Luxembourg	 Laurent Haan	 Luc Bredemus	 Gilles Englebert	 Marc Radinovic	 Christophe Schmol	 Jeff Wagner
Macao	 Teng Lam	 Wan Hei Chan	 Lei Hou Hoi	 Hou Meng Ip	 Hoi Meng Lei	 Chou Lun Leong
Macedonia	 Mile Jovanov	 Emil Stankov	 Hristijan Bogoevski	 Mladen Dimovski	 Predrag Gruevski	 Jovan Krajevski

	LEADER	DEPUTY LEADER	COMPETITORS			
Madagascar	 Tahina Raselison	 Faly Vonjy Andriamanarivo	 Hasintsoa Andriamparany	 Sandratra Herimanana Andrianirina	 Mamy Nambinina Randrianarisoa	 Tsitohaina Zoara Lalao
Mexico	 Luis Vargas Azcona	 Joemmanuel Ponce Galindo	 Diego Caudillo Amador	 Hugo Dueñas Orozco	 Saul Gutierrez Calderon	 Flavio Hernandez Gonzalez
Moldova	 Anatol Gremalschi	 Iurie Mocanu	 Maxim Ciuntu	 Victor Ciuntu	 Iulian Gramatki	 Daniel Mogoreanu
Mongolia	 Chojjovanchig Lkhachin	 Dashnyam Mendee	 Janchiv Bat-Erdene	 Gantushig Bayasgalan	 Chinbold Gansukh	 Naranbayar Uuganbayar
Netherlands	 Ries Kock	 Victor Schmidt	 Bas Nieuwenhuizen	 Matthijs Tijink	 Laurent van den Bos	 David Venhoek
New Zealand	 Margot Phillipps	 Robert Bowmaker	 Logan Glasson	 James McCloskey	 Boris Pfahringer	 Tony Sun
Nigeria	 Samson Ale	 John Ebiaku	 Komioluwa Ajenifuja	 Micheal Bello	 Premobowei Etibo	 Daisy Isibor

	LEADER	DEPUTY LEADER	COMPETITORS			
Poland	 Jakub Radoszewski	 Tomasz Kulczynski	 Igor Adamski	 Adrian Jaskółka	 Jan Milczek	 Anna Piekarska
Portugal	 Pedro Ribeiro	 António Caleço	 David Ferreira	 Rodrigo Gomes	 Francisco Huhn	 Rafael Schimassek
Romania	 Constantin Gălăţan	 Cosmin Gheorghe	 Vlad Gavrilă	 Victor Ionescu	 Andrei Parvu	 Bogdan Tătăroiu
Russia	 Vladimir Kiryukhin	 Andrey Lopatin	 Roman Andreev	 Gleb Evstropov	 Sergey Fedorov	 Mikhail Pyaderkin
Saudi Arabia	 Abdullah Banaimah	 Abdullah Alghoson	 Muhammad Alahmdi	 Abdullah Alhazmy	 Abdulrahman Alhazmy	 Saeed Alhudaifi
Serbia	 Dragan Urošević	 Aleksandar Ilić	 Boris Grubić	 Luka Milićević	 Nemanja Trifunović	 Dušan Zdravković
Singapore	 Hock Chuan Yap	 Hock Soan Cheong	 Zhan Xiong Chin	 Seng Ing Raymond Kang	 Chuanqi Shen	 Lin Kit Daniel Wong

	LEADER	DEPUTY LEADER	COMPETITORS			
Slovakia	 Gabriela Andrejková	 Juliana Šišková	 Ladislav Bačo	 Matej Balog	 Tomáš Belan	 Ján Hozza
Slovenia	 Roman Dorn	 Jelko Urbančič	 Matej Aleksandrov	 Žiga Ham	 Klemen Kloboves	 Matjaž Leonardis
South Africa	 Pieter Waker	 Keegan Smith	 Jacobus Conradie	 Graham Manuell	 Jacobus Van Der Merwe	 Sean Wentzel
Spain	 Omer Gimenez	 Joan Alemany Flos	 Ferran Alet	 David Balaghi	 Oscar Lozano	 Dario Nieuwenhuis
Sri Lanka	 Gihan Wikramanayake		 Navin Gunathillaka			
Sweden	 Magnus Jedvert		 David Borg	 Emil Lenngren	 Simon Lindholm	 Jonas Olsson
Switzerland	 Johannes Josi	 Richard Kralovic	 Timon Gehr	 Karl Grütter	 Alain Vaucher	 Josef Ziegler

	LEADER	DEPUTY LEADER	COMPETITORS			
Syria	 Yasmina Oukde	 Ammar Alnahhas	 Haidar Abboud	 Doried Abdallah	 Kinan Al Sarmini	 Khaled Koutini
Taiwan	 Greg Lee	 Ting-Chi Wang	 Ting-Wei Chen	 Yu-Hsuan Lai	 Jui-Min Lee	 Chun-Pai Yang
Tajikistan	 Erazh Dzhumaev	 Latif Ibrogimov	 Qobil Haqnazarov	 Behruz Murotov	 Mehrdod Odilzoda	 Mikhail Panyavin
Thailand	 Punpiti Piamsa-Nga	 Nattee Niparnan	 Pasin Manurangsi	 Sarun Paisarn-risomsuk	 Suthee Ruangwises	 Veerakan Sinthaveelert-mongkol
Trinidad and Tobago	 Noel Kalicharan	 Tommy Chen	 John Chen	 Bjorn Ramroop	 Zachary Subran-Ganesh	
Turkey	 Gokturk Ucoluk	 Ismail Toroslu	 Osman Aka	 Baris Kaya	 Cihad Oge	 Bugrahan Sahin
Turkmenistan	 Vepa Atamuradov	 Muradgeldy Atayev	 Yhlas Beghanov	 Sohbetmuhammet Geldinazarov	 Jemshit Geldiyev	 Umyt Gurbanov

	LEADER	DEPUTY LEADER	COMPETITORS			
Ukraine	 Vitalii Bondarenko	 Gunko Liliya	 Vitalii Demianiuk	 Mark Lavrynenko	 Sergii Nagin	 Yevgen Vasylyv
United Arab Emirates	 Saad Harous	 Ammar Al-Shaabi	 Rashed AlJaberi	 Omran Alrawahi	 Husain Alshehhi	 Ahmed Saif
United Kingdom	 Rob Kolstad	 Frederick Manners	 Diggory Blake	 Joseph Hermaszewski	 Sunoo Park	 James Stanley
United States of America	 Brian Dean	 Jacob Steinhardt	 Wenyu Cao	 Michael Cohen	 Brian Hamrick	 Neal Wu
Venezuela	 Jose Trinidad Trino Gomez Barreto	 Emilio Nazareth Tirado Oviedo	 Jose Manuel Fernandez Dona	 Rafael Agustin Perez Mendoza	 Huberto Jose Rodrigues Garcia	 Ricardo Jose Tovar Montero
Vietnam	 Duc Duong	 Nghia Nguyen	 Viet Anh Ho	 Toan Nguyen	 Khanh Thai	 Tuan Anh Tran

UNIVERSITY OF WATERLOO

PARKING INDEX

VISITOR PARKING
All Day, Every Day
C, N, W, X: \$3 per day - pay and display
Lot X is free on weekends
HW: Weekdays: \$2 per hour with \$10 deposit on entry. Deposit reduces throughout day. After 3 pm and weekends: \$3 coin entry
M: \$4 pay and display
D: Weekdays: \$2 per hour up to daily maximum of \$15. After 5 pm and weekends: \$3 coin entry
P: \$4 coin entry for St. Jerome's University, Renison University College and St. Paul's University College; \$1 per hour up to a \$4 daily maximum at Conrad Grebel University College
OV: \$3 coin exit
J, S, V: \$3 pay and display. Pay in lot S
CL, UWP: \$3 pay and display
AFTER 4 PM AND WEEKENDS
A, B, EC, H (staff side), R: \$3 coin entry

LEGEND PARKING

- Accessible Parking
- Meter Parking
- Motorcycle Parking
- Permit Parking
- Short-term Parking
- Visitor Parking

COLOUR CODES

- Academic Buildings
- UW Roads and Parking Lots
- City Roads and Parking Lots
- Pathways
- Residence Buildings
- Water
- Research Park Buildings

PERMIT PARKING

Faculty and Staff: A, B, H, K, L, M, O, R, T, X
Resident: CL, J, S, V, UWP, T
Parking in any untagged lot after 4:30 pm with valid Faculty/Staff Permit

MOTORCYCLES

Purchase a term or day pass from Parking Services, in the COM building for use at motorcycle pads

ACCESSIBLE PARKING

Accessible parking for persons with disabilities is available in most lots. For details visit: www.adm.uwaterloo.ca/info/park

SHORT-TERM PARKING

Fifteen minute parking is available on the Ring Road at Environment 2, Ira G. Needles Hall, and William G. Davis Computer Research Centre. Meter parking is available, visit the Parking website for locations at: www.adm.uwaterloo.ca/info/park

WATCARD PAYMENT

Available at Lot C, N, W, X, M, UWP

BUILDING INDEX

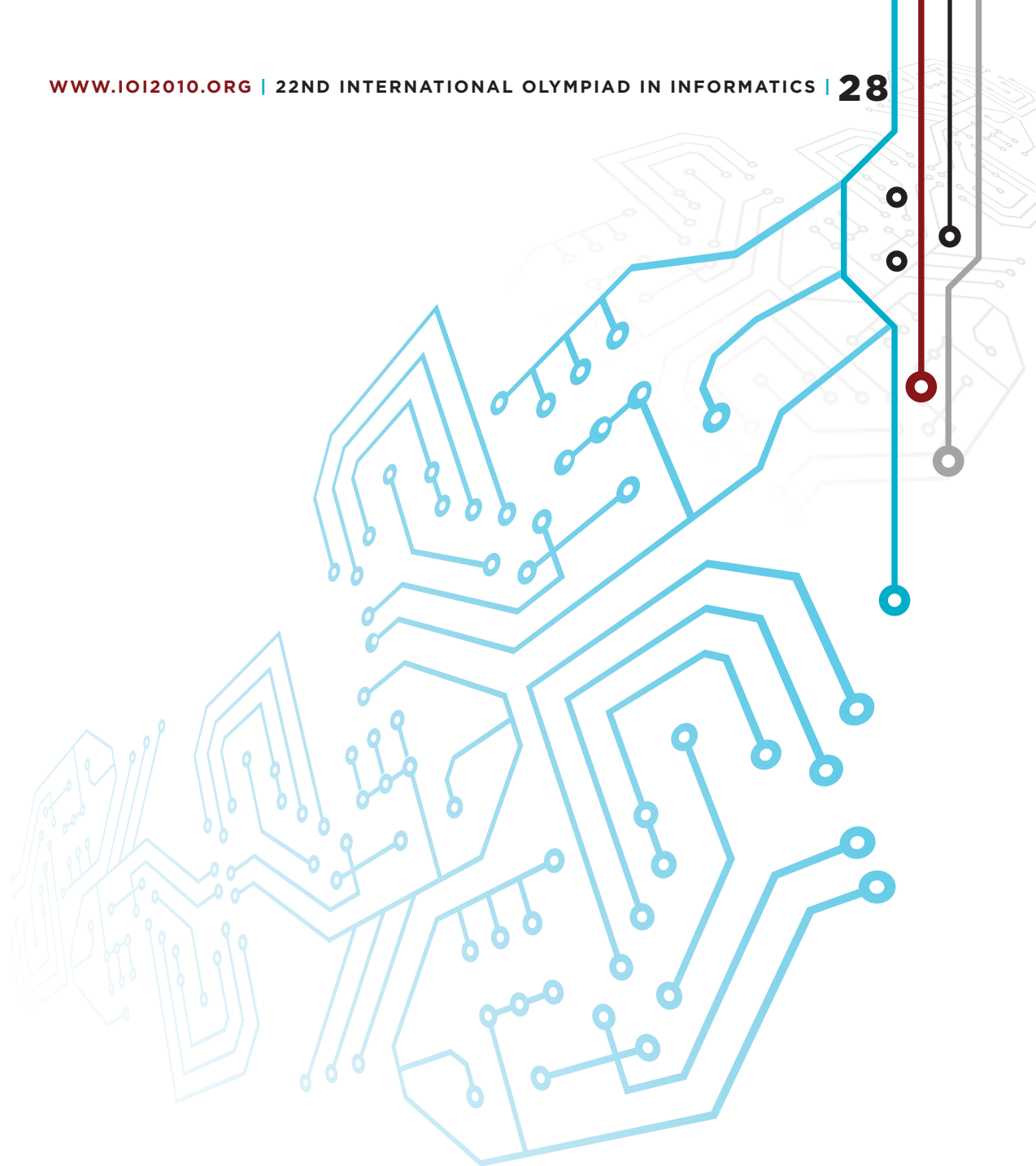
- CLV** Columbia Lake Village - B2, C2, D2
- COM** Columbia Greenhouses - D2
- COG** Commissary - H3
- CPH** Carl A. Pollock Hall - H4
- CSB** Central Services Building - G3
- DC** William G. Davis Computer Research Centre - H3, H4
- DWE** Douglas Wright Engineering Building - H4
- B1** Biology 1 - G4
- B2** Biology 2 - G4
- BMH** B.C. Matthews Hall - G3
- BRH** Brubacher House - F2
- C2** Chemistry 2 - G3, G4
- CGR** Conrad Grebel University College - F5
- CIF** Columbia Icefield - G2
- CLN** Columbia Lake Village North - B2, C1, C2
- E1** East Campus Hall - H3, H4, I3, I4
- EC** Centre for Environmental & Information Technology - G4
- EV1** Environment 1 - G5
- EV2** Environment 2 - G5
- ESC** Earth Sciences & Chemistry - G4
- FED** Federation Hall - F3
- GA** 335 Gage Street - see back page
- GH** Graduate House - G4
- GSC** General Services Complex - G3, H3
- HH** J.G. Hagey Hall of the Humanities - G5
- HNN** Hildegard Marsden Nursery - G2
- HS** Health Services - F4
- KDC** Klummer Day Care - G2
- H3** Lyle S. Hallman Institute for Health Promotion - G3
- LHI** Dana Porter Library - G4
- LIB** J.R. Coutts Engineering Lecture Hall - H4
- MC** Mathematics & Computer Building - G3
- MHR** Minota Hagey Residence - F5, G5
- MKV** William Lyon Mackenzie King Village - E3
- NL** Modern Languages - G4
- NH** Ira G. Needles Hall - G4
- OPT** School of Optometry - G2
- PAC** Physical Activities Complex - G3
- PAS** Psychology, Anthropology, Sociology - G5
- PHR** School of Pharmacy - see back page
- PHY** Physics - G4, H4
- PHC** Photovoltaic Research Centre - G3
- RAC** Research Advancement Centre - F1
- RCH** J.R. Coutts Engineering Lecture Hall - H4
- REN** Renison University College - F4
- REV** Ron Eyd Village - E3
- SCH** South Campus Hall - G4, G5, H5
- SLC** Student Life Centre - G3
- STJ** St. Jerome's University - F4
- STP** St. Paul's University College - F4
- TC** William M. Taham Centre for Co-operative Education & Career Services - G4, G5
- TH** Tutors' Houses - E3
- UWP** University of Waterloo Place - I4, I5
- UC** University Club - F3
- UV1** Student Village 1 - E3, F3

SYMBOLS

- Accessible Entrances
- Building Codes
- Construction Site and Future Site of Building
- Grand River Transit
- Greyhound
- GO Transit
- Help Line Telephone
- Information
- Public Telephone
- Service Vehicle



- REN** Renison University College - F4
- REV** Ron Eyd Village - E3
- SCH** South Campus Hall - G4, G5, H5
- SLC** Student Life Centre - G3
- STJ** St. Jerome's University - F4
- STP** St. Paul's University College - F4
- TC** William M. Taham Centre for Co-operative Education & Career Services - G4, G5
- TH** Tutors' Houses - E3
- UWP** University of Waterloo Place - I4, I5
- UC** University Club - F3
- UV1** Student Village 1 - E3, F3



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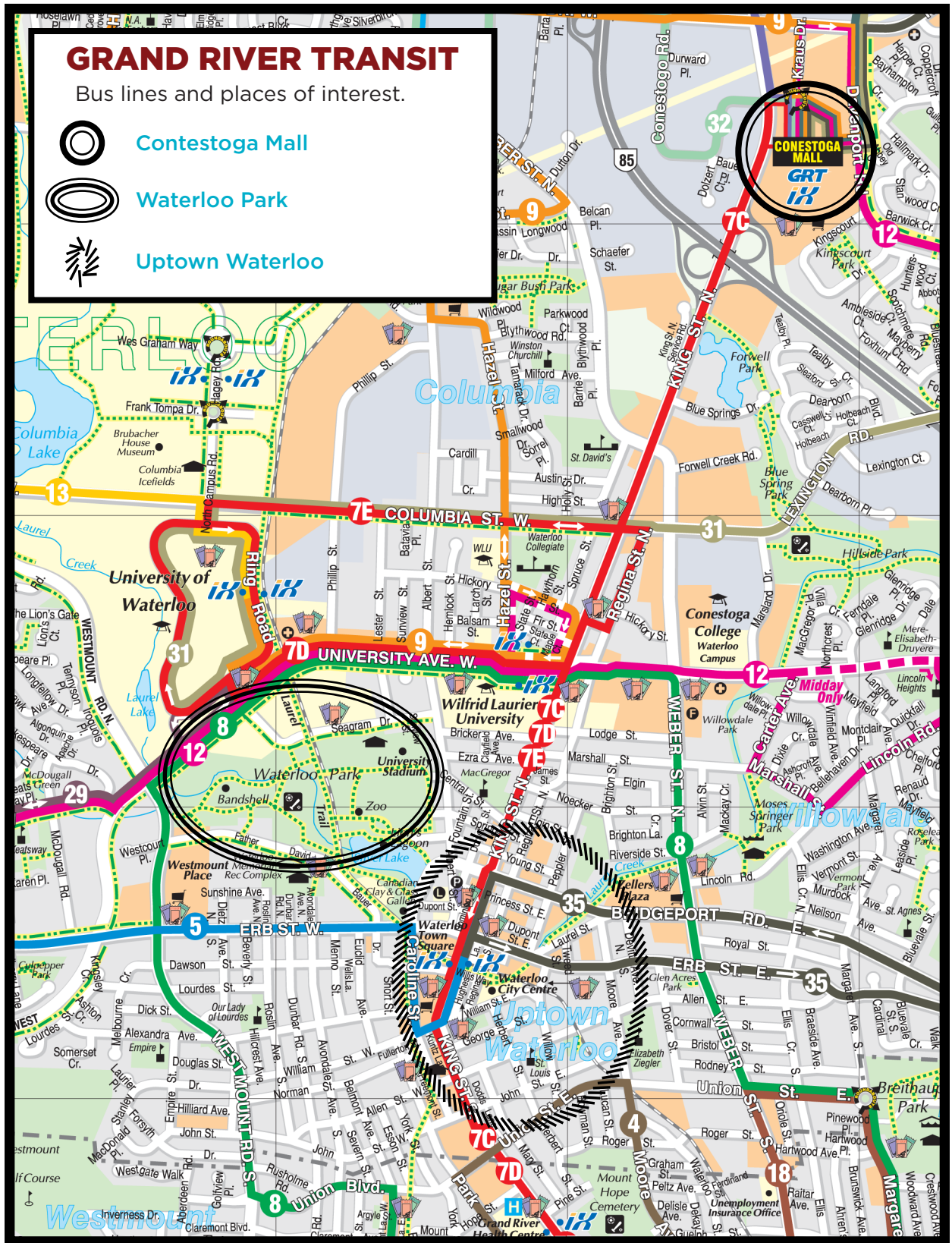


WATERLOO
MATHEMATICS

GRAND RIVER TRANSIT

Bus lines and places of interest.

-  Contestoga Mall
-  Waterloo Park
-  Uptown Waterloo



<http://www.grt.ca>

CONESTOGA MALL

Use your ID badge as a bus pass and take the local transit bus to Conestoga Mall, the largest major shopping mall in Waterloo. Located on King Street North in Waterloo, it has many shops and stores to fill all of your shopping needs. The large Galaxy movie theatre is located at the back of the mall and offers several movie choices.

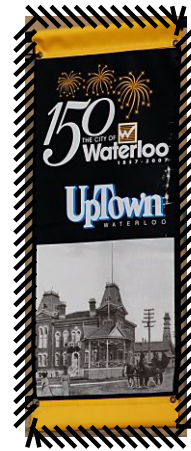
<http://conestoga.shopping.ca>



The Grand River Transit has donated free transit passes. Your ID badge is your ticket. Show your badge to the bus driver as you get on the city bus. Don't be afraid to ask the bus driver if you are on the correct bus for your intended location. Visit their website <http://www.grt.ca> for all your travel questions. Our main bus terminal on campus is located across from the Davis Centre (DC on the campus map).

UPTOWN WATERLOO

Uptown Waterloo is the heart of our city. A short bus ride or a longer walk will introduce you to our city's core with many interesting shops and cafes. The Uptown offers a pedestrian-friendly layout where newer buildings co-exist with older buildings.



WATERLOO PARK

Waterloo Park is a short walk from the University. Waterloo's premier park does not charge admission and has 111 acres of prime parkland. View some of our local history, walk through the Victorian Gardens or buy a snack at the Park Inn Concession open daily from 11:00 to 19:00.

During your stroll you will see some of the local history including a replica of the original grist mill built in 1816 by Waterloo's first settler Abraham Erb. Eby Farm Animal Display is located in the Central area of Waterloo Park. Waterloo's first school house, built in 1820, was moved to Waterloo Park in 1894 and rebuilt in 1972 by local students.

<http://www.city.waterloo.on.ca>



THANK YOU TO OUR MANY VOLUNTEERS >>

Ahmad Abdi
Menatallah Abdou
Haslel Aguirre
Harsimar Ahluwalia
Ali Ahmed
Mohamed Ahmed
Iman M.N. Al-Mallah
Peter Barfuss
Chantal Berier
Sifan Bi
Heather Bigelow
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