



# Keele Campus Map

#### **Academic, Administrative & Commercial Buildings**

- 190 Albany Road ALB
- Accolade East Building ACE
- Accolade West Building ACW
- Archives Project Site (completion March 2009)
- 33 29
- Atkinson AC Behavioural Science BSB
- Bennett Centre for Student Services

   Admissions BCSS
  Bookstore, York Lanes YL
- Calumet College CC
- Central Square CSQ Central Utilities CUB 58
- Centre for Film & Theatre CFT
- 62
- Chemistry CB Computer Methods (non-York facility) Computer Science & Engineering CSE
- Curtis Lecture Halls CLH
- East Office Building EOB Executive Learning Centre ELC Farquharson Life Sciences FARQ
- Founders College FC
- Sherman Health Science Research Centre (completion December 2008)
- Health, Nursing & Environmental Studies HNES
- Joan & Martin Goldfarb Centre for Fine Arts CFA
- Kinsmen KINS
  Lorna R. Marsden Honour Court and
  Welcome Centre
  Lumbers LUM
- McLaughlin College MC
- Norman Bethune College -Observatory, Petrie – PSE

- Osgoode Hall Law School OSG Petrie Science & Engineering – PSE Physical Resources – PRB
- 60
- Ross ROSS
- 25 27
- Scott Library SCOTT Scott Religious Centre, Central Square CSQ
- Seneca @ York, Stephen E. Quinlan Building (non-York facility) Seymour Schulich Building – SSB
- Steacie Science & Engineering Library SSL Stedman Lecture Halls SLH
- Stong College SC Student Centre STC
- 23
- Tait McKenzie Centre TAIT
- Technology Enhanced Learning TEL
- Vanier College VC Vari Hall VH 56
- 30
- West Office Building WOB
- William Small Centre WSC Winters College - WC
- York Lanes Retail Centre YL

#### Visual & Performing Arts Facilities

- Art Gallery of York University (ACE)
- Burton Auditorium BURT
- Gales Gallery (ACW)
  Joseph G. Green Studio Theatre (CFT) 38
- McLean Performance Studio (ACE)
- Price Family Cinema (ACE)
- Sandra Faire and Ivan Fecan Theatre (ACE) 92 Tribute Communities Recital Hall (ACE)

- Student Residences & Apartments
- 320 Assiniboine Road AS2
- 340 Assiniboine Road AS4
- 360 Assiniboine Road AS6
- 380 Assiniboine Road AS8
- Atkinson Residence AR Calumet Residence CR
- Founders Residence FR
- Harry Sherman Crowe Co-op (non-York facility)
- Norman Bethune Residence BR
- Passy Gardens, 2-18 Passy Cres. PASSY The Pond Road Residence POND
- Stong Residence STR
- Tatham Hall TH
- Vanier Residence VR 55
- Winters Residence WR

#### Sport & Recreation Facilities

- Canlan Ice Sports (shared use) ICE
- Tait McKenzie Centre TAIT Tennis Canada Rexall Centre REX Toronto Track & Field Centre (shared use) TF
- York Stadium

#### Parking Garages (Visitors)

- 80 Arboretum Parking Garage ARB
- 84 Student Services Parking Garage SSP72 York Lanes Parking Garage

### Reserved Parking Lots

- Albany Road Lot 67
- Atkinson Lot
- EOB Lot
- Founders Road East Lot
- 65 81
- Founders Road West Lot Library Lot
- Lumbers Lot
- 82 Nelson Road Lot
- 64 Northwest Gate Lot
- Passy Crescent Lot
- Physical Resources Lot
- Rideau Road Lot Sentinel Road East Lot 88
- 63 Shoreham Drive Lot Steacie Lot
- 74 77 Tait McKenzie Lot
- The Pond Road East Lot 86
- WOB West Lot
- York Boulevard Lot

#### Visitor Parking Lots

- 66 Founders Road East Lot
- Northwest Gate Lot
- Thompson Road Lot
- WOB East Lot

#### Visitor & Reserved Parking Lots

71 Vanier Temporary Lot (closed until April 2009)

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# **Conference Sponsors**

# **Organization Sponsorships**







**IEEE Computer Society** 

Web Intelligence Consortium (WIC)

Association for Computing Machinery (ACM)



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Infobright

# Co-Organized and In Cooperation With





Institute of Electrical and Electronics Engineers (IEEE)

York University, Toronto, Canada

### **Message from the Conference and Program Chairs**

We are pleased to give you a warm welcome to the 2010 IEEE/WIC/ACM International Joint Conferences on Web Intelligence and Intelligent Agent Technology (WI'10 and IAT'10). On behalf of the WI'10 and IAT'10 Conference Committees, we would like to thank you for your participation and we do hope that you will enjoy the conference technical and social programs as well as our beautiful and lovely city Toronto.

The WI'10 and IAT'10 conferences are sponsored and co-organized by the IEEE Computer Society Technical Committee on Intelligent Informatics (TCII), Web Intelligence Consortium, ACM SIGART, Information Retrieval and Knowledge Management Research Lab, School of Information Technology and York University, Toronto, Canada. These conferences provide leading international collaborations for researchers and practitioners to present state-of-the-art research techniques and results. They will enable participants to cross fertilize ideas between various domains through idea sharing and discussions on the underlying principles of various paradigms.

Web Intelligence (WI) has been recognized as a valuable new direction for scientific research and development to explore the fundamental roles as well as the practical impact of Artificial Intelligence (AI) and advanced Information Technologies (IT) on the next generation of Web-empowered products, systems, services and activities. It is one of the most important as well as promising IT research fields in the era of Web and agent intelligence.

Intelligent Agent Technology (IAT) will provide a leading international forum to bring together researchers and practitioners from diverse fields, such as computer science, information technology, business, education, systems engineering, and robotics, to (1) examine the design principles and performance characteristics of various approaches in intelligent agent technology, and (2) increase the cross-fertilization of ideas on the development of autonomous agents and multi-agent systems among different domains. By encouraging idea-sharing and discussions on the underlying logical, cognitive, physical and sociological foundations as well as the enabling technologies of intelligent agents, IAT 2010 will foster the development of novel paradigms and advanced solutions in agent-based computing.

WI'10 and IAT'10 received 505 submissions (313 for WI'10 and 192 for IAT'10) to the research and industry tracks from 46 countries and regions around the world. For WI'10, 51 papers were accepted as regular papers and 66 papers were accepted as short papers. For IAT'10, 36 papers were accepted as regular papers and 42 papers were accepted as short papers. As a result, approximately 16% of the WI'10 submissions were accepted as regular papers and 21% were accepted as short papers. For IAT'10, around 19% of the submissions were accepted as regular papers and 21% were accepted as short papers. In addition to the paper presentations as the research tracks, our technical program also features 5 keynote talks and 16 workshops, including a doctoral workshop.

All submitted papers were reviewed by at least three program committee members, and all the conflictive cases were further reviewed and resolved by one program vice-chair and one

program co-chair. There were a few boarder-line papers, which were re-reviewed by at least one additional program committee member and the program co-chairs.

It is impossible to organize a high quality conference without the enormous support and expertise of many top class researchers and leaders. Our sincere thanks are due to all chairs, cochairs, vice-chairs, WIC advisory board members, WIC technical committee & WI/IAT steering committee members, program committee members, reviewers, conference secretariat, conference web support team and Cyber-Chair for their wonderful contributions. In particular, we would like to acknowledge the generous help received from Ning Zhng, Vivian Hu, Jessie Zhao, Jun Miao, Ellis Lau, Dawid Kasperowicz, Robert Liu and Heather Bai. Our special thanks go to Dr. Juzhen Dong for her support with the Cyber-Chair, and the staff at the IEEE Computer Society Press for their professional help and support in compiling the proceedings.

We are grateful to the following distinguished guest speakers for the delivery of the keynote addresses:

- Professor Alan Smeaton, Dublin City University, Ireland
- Professor Ian Witten, University of Waikato, New Zealand
- Professor Maria Gini, University of Minnesota, USA
- Professor Milind Tambe, University of Southern California, USA
- Professor Pasi Gabriella, Università degli Studi di Milano Bicocca, Italy

We wish to express our appreciation to the conference sponsors. We are grateful to the authors, presenters and delegates for their contributions and participation.

Jimmy HuangNick CerconeProgram ChairConference Chair

#### **General Information**

#### Your Badge

Each badge carries the name and affiliation of the badge holder. Admission to the conference and workshop sessions is by badge only. If you lose your badge, please go to the Registration Desk for a replacement.

#### Lunches

Lunches during the conference will be at 12:45 - 14:30. During the main conference, lunch will be provided to all conference participants.

#### **Conference Registration**

August 30th, 4pm - 8pm, lower level of the Technology Enhanced Learning building; August 31st, 8am - 6pm, lower level of the Technology Enhanced Learning building; September 1st - 3rd, all day on the 3rd floor in the Accolade West Building.

#### **Conference Reception**

September 1st, 6:30pm - 9pm, Underground Restaurant in the Student Center, York University.

#### **Conference Banquet/Award Ceremony**

September 2nd, 6:30pm - 10pm, dinner cruise on Northern Spirit Cruise Ship (by Mariposa Cruises) at Toronto Harbour. The dinner cruise is located at 207 Queens Quay West at York St. Please see the end of this booklet for more details.

#### Tea/Coffee Breaks

Tea and coffee will be served at 9:30am - 10am and 4pm - 4:30pm. During the workshop, coffee and tea will be served in the Technology Enhanced Learning Building on the lower level. During the main conference, it will be served on the third floor in the Accolade West Building.

#### **Volunteers**

You may ask Volunteers for help for any questions. They will be happy to help you.

#### Language

The conference and all its activities will be conducted in English.

#### **Smoking Policy**

No smoking is permitted in the WI/IAT 2010 rooms.

#### **General Inquiries**

If you have any questions regarding the conference organization, please contact the conference organizing chair.

#### **Internet Access**

York University will be providing 300 AirYork accounts for the conference attendances during the conference period. These accounts will enable Internet access while on York University campus.

#### **Information for Session Chairs and Presenters**

#### **Facilities at the Presentation Room**

All rooms are equipped with a desktop and digital projector connected to the desktop. The overhead projector will be available on request only.

#### **Presentation Time**

The presentation time allocated to each regular paper is 25 minutes, and 15 minutes for each short paper, including questions and answers.

#### **Session Chairs**

If you cannot fulfill your duties as a session chair, please ensure that someone else will take your place as the session chair, or contact the conference Program Chair to arrange a back-up.

Session chairs are kindly requested to help with the followings:

- 1. Note the time allocated for each paper in your session. Each regular paper is allocated 25 minutes (20 minutes for the presentation plus 5 minutes for discussion). Each short paper is allocated 15 minutes (12 minutes for the presentation plus 3 minutes for discussion).
- 2. Arrive at the room of the session 5 minutes before the session starts and identify each of the speakers for the session.
- 3. Suggest each speaker to keep corresponding time for discussions (questions and answers), and for transition to the next presentation. If a presentation extends into the time for discussions, please shorten the discussions accordingly or postpone the discussions until after the session.
- 4. Do not allow presentations or the subsequent discussions to spill beyond the starting time of the next presentation.
- 5. If the presenter of a paper is absent ("no-show"), please continue to the next presentation. Please check again at the end of the last presentation whether the "no-show" shows up. Best efforts have been made to reduce the number of no-shows; however, they may not be eliminated.
- 6. Each presentation room is equipped with a digital projector. If something is not working properly, please contact a volunteer for help.

#### **Presenters**

Please check your presentation time and room. Please go to the room 5 minutes before the session starts and identify yourself to the session chairs.

- 1. Note the time allocated for each regular paper is 25 minutes (20 minutes for your presentation plus 5 minutes for discussion) and 15 minutes for each short paper (12 minutes for your presentation plus 3 minutes for discussions).
- 2. When it is your turn to present, please leave corresponding time for discussion (questions and answers), and for transition to the next presentation. If your presentation extends into the time for discussions, discussions on your paper will be shortened by the session chair accordingly or postpone until after the session.

3. Please do not exceed your allocated time. Please follow the instructions of the Session Chairs.

If you cannot find your name in Sessions or your information is incorrect in the Program Booklet, please contact the Program Chair.

# Program at a Glance

# Workshop Program at a Glance

[All rooms are located in the lower level of the TEL building]

Tuesday, August 31, 2010							
Venue	TEL 0004	TEL 0005	TEL 0006	TEL 0007	TEL 0009	TEL 0010	TEL 0011
08:35 - 10:00	IWCSN International Workshop on Computational Social Networks Chair: Vaclav Snasel	CARE The 2nd International Workshop on Collaborative Agents - Research and development Chair: Christian Guttmann	IEEM The 4th International Workshop on Intelligent E- Government and Emergency Management Chair: Xin Ye	WebPRES Workshop on Web Personalization and Recommender Systems Chair: Daniel Tao	OMBI The 1st International Workshop on Opinion Mining for Business Intelligence Chairs: Xiaohui Yu and Yang Liu	IWI International Workshop on Intelligent Web interaction Chair: Tsuyoshi Murata	HAI Workshop on Human Aspects in Ambient Intelligence: Agent Technology, Human-Oriented Knowledge, and Applications Chair: Tibor Bosse
10:00 - 10:20		Coffe	e Break [lower level	of the Technology En	l hanced Learning bui	lding]	Воззе
10:20 - 12:00	IWCSN International Workshop on Computational Social Networks Chair: Vaclav Snasel	CARE The 2nd International Workshop on Collaborative Agents - Research and development Chair: Christian Guttmann	IEEM The 4th International Workshop on Intelligent E- Government and Emergency Management Chair: Xin Ye	WebPRES Workshop on Web Personalization and Recommender Systems Chair: Daniel Tao	OMBI The 1st International Workshop on Opinion Mining for Business Intelligence Chairs: Xiaohui Yu and Yang Liu	IWI International Workshop on Intelligent Web interaction Chair: Tsuyoshi Murata	HAI Workshop on Human Aspects in Ambient Intelligence: Agent Technology, Human-Oriented Knowledge, and Applications Chair: Tibor Bosse
12:00 - 13:25		Luncl	h Break [lower level	of the Technology En	changed Learning bui	ilding]	20330
13:25 - 15:30	CISWSN The 3rd Workshop on Collective Intelligence in Semantic Web and Social Networks Chair:Tudor Groza	CARE The 2nd International Workshop on Collaborative Agents - Research and development Chair: Christian Guttmann	IEEM The 4th International Workshop on Intelligent E- Government and Emergency Management Chair: Xin Ye	WebPRES Workshop on Web Personalization and Recommender Systems Chair: Daniel Tao	Web-KR3 International Workshop on Web-Scale Knowledge Representation, Retrieval, and Reasoning Chair:Zhisheng Huang	IWI International Workshop on Intelligent Web interaction Chair: Tsuyoshi Murata	WLIAMAS The 3rd Workshop on Logics for Intelligent Agents and Multi-Agent Systems Chair:
					_		
08:35 - 10:00	SIE Workshop on Service Intelligence and Engineering Chair: Chi-hung Chi	ODMWI Workshop on Optimization- Based Data Mining and Web Intelligence Chairs: Yong Shi and Yingjie Tian	WI-IAT DW The 3rd WI-IAT Doctoral Workshop Chair: Marcin Szcuka	TEL 0016 WIRSS The 3rd International Workshop on Web Information Retrieval Support Systems Chair: Orland Hoeber	NLPOE Workshop on Natural Language Processing and Ontology Engineering Chair: Yao Liu	TEL 1005  MCS The 10th International Workshop on Meta-Synthesis and Complex Systems Chair: Xijin Tang	
10:00 - 10:20		Coffe	e Break [lower level		l hanced Learning bui		
10:20 - 12:00	SIE Workshop on Service Intelligence and Engineering Chair: Chi-hung Chi	ODMWI Workshop on Optimization- Based Data Mining and Web Intelligence Chairs: Yong Shi and Yingjie Tian	WI-IAT DW The 3rd WI-IAT Doctoral Workshop Chair: Marcin Szcuka	WIRSS The 3rd International Workshop on Web Information Retrieval Support Systems Chair: Orland Hoeber	NLPOE Workshop on Natural Language Processing and Ontology Engineering Chair: Yao Liu	MCS The 10th International Workshop on Meta-Synthesis and Complex Systems Chair: Xijin Tang	
12:00 - 13:25		Lunc	h Break [lower level	of the Technology En	hanced Learning bui		
13:25 - 15:30		ODMWI Workshop on Optimization- Based Data Mining and Web Intelligence		WIRSS The 3rd International Workshop on Web Information Retrieval Support Systems			
		Chairs: Yong Shi and Yingjie Tian		Chair: Prof. Orland Hoeber			

# WI/IAT 2010 Program at a Glance

[All rooms are located in the 2nd & 3rd levels of the ACW building, Keele Campus]

	08:15 - 08:30 Conference Opening [ACW 206, 2nd floor, Accolade West Building] Speaker: Prof. Michael Siu, VPRI								
	08:30 - 09:30 Keynote Speaker - Ian Witten [ACW 206, 2nd floor, Accolade West Building] Chair: Prof. Nick Cercone								
	Wikipedia and How to Use it for Semantic Document Representation								
	09:30 - 1			floor, Accolade West Building]		1434 42 147			
		1AM-A1-WI	1AM-A2-WI	1AM-A3-WI	1AM-A1-IAT	1AM-A2-IAT			
	10:00	(3rd floor, ACW 303)	(3rd floor, ACW 304)	(3rd floor, ACW 305)	(3rd floor, ACW 306)	(3rd floor, ACW 307)			
	10:00	Web Information	Web Mining I	Semantics and Ontology	Agent Systems	Agent Systems			
	11:35	Retrieval and Filtering	Chair: William Cheung	Engineering I	Modeling and Methodology I	Modeling and Methodology II			
	1		Chair. William Cheung	Chair: Juanzi Li	Methodology 1	Methodology II			
		Chair: Yiyu Yao			Chair: Gill Dobbie	Chair: Ali Ghorbani			
	11:45 - 12:45 <b>Keynote Speaker - Maria Gini</b> [ACW 206, 2nd floor, Accolade West Building] Chair: Prof. Ali Ghorbani								
	Why Robots are More Than just Agents  12:45 - 14:30 Lunch [Underground Restaurant]								
. 1st	12.43 - 1	1PM-A1-WI	1PM-A2-WI	1PM-A3-WI	1PM-A1-IAT	1PM-A2-IAT			
September 1st		11 1/1-/11- // 1	11 1/1-1/2- // 1	11 111-713-111	11 141-711-1711	11 141-712-1711			
tem		(3rd floor, ACW 303)	(3rd floor, ACW 304)	(3rd floor, ACW 305)	(3rd floor, ACW 306)	(3rd floor, ACW 307)			
Sep	14:30	Search and Ranking	Web Search I	Recommender Systems	Agent Systems Modeling and	Agent Systems Modeling and			
	16:00 Chair: Chun-hung Li Chair: Marc		Chair: Marcin Szczuka	Chair: Seiji Yamada	Methodology III	Methodology IV			
		· ·		, and the second		0.			
					Chair: Robert G.	Chair: Takahira			
	16:00 - 1	  6:30 <b>Coffee Break</b>  3r	d floor, Accolade West Bui	ldina l	Reynolds	Yamaguchi			
	10.00 - 1	1PM-B1-WI	1PM-B2-WI	1PM-B3-WI	1PM-B1-IAT	1PM-B2-IAT			
	16:30	(3rd floor, ACW 303)	(3rd floor, ACW 304)	(3rd floor, ACW 305)	(3rd floor, ACW 306)	(3rd floor, ACW 307)			
	-	Web Information Retrieval and Filtering	Social Network Analysis	Semantics and Ontology Engineering II	Agent Systems Modeling and	Agent Systems Modeling and			
	18:00	II	Chair: Ling-Jyh Chen	Engineering ii	Methodology V	Methodology VI			
				Chair: Vijay Raghavan					
	19.20	Chair: Gabriella Pasi	out of Vouls Huissonaits, Duo	f Man doub Chaulai will	Chair: Tan Ah Hwee	Chair: Yifeng Zeng			
	18:30 - 21:00 <b>Reception</b> President of York University, Prof. Mamdouh Shoukri, will be attending 08:30 - 09:30 <b>Keynote Speaker</b> - Alan Smeaton [ACW 2006, 2nd floor, Accolade West Building] <b>Chair:</b> Prof. Jimmy Huang								
	The Sensor Web: Unpredictable, Noisy and Loaded with Errors								
	09:30 - 10:00 Coffee Break [3rd floor, Accolade West Building]								
		2AM-A1-WI	2AM-A2-WI	2AM-A3-WI	2AM-A1-IAT	2AM-A2-IAT			
	10:00	(3rd floor, ACW 303)	(3rd floor, ACW 304)	(3rd floor, ACW 305)	(3rd floor, ACW 306)	(3rd floor, ACW 307)			
	-	WI Foundations	Web Mining II	Semantics and Ontology	Autonomy-Oriented	Autonomy-Oriented			
	11:35			Engineering III	Computing I	Computing II			
		Chair: Ning Zhong	Chair: Pierre Morizet- Mahoudeaux	Chair: Ian Witten	Chair: Ali Ghorbani	Chaim limina Lin			
		2PM-A1-WI	2PM-A2-WI	2PM-A3-WI	2PM-A1-IAT	Chair: Jiming Liu 2PM-A2-IAT			
2nd	11:35		(3rd floor, ACW 304)						
September 21	-	Web Support Systems I	Web Agents I	Intelligent Human-Web Interaction	Autonomy-Oriented Computering III	Agent-Systems Modeling and			
eml	12:45	Chair: Peter	Chair: Ali Ghorbani	interaction	Computering III	Methodology VII			
ept		Brusilovsky		Chair: Udo Kruschwitz	Chair: Robert G.	2,7			
S <sub>2</sub>					Reynolds	Chair: Milind Tambe			
	12:45 - 14:30 Lunch [Underground Restaurant]								
		2PM-B1-WI	2PM-B2-WI	2PM-B3-WI	2PM-B1-IAT	2PM-B2-IAT			
		(3rd floor, ACW 303)	(3rd floor, ACW 304)	(3rd floor, ACW 305)	(3rd floor, ACW 306)	(3rd floor, ACW 307)			
	14:30	World Wide Wisdom	Social Intelligent Systems	Industry Track/Demo	Industry Track	Autonomous			
	16.00	Web (W4)	Chaim Dates D. 11	Track	Chair M : C' :	Knoweldge and			
	16:00	Chair: Yuefeng Li	Chair: Peter Brusilovsky	Chair: Dominik Slezak	Chair: Maria Gini	Information Agents			
		Juni. Tacjeng El		CIMIT. DOMININ SICLUN		Chair: Mohand-Said			
	1600					Hacid			
	16.00 -	18:30 Excursion							

	18:30 - 19:00 <b>Transport</b>									
	19:00 - 22:00 <b>Banquet</b>									
	08:30 - 09:30 <b>Keynote Speaker - </b> <i>Pasi Gabriella [ACW 206, 2nd floor, Accolade West Building]</i> <b>Chair:</b> Prof. Mohand-Said Hacid Issues on Preference-Modelling and Personalization in Information Retrieval									
	09:30 -	09:30 - 10:00 Coffee Break [3rd floor, Accolade West Building]								
		3AM-A1-WI	3AM-A2-WI	3AM-A3-WI	3AM-A1-IAT	3AM-A2-IAT				
	10:00 - 11:35	(3rd floor, ACW 303) Web Support Systems II Chair: Peter Brusilovsky	(3rd floor, ACW 304) Web Mining III Chair: Aijun An	(3rd floor, ACW 305) Semantics and Ontology Engineering IV Chair: Yuh-Jong Hu	(3rd floor, ACW 306) Distributed Problem Solving I Chair: Robert G. Reynolds	(3rd floor, ACW 307) Applications I Chair: Xiaohui Yu				
_	11:45 - 12:45 <b>Keynote Speaker - Milind Tambe</b> [ACW 206, 2nd floor, Accolade West Building] Chair: Prof. Takahira Yamaguchi									
3rc	11:43   12:45   12:45   14:30   12:45   14:30   14:30   (3rd floor, ACW 303)   (3rd floor, ACW 304)   (3rd floor, ACW 305)   (3rd floor, ACW 306)   (3rd floor, ACW 307)   (3rd floor, ACW 308)   (3rd floor									
er										
lma		3PM-A1-WI	3PM-A2-WI	3PM-A3-WI	3PM-A1-IAT	3PM-A2-IAT				
Septe	14:30 - 16:00	(3rd floor, ACW 303) Web Technologies and Applications	(3rd floor, ACW 304) Intelligent e-Technology	(3rd floor, ACW 305) Semantics and Ontology Engineering V	(3rd floor, ACW 306) Distributed Problem Solving II	(3rd floor, ACW 307) Applications II				
		Chair: Orland Hoeber	Chair: Nick Cercone	Chair: Yang Liu	Chair: Ning Zhong	Chair: Jimmy Huang				
	16:00 - 16:30 Coffee Break [3rd floor, Accolade West Building]									
	10.00	3PM-B1-WI	3PM-B2-WI	3PM-B3-WI	3PM-B1-IAT	3PM-B2-IAT				
		31 H-D1- 111	31 W-D2-W1	31 M-B3- W1	JI WI-DI-MII	J1 111-D2-1111				
	16:30	(3rd floor, ACW 303)	(3rd floor, ACW 304)	(3rd floor, ACW 305)	(3rd floor, ACW 306)	(3rd floor, ACW 307)				
	18:00	Web Mining IV	Social Networks and	Web Services	Distributed Problem	Autonomous Auctions				
	18:00	Chair: Jimmy Huang	Ubiquitous Intelligence Chair: Yang Liu	Chair: Aijun An	Solving III Chair: <i>Xiaohui Yu</i>	and Negotiation I  Chair: Nick Cercone				

# **Workshop Program**

### Welcome Message from Workshop Co-Chairs

As the Web continues to grow and evolve, many new problems and challenges are being introduced. The WI-IAT workshops aim to provide researchers who share similar research interests to meet and address new research challenges and initiatives that concern Web Intelligence (WI) and Intelligent Agent Technology (IAT). The Workshops provide a venue and forum for contributions in specialized sub-areas of Web Intelligence and Intelligent Agent Technology, and allowing authors to present new and emerging trends in methods and technologies to dedicated audiences.

The conferences received 22 proposals for WI-IAT 2010 workshops, out of which 16 were accepted (including a doctoral workshop), representing a variety of selected special topics. The workshops received 282 submissions in total. The acceptance rate for published papers is approximately 36.5%. Each paper submitted to the workshops was reviewed by at least two program committee members and, using these reviews, the workshop organizers selected papers for inclusion in the workshop proceedings and presentation at the conferences. The workshop cochairs further scrutinized the acceptance decisions of all workshops. This three-level decision process ensures that the workshop proceedings is a well sought out source of high quality papers in emerging research areas.

We express our sincere gratitude to the workshop organizers. Their professionalism and hard work made our tasks much easier. We also appreciate the guidance and suggestions we received from several current and past members of the WI-IAT organization; especially, Jimmy Huang and Ning Zhong.

We are grateful to Juzhen Dong for her excellent technical assistance in ensuring smooth functioning of the paper management functions. Finally, we thank all authors for their submissions and all attendees for their participation. To have stimulating and thought provoking workshops would not be possible without their support.

Orland Hoeber and Yuefeng Li WI-IAT 2010 Workshop Co-Chairs

### **Workshop Program**

# The 3rd Workshop on Collective Intelligence in Semantic Web and Social Networks (CISWSN 2010)

#### **Workshop Organizers:**

- **Krzysztof Juszczyszyn** (Wroclaw University of Technology, Poland)
- **Tudor Groza** (Digital Enterprise Research Institute Galway, National University of Ireland, Galway, Ireland)
- Katarzyna Musial (Bournemouth University, UK)
- **Siegfried Handschuh** (Digital Enterprise Research Institute Galway, National University of Ireland, Galway, Ireland)

#### **Location: TEL 0004**

#### Session C (13:25 – 15:30)

- Workshop Opening
- Utilizing Dynamic Molecular Modelling Technique for Predicting Changes in Complex Social Networks, Krzysztof Juszczyszyn, Anna Musial, Katarzyna Musial, and Piotr Bródka
- Individual Neighbourhood Exploration in Complex Multi-Layered Social Network, Przemysław Kazienko, Piotr Bródka, and Katarzyna Musial
- Commentary-Based Social Network Analysis and Visualization of Hong Kong Singers, Janice Kwan-Wai Leung and C.H. Li
- Tracing Strength of Relationships in Social Networks, Ivan Srba and Mária Bieliková
- Workshop Closing Remarks

# The 4th International Workshop on Intelligent E-Government and Emergency Management (IEEM 2010)

#### **Workshop Organizers:**

- Ning Wang (Dalian University Of Technology, China)
- **Xin Ye** (Dalian University Of Technology, China)
- Shaobo Ji (Dalian University Of Technology, China/Carleton University, Canada)
- **Liming Zhu** (National ICT Australia, Australia, Liming)
- **Xuelong Chen** (Dalian University Of Technology, China)

#### **Location: TEL 0006**

#### Session A (8:35 – 10:00)

- Workshop Opening
- A Security Audit Framework to Manage Information System Security, Teresa Susana Mendes Pereira and Henrique Santos
- Chaotic Analysis on E-Government System Development, Wang Yanzhang, Xiao Guirong, and Han Shengju

• The Method of Case Retrieving in the Emergency Field Based on CBR, Qiuyan Zhong, Xiaonan Zhang, Su Guo, Xin Ye, and Jiangnan Qiu

#### Session B (10:20 – 12:00)

- Research on Organizational Collaboration Oriented OB4LAC in E-Government, Huaiming Li, Shuai Yang, Ning Wang, and Yanzhang Wang
- The Information Resource Integration in E-Government Based on EAI, Liming Li, Peng Zhang, Ning Wang, and Yanzhang Wang
- Construction of Emergency Plan Network Model Supporting for Multi-Plan-Based Application, Jiangnan Qiu, Hao Zhang, Rui Zhang, Qiuyan Zhong, and Ning Wang
- The Inter-Organizational Business Collaboration Oriented Role Model for E-Government, Ye Xin, Ma Junfeng, Wang Yanzhang, Zuo Chao, and Bing Xinhua

#### Session C (13:25 – 15:30)

- Research on the Problem and Solution in Chinese E-Government Development, Wang Ning, Chao Ke, Bai He, Zhong Qiuyan, and Wang Yanzhang
- A Hierarchical Description Framework of Decision Model for Multilevel Users, Xuelong Chen, Yanzhang Wang, and Ning Wang
- Research on Post Node Model in E-Government, Zhang Peng, Xiao Junde, Wang Yanzhang, and Wang Keyi
- Workshop Closing Remarks

# International Workshop on Computational Social Networks (IWCSN 2010)

#### **Workshop Organizers:**

- Vaclav Snasel (VSB-Technical University of Ostrava, Czech Republic)
- **Ajith Abraham** (Norwegian Center of Excellence, Norway)

#### **Location: TEL 0004**

#### Session A (8:35 - 10:00)

- Workshop Opening
- Use of Email Social Networks for Enterprise Benefit, Michal Laclavík, Štefan Dlugolinský, Marcel Kvassay, and Ladislav Hluchý
- Content Propagation Analysis of E-Mail Communications, Naoki Yoshinaga, Satoko Itaya, Rie Tanaka, Taku Konishi, Sinichi Doi, Keiji Yamada, and Peter Davis
- The Effect of Transitive Linking on Information Diffusion in Dynamic Acquaintance Networks, Takashi Ishikawa

#### Session B (10:20 – 12:00)

- User Segmentation Based on Finding Communities with Similar Behavior on the Web Site, Kateřina Slaninová, Radim Dolák, Martin Miškus, Jan Martinovič, and Václav Snášel
- A Tolerance Rough Set Based Overlapping Clustering for the DBLP Data, Gamila Obadi, Pavla Dráždilová, Lukáš Hlaváček, Jan Martinovič, and Václav Snášel

- Predicting Edges And Vertices In A Network, Walid K. Sharabati, Edward J. Wegman, and Yasmin H. Said
- Evolutionary Community Discovery from Dynamic Multi-Relational CQA Networks, Zhongfeng Zhang, Qiudan Li, and Daniel Zeng
- Workshop Closing Remarks

# International Workshop on Intelligent Web Interaction (IWI 2010)

### **Workshop Organizers:**

- Tsuyoshi Murata (Tokyo Institute of Technology, Japan)
- Seiji Yamada (National Institute of Informatics, Japan)

#### **Location: TEL 0010**

#### Session A (8:35 - 10:00)

- Workshop Opening
- HCX: A Distributed OSGi Based Web Interaction System for Sharing Health Records in the Cloud, Sabah Mohammed, Daniel servo, and Jinan Fiaidhi
- Breaking News Detection and Tracking in Twitter, Swit Phuvipadawat and Tsuyoshi Murata
- Treelicious: A System for Semantically Navigating Tagged Web Pages, Matt Mullins and Perry Fizzano

#### Session B (10:20 – 12:00)

- Location-Based Semantic Matchmaking In Ubiquitous Computing, Michele Ruta, Floriano Scioscia, Eugenio Di Sciascio, and Giacomo Piscitelli
- An Interactive Tool for Constrained Clustering with Human Sampling, Masayuki Okabe and Seiji Yamada
- Detecting Task-Based Query Sessions Using Collaborative Knowledge, Claudio Lucchese, Salvatore Orlando, Raffaele Perego, Fabrizio Silvestri, and Gabriele Tolomei
- User Navigation Behavior Mining Using Multiple Data Domain Description, Li Xue, Ming Chen, Yun Xiong, and Yangyong Zhu

#### Session C (13:25 – 15:30)

- An Approach to Create Persuasive Web Sites, Makoto Orino and Yasuhiko Kitamura
- An Investigation of Potency of eWOM Messages with a Focus on Subjective Rank Expressions, Kazunori Fujimoto
- Careful Seeding Based on Independent Component Analysis for k-means Clustering, Takashi Onoda, Miho Sakai, and Seiji Yamada
- Analysis of User Feedback Cost for Document Similarity Judgment, Minghuang Chen, Seiji Yamada, and Yasufumi Takama
- Workshop Closing Remarks

# The 10th International Workshop on Meta-Synthesis and Complex Systems (MCS 2010)

#### **Workshop Organizers:**

- **Xijin Tang**, (Academy of Mathematics and Systems Science, Chinese Academy of Sciences (CAS), PR China)
- Xiaoji Zhou, (Beijing Institute of Information and Control, PR China)

#### **Location: TEL 1005**

#### Session A (8:35 - 10:00)

- Workshop Opening
- Problem Solving Framework and Case Study in Meta-Synthesis Workshop, Xiaoji Zhou and Jingyuan Yu
- Collaborative Distribution Knowledge Service System Based on Task Context Aware, Liang Xiao and Yanli Pei
- Visualized Clustering of Ideas for Group Argumentation, Bin Luo and Xijin Tang

#### Session B (10:20 – 12:00)

- A Case Investigation on the Scaling Behaviours in Web Browsing, Gengsheng Zhao, Ning Zhang, Zhaoxing Liu, and Jiming Li
- Simulation Data and Process Management System in the Development of Virtual Prototype, Hang Yin, Yongming Gao, Hui Yan, and Jiejuan Wang
- Possibility Degree Method for Ranking Intuitionistic Fuzzy Numbers, Cui-Ping Wei and Xijin Tang
- A Method Based on Grey Correlation Clustering for Improving the Hierarchy of Analytic Hierarchy Process, Di Zhao, Hongfu Liu, and Hongyi Li
- Workshop Closing Remarks

# Workshop on Natural Language Processing and Ontology Engineering (NLPOE 2010)

#### **Workshop Organizers:**

- **Zhifang Sui**, (Peking University, China)
- Yao Liu, (Institute of Scientific and Technical Information of China, China)

#### **Location: TEL 1004**

#### Session A (8:35 – 10:00)

- Workshop Opening
- LiSTOMS: a Light-Weighted Self-Tuning Ontology Mapping System, Zhen Zhen, Junyi Shen, Jinwei Zhao, and Jianjun Qian
- Automatic Identification of Chinese Multiword Chunk based on CRF, Ru Li, Lijun Zhong, Shuanghong Li, and Zezheng Zhang

• Automated Error Detection of Vocabulary Usage in College English Writing, Shi-Li Ge and Rou Song

#### Session B (10:20 – 12:00)

- Automatic Semantic Role Labeling for Chinese, Ke Wang
- The Chinese Noun Metaphors Knowledge Base and its use in the Recognition of Metaphors, Zhimin Wang, Shiwen Yu, and Zhifang Sui
- The Development of NLP-Based Chinese Ontology Construction Platform, Zhifang Sui, Yao Liu, Jun Zhao, and Hong Zhang
- One Sense per N-gram, Peng Yuan Liu, Shui Liu, ShiQi Li, and ShiWen Yu
- Workshop Closing Remarks

# Workshop on Optimization-Based Data Mining and Web Intelligence (ODMWI 2010)

### **Workshop Organizers:**

- Yong Shi (College of Information Science and Technology, University of Nebraska at Omaha, USA and Chinese Academy of Sciences Research Center on Fictitious Economy and Data Science Beijing, China)
- **Yingjie Tian** (Chinese Academy of Sciences Research Center on Fictitious Economy and Data Science Beijing, China)

#### **Location: TEL 0014**

#### Session A (8:35 – 10:00)

- Workshop Opening
- Complex Event Processing for Object Tracking in Wireless Sensor Networks, R. Bhargavi, V. Vaidehi, P.T.V. Bhuvaneswari, P. Balamurali, and Girish Chandra
- Using Projection Gradient Method to Train Linear Support Vector Machines, Lingfeng Niu and Yong Shi
- Web Intelligence Meets Extenics: New Frontiers of Innovation for Small and Middle Business, Xingsen Li, Aiguo Zhang, Jianling Duan, and Zhengxiang Zhu

#### Session B (10:20 – 12:00)

- An Optimised Design for Agent Capability Reuse, Hao Lan Zhang, Clement H.C. Leung, Xinghuo Yu, and Jing He
- The Domain Knowledge Driven Intelligent Data Auditing Model, Jing Yu, Bin Xu, and Yong Shi
- A Cooperative Learning Algorithm for Multiclass Classification, Youshen Xia and Yu Ying
- Predicting Credit Card Holder Churn in Banks of China Using Data Mining and MCDM, Guoxun Wang, Liang Liu, Yi Peng, Guangli Nie, Gang Kou, and Yong Shi

#### Session C (13:25 – 15:30)

• A Knowledge Discovery Case Study of Software Quality Prediction: ISBSG Database, Xiao Wang, Yuehua Zhang, Lingling Zhang, and Yong Shi

- A New Weighted Ensemble Model for Detecting DoS Attack Streams, Jinghua Yan, Xiaochun Yun, Peng Zhang, Jianlong Tan, and Li Guo
- Workshop Closing Remarks

# The 1st International Workshop on Opinion Mining for Business Intelligence (OMBI 2010)

#### **Workshop Organizers:**

- Xiaohui Yu (York University, Canada)
- Yang Liu (Shandong University, China)

#### **Location: TEL 0009**

#### Session A (8:35 – 10:00)

- Workshop Opening
- Keynote: Opinion Mining: Structure the Unstructured, Bing Liu
- Invited Talk: Measuring Validity in Human and Machine Annotation, Stuart W. Shulman
- Tutorial: An Introduction to the Public Comment Analysis Toolkit (PCAT), Stuart W. Shulman

#### Session B (10:20 – 12:00)

- Assessing the Quality of Opinion Retrieval Systems, Giambattista Amati, Giuseppe Amodeo, Valerio Capozio, Giorgio Gambosi, and Carlo Gaibisso
- Mining Customer Feedbacks for Actionable Intelligence, Lipika Dey, Sk Mirajul Haque, and Nidhi Raj
- An Unsupervised Snippet-Based Sentiment Classification Method for Chinese Unknown Phrases Without Using Reference Word Pairs, Ting-Chun Peng and Chia-Chun Shih
- Semi-Supervised Learning for Opinion Detection, Ning Yu and Sandra Kübler
- Workshop Closing Remarks

# International Workshop on Web-Scale Knowledge Representation, Retrieval, and Reasoning (Web-KR3 2010)

#### **Workshop Organizers:**

- **Zhisheng Huang** (Knowledge Representation and Reasoning Group, Vrije Universiteit Amsterdam, the Netherlands)
- **Harold Boley** (Semantic Web Lab, National Research Council, Canada)
- Yi Zeng (International WIC Institute, Beijing University of Technology, China)

**Location: TEL 0009** 

#### Session C (13:25 - 15:30)

Workshop Opening

- 4s-reasoner: RDFS Backward Chained Reasoning Support in 4store, Manuel Salvadores, Gianluca Correndo, Tope Omitola, Nick Gibbins, Steve Harris, and Nigel Shadbolt
- Semantic Structure Content for Dynamic Web Pages, Mamdouh Farouk and Mitsuru Ishizuka
- Efficient Visualization of Content and Contextual Information of an Online Multimedia Digital Library for Effective Browsing, Surject Mishra, Amarendra Gorai, Tavleen Oberoi, and Hiranmay Ghosh
- Workshop Closing Remarks

# Workshop on Web Personalization and Recommender Systems (WebPRES 2010)

#### **Workshop Organizers:**

- **Xiaohui Tao**, (Queensland University of Technology, Australia)
- **Xujuan Zhou**, (Queensland University of Technology, Australia)
- **Sheng–Tang Wu**, (Asia University, Taiwan)
- Liming Chen, (University of Ulster, Northern Ireland, UK)

#### **Location: TEL 0007**

#### Session A (8:35 - 10:00)

- Workshop Opening: Web Personalization and Recommender Systems, Yue Xu
- Keynote: Relevance Feature Discovery in Text Documents, Yuefeng Li

#### Session B (10:20 – 12:00)

- One Improved Collaborative Filtering Method Based on Information Transformation, Zhaoxing Liu, Ning Zhang, and Jiming Li
- An Evaluation Framework for Content Recommender Systems The Industry Perspective, Calin Ciordas and Jeroen Doumen
- Rule Extraction from Blog Using Inductive Logic Programming, Noriaki Chikara, Miyuki Koshimura, Hiroshi Fujita, and Ryuzo Hasegawa
- Non-Redundant Sequential Association Rule Mining and Application in Recommender Systems, Hao Zang, Yue Xu, and Yuefeng Li

#### Session C (13:25 – 15:30)

- Ontology-Based Context-Dependent Personalization Technology, Vladimir Gorodetsky, Vladimir Samoylov, and Sergey Serebryakov
- A Decision Rule Method for Assessing the Completeness and Consistency of a Data Warehouse, Nawaf Alkharboush and Yuefeng Li
- Evaluation of Concept Space Rating Algorithm and Navigation Scheme, Petr Šaloun and Zdenek Velart
- Workshop Closing Remarks

# The 3rd International Workshop on Web Information Retrieval Support Systems (WIRSS 2010)

#### **Workshop Organizers:**

- Orland Hoeber (Memorial University, Canada)
- Yiyu Yao (University of Regina, Canada)

#### **Location: TEL 0016**

#### Session A (8:35 – 10:00)

- Workshop Opening
- Search Engine Result Aggregation Using Analytical Hierarchy Process, Arijit De, Elizabeth Diaz, and Vijay V. Raghavan
- Towards Privacy Preserving Information Retrieval Through Semantic Microaggregation, Daniel Abril, Guillermo Navarro-Arribas, and Vicenç Torra
- Deploying Top-k Specific Patterns for Relevance Feature Discovery, Luepol Pipanmaekaporn, Yuefeng Li, and Shlomo Geva

#### Session B (10:20 – 12:00)

- Preprocessing of Slovak Blog Articles for Clustering, Tomas Kuzar and Pavol Navrat
- Analyzing the Effectiveness of Pruning and Grouping Methods Used in Literature-Based Discovery Tools, Fatih Mehmet Gulec, Tahir Bicakci, Ebru Akcapinar Sezer, Hayri Sever, and Vijay V. Raghavan
- Bridging Semantic and Legacy Web Exploration: Orientation, Revisitation and Result Exploration Support, Michal Tvarožek and Mária Bieliková
- Pref Shop—A Web Shop with User Preference Search Capabilities, Branislav Vaclav, Alan Eckhardt, and Peter Vojtáš

#### Session C (13:25 – 15:30)

- Comparing Tag Clouds, Term Histograms, and Term Lists for Enhancing Personalized Web Search, Orland Hoeber and Hanze Liu
- Information Retrieval eXperience (IRX): Towards a Human-Centered Personalized Model of Relevance, Frans van der Sluis, Egon L. van den Broek, and Betsy van Dijk
- Workshop Closing Remarks

# The 2nd International Workshop on Collaborative Agents - REsearch and development (CARE 2010)

#### **Workshop Organizers:**

- Christian Guttmann (ETISALAT BT Innovation Centre EBTIC, Abu Dhabi, UAE and Monash University, Australia)
- Frank Dignum (University Utrecht, Netherlands)

**Location: TEL 0005** 

#### Session A (8:35 - 10:00)

- Workshop Opening
- Multi-Agent Coalition Formation for Distributed Area Coverage: Analysis and Evaluation, Ke Cheng and Prithviraj Dasgupta
- Collaboration in Network-Centric Warfare Modeling Joint Fire Support Teams, Christian Gerstner, Robert Siegfried, and Nane Kratzke
- Isogonic Formation with Connectivity Preservation for a Team of Holonomic Robots in a Cluttered Environment, Soheil Keshmiri and Shahram Payandeh

#### Session B (10:20 – 12:00)

- E-Learning Computational Cloud (eLC2): Web Services Platform to Enhance Task Collaboration, Sidhant Rajam, Ruth Cortez, Alexander Vazhenin, and Subhash Bhalla
- Invited Talk: Modeling Warehouse Logistics using Agent Organizations, Marcel Hiel, Huib Aldewereld, and Frank Dignum
- Enhancing Patient-Centered Palliative Care With Collaborative Agents, Ji Ruan, Wendy MacCaull, and Heather Jewers
- Intelligent Adherence Support to Manage Contractual Relationships, Christian Guttmann, Kumari Wickramasinghe, Ian Edward Thomas, Michael Georgeff, and Heinz Schmidt

#### Session C (13:25 – 15:30)

- Keynote: Decades of Multiagent Teamwork Research: Past, Present, Future, Milind Tambe
- Workshop Closing Remarks

### Workshop on Human Aspects in Ambient Intelligence: Agent Technology, Human-Oriented Knowledge, and Applications (HAI 2010)

#### **Workshop Organizers:**

- Juan Carlos Augusto (University of Ulster, School of Computing and Mathematics, UK)
- **Tibor Bosse** (Vrije Universiteit Amsterdam, Agent Systems Research Group, Netherlands)
- Cristiano Castelfranchi (CNR Rome, Institute of Cognitive Sciences and Technologies, Italy)
- **Diane Cook** (Washington State University, USA)
- Mark Neerincx (TNO Human Factors and Technical University Delft, Netherlands)
- Fariba Sadri (Imperial College, Department of Computing, UK)

#### **Location: TEL 0011**

#### Session A (8:35 - 10:00)

- Workshop Opening
- Designing Pervasive Interactions for Ambient Guidance with Situated Flows, Fahim Kawsar, Gerd Kortuem, and Bashar Altakrouri
- The Role of User Perceptions in Designing Ubiquitous Monitoring Systems, Stuart Moran and Keiichi Nakata
- Intention Recognition with Event Calculus Graphs, Fariba Sadri

#### Session B (10:20 – 12:00)

- Supporting Financial Decision Making by an Intelligent Agent Estimating Greed and Risk, Tibor Bosse, Ghazanfar F. Siddiqui, and Jan Treur
- Personalisation of Computational Models of Attention by Simulated Annealing Parameter Tuning, Rianne van Lambalgen and Peter-Paul van Maanen
- Ambient Intelligence at the Beach, Marc Böhlen and Joe Atkinson
- Workshop Closing Remarks

# Workshop on Service Intelligence and Engineering (SIE 2010)

#### **Workshop Organizers:**

- Chi-hung Chi (Tsinghua University, China)
- Cherie Ding (Ryserson University, Canada)
- **Bruce Spencer** (National Research Council, Canada)
- Andreas Wombacher (University of Twente)

#### **Location: TEL 0013**

#### Session A (8:35 - 10:00)

- Workshop Opening
- Enhancing the Performance of Metadata Service for Cloud Computing, Myung Jin Hwang, Dae Gun Kim, and Hee Yong Youn
- An Approach to Estimate Schema Quality of Web Service Composition, Weihong Liu and Hongbing Wang
- Homology Detection Based on Abstract Syntax Tree Combined Simple Semantics Analysis, Shizhong Wu, Yongle Hao, Xinyu Gao, Baojiang Cui, and Ce Bian

#### Session B (10:20 – 12:00)

- Security Assurance with Metamorphic Testing and Genetic Algorithm, Guowei Dong, Shizhong Wu, Guisi Wang, Tao Guo, and Yonggang Huang
- Agent Evaluation Function Considering Airspace Dynamic Density, Antonio Marcio Ferreira Crespo and Li Weigang
- Workshop Closing Remarks

# The 3rd Workshop on Logics for Intelligent Agents and Multi-Agent Systems (WLIAMAS 2010)

#### **Workshop Organizers:**

- Guido Governatori (NICTA, Australia)
- Chuchang Liu (DSTO, Australia)
- Mehmet A. Orgun (Macquarie University, Australia)
- Mark Reynolds (University of Western Australia, Australia)
- Antonino Rotolo (University of Bologna, Italy)
- **Abdul Sattar** (Griffith University, Australia)

• Leon van der Torre (University of Luxembourg, Luxembourg)

**Location: TEL 0011** 

#### Session C (13:25 – 15:30)

- Workshop Opening
- Risk Analysis in Access Control Systems Based on Trust Theories, Ji Ma, Luigi Logrippo, Kamel Adi, and Serge Mankovski
- Multi-Agent Based Surveillance of Workflows, Emmanuel Sardis, Vasilis Anagnostopoulos, and Theodora Varvarigou
- Predictive Sub-Goal Analysis in a General Game Playing Agent, Xinxin Sheng and David Thuente
- Workshop Closing Remarks

#### The 3rd WI-IAT Doctoral Workshop (WI-IAT DW 2010)

#### **Workshop Organizers:**

- Marcin Szczuka, (The University of Warsaw, Poland)
- Xiaohui Tao, (Queensland University of Technology, Australia)
- Xiaohui Yu, (York University, Canada)

**Location: TEL 0015** 

#### Session A (8:35 - 10:00)

- Workshop Opening
- Improving Human-Agent Conversations by Accessing Contextual Knowledge from Wikipedia, Alexa Breuing
- Constructing Collaborative Online Communities for Visualizing Spimes, Timothy Maciag and Daryl Hepting

#### Session B (10:20 – 12:00)

- Automatic Ontology Constructor for Indonesian Language, Gloria Virginia and Nguyen Hung Son
- Determining Relevant Product Information Sources, Matthias Wauer
- Utilization of Dynamic Reducts to Improve Performance of the Rule-Based Similarity Model for Highly-Dimensional Data, Andrzej Janusz
- Workshop Closing Remarks

### WI 2010 Program

# Wednesday, September 1 (Building: Accolade West Building [ACW])

### Conference Opening (8:15 - 8:30)

**Chair:** Prof. Jimmy Huang (York University, Canada)

Location: ACW 206, 2nd floor, Accolade West Building, Keele Campus

**Welcome:** Prof. Michael Siu (Vice-President Research and Innovation, York University)

#### WI/IAT: Keynote Speaker (8:30 - 9:30)

Chair: Prof. Nick Cercone (York University, Canada)

**Location:** ACW 206, 2nd floor, Accolade West Building, Keele Campus **Title:** Wikipedia and How to Use it for Semantic Document Representation

**Speaker:** Prof. Ian Witten (*University of Waikato*, *New Zealand*)

#### Coffee Break (9:30 - 10:00)

Location: 3rd floor, Accolade West Building

#### Session 1AM-A1-WI: Web Information Retrieval and Filtering I (ACW 303)

**Session Chair:** Prof. Yiyu Yao **Session Time:** 10:00 - 11:35

#### **Regular Papers:**

• Multimodal Image Annotation Using Non-negative Matrix Factorization

Jaafar BenAbdallah, Juan C. Caicedo, Fabio A. Gonzalez, and Olfa Nasraoui Jingyu Sun, Xueli Yu, and Ning Zhong

• Lightweight Clustering Methods for Webspam Demotion

Thomas Largillier and Sylvain Peyronnet

• Reducing the Cold-Start Problem in Content Recommendation Through Opinion Classification

Damien Poirier, Françoise Fessant, and Isabelle Tellier

• A Framework for Co-Classification of Articles and Users in Wikipedia

Lei Liu and Pang-Ning Tan

• Visual Content Structures for Wrapper Induction in Building MetaSearch Systems

Jyh-Jong Tsay, Chin-Wen Tsay, and Xin-Jie Wang

#### Session 1AM-A2-WI: Web Mining I (ACW 304)

**Session Chair:** Prof. William Cheung

**Session Time:** 10:00 - 11:35

#### **Regular Papers:**

• Improving Diversity of Focused Summaries Through Negative Endorsements of Redundant Facts

Palakorn Achananuparp, Xiaohua Hu, Lifan Guo, Tingting He, Yuan An, and Zhoujun Li

- <u>Automatically Grouping Questions in Yahoo! Answers</u> *Yajie Miao, Lili Zhao, Chunping Li, and Jie Tang*
- Product Feature Mining with Nominal Semantic Structure

  Tian-jie Zhan and Chun-hung Li
- <u>Stakeholder Mining and Its Application to News Comparison</u> *Tatsuya Ogawa, Qiang Ma, and Masatoshi Yoshikawa*
- Exploring Special Items in Multimedia News Based on a Stakeholder Model

  Ling Xu, Qiang Ma, and Masatoshi Yoshikawa

#### Session 1AM-A3-WI: Semantics and Ontology Engineering I (ACW 305)

**Session Chair:** Prof. Juanzi Li **Session Time:** 10:00 - 11:35

#### **Regular Papers:**

- WEST: Weighted-Edge based Similarity Measurement Tools for Word Semantics Liang Dong, Pradip K. Srimani, and James Z. Wang
- F-Logic#: Loosely Coupling F-Logic Rules and Ontologies

  Stijn Heymans, Roman Korf, Michael Erdmann, Jörg Pührer, and Thomas Eiter
- Organization of Information for the Web using Hierarchical Fuzzy Clustering Algorithm based on Co-Occurrence Networks

Faraz Zaidi and Guy Melançon

• <u>User-Centered Evaluation Model for Ontology Selection</u>

Sunju Oh and Heon Y. Yeom

• <u>Domain-Specific Backlinking Services in the Web of Data</u>

Manuel Salvadores, Gianluca Correndo, Martin Szomszor, Yang Yang, Nick Gibbins, Ian Millard, Hugh Glaser, and Nigel Shadbolt

#### WI/IAT Keynote Speaker (11:45 - 12:45)

Chair: Prof. Ali Ghorbani

Location: ACW 206, 2nd floor, Accolade West Building, Keele Campus

**Title:** Why Robots are More Than Just Agents

**Speaker:** Prof. Maria Gini (*University of Minnesota, USA*)

Conference Lunch (12:45 - 14:30) Location: Underground Restaurant

### Session 1PM-A1-WI: Search and Ranking (ACW 303)

Session Chair: Prof. Chun-hung Li

**Session Time:** 14:30 - 16:00

#### **Regular Papers:**

• How to Improve Your Google Ranking: Myths and Reality

Ao-Jan Su, Y. Charlie Hu, Aleksandar Kuzmanovic, and Cheng-Kok Koh

• <u>Making the Most of a Search Session with Maximum Query and Query Cover</u> *Matthias Hagen and Benno Stein* 

• Ranking Approaches for Microblog Search

Rinkesh Nagmoti, Ankur Teredesai, and Martine De Cock

• Let's Trust Users - It Is Their Search

Pavel Kalinov, Bela Stantic, and Abdul Sattar

• <u>Using Relational Similarity between Word Pairs for Latent Relational Search on the Web</u>

Nguyen Tuan Duc, Danushka Bollegala, and Mitsuru Ishizuka

#### Session 1PM-A2-WI: Web Search (ACW 304)

Session Chair: Prof. Marcin Szczuka

**Session Time:** 14:30 - 16:00

#### **Regular Papers:**

• Collaborative Web Search Utilizing Experts' Experiences

Jingyu Sun, Xueli Yu, and Ning Zhong

• The Effects of Query Bursts on Web Search

Ilija Subašic and Carlos Castillo

• Predicting Web Search Hit Counts

Tian Tian, James Geller, and Soon Ae Chun

- Incorporating Seasonality into Search Suggestions Derived from Intranet Query Logs Stephen Dignum, Udo Kruschwitz, Maria Fasli, Yunhyong Kim, Dawei Song, Ulises Cerviño Beresi, and Anne de Roeck
- Modeling Users' Information Goal Transitions and Satisfaction Judgment: Understanding The Full Search Process

Shandian Zhe, Tian Xia, and Xueqi Cheng

#### Session 1PM-A3-WI: Recommender Systems (ACW 305)

**Session Chair:** Prof. Seiji Yamada **Session Time:** 14:30 - 16:00

#### **Regular Papers:**

• Towards Fully Distributed and Privacy-preserving Recommendations via Expert Collaborative Filtering and RESTful Linked Data

Jae-wook Ahn and Xavier Amatriain

• Niche Product Retrieval in Top-N Recommendation

Mi Zhang and Neil Hurley

- Improving Privacy-Preserving NBC-Based Recommendations by Preprocessing

  Alper Bilge and Huseyin Polat
- <u>Improving Collaborative Filtering in Social Tagging Systems for the Recommendation of Scientific Articles</u>

Denis Parra-Santander and Peter Brusilovsky

• Personalized Search Based on a User-Centered Recommender Engine

Leyla Zhuhadar and Olfa Nasraoui

Coffee Break (16:00 - 16:30)

**Location:** 3rd floor, Accolade West Building

#### Session 1PM-B1-WI: Web Information Retrieval and Filtering II (ACW 303)

Session Chair: Prof. Gabriella Pasi

**Session Time:** 16:30 - 18:00

#### **Regular Papers:**

• <u>Language Models and Topic Models for Personalizing Tag Recommendation</u>

Ralf Krestel and Peter Fankhauser

• An Efficient Method for Tagging a Query with Category Labels using Wikipedia towards Enhancing Search Engine Results

Milad Alemzadeh and Fakhri Karray

• Group-level Analysis by Extracting Semantic Relations from Query Graph
Bin Wu, Tian Zhu, Weiduo Wang, Qi Ye, and Bai Wang

• Generating a Context-Aware Sentiment Lexicon for Aspect-Based Product Review Mining

Jürgen Broß and Heiko Ehrig

• <u>Image Set Classification using Multi-Layer Multiple Instance Learning with Application</u> to Cannabis Website Classification

Nianhua Xie, Haibin Ling, and Weiming Hu

#### Session 1PM-B2-WI: Social Network Analysis (ACW 304)

Session Chair: Prof. Ling-Jyh Chen

**Session Time:** 16:30 - 18:00

### **Regular Papers:**

Linked Open Social Signals

Pablo N. Mendes, Alexandre Passant, Pavan Kapanipathi, and Amit P. Sheth

• <u>Identifying Cohesive Subgroups and their Correspondences in Multiple Related</u>
<u>Networks</u>

Prakash Mandayam-Comar, Pang-Ning Tan, and Anil K. Jain

Investigating Homophily in Online Social Networks

Halil Bisgin, Nitin Agarwal, and Xiaowei Xu

- <u>Tag Allocation Model: Model Noisy Social Annotations by Reason Finding</u> *Xiance Si and Maosong Sun*
- Empirical analysis and Multiple Level Views in Massive Social Networks

  Qi Ye, Bin Wu, Yuan Gao, and Bai Wang

#### Session 1PM-B3-WI: Semantics and Ontology Engineering II (ACW 305)

Session Chair: Prof. Vijay Raghavan

**Session Time:** 16:30 - 18:00

#### **Regular Papers:**

• Chem2Bio2RDF: A Linked Open Data Portal for Chemical Biology

Bin Chen, Ying Ding, Huijun Wang, David J. Wild, Xiao Dong, Yuyin Sun, Qian Zhu, and Madhuvanthi Sankaranarayanan

• Boosting Biomedical Entity Extraction by using Syntactic Patterns for Semantic Relation Discovery

Svitlana Volkova, Doina Caragea, William H. Hsu, John Drouhard, and Landon Fowles

- <u>Semantic Graph Based Document-Indexing Strategy for MEDLINE</u> William P. Taylor and James Z. Wang
- The KGRAM Abstract Machine for Knowledge Graph Querying
  Olivier Corby and Catherine Faron Zucker
- A Hybrid Approach of Personalized Web Information Retrieval Namita Mittal, Richi Nayak, M.C. Govil, and K.C. Jain

#### **Reception (6:30pm - 9:00pm)**

**Location:** Underground Restaurant in the Student Center, York University. The President of York University, Prof. Mamdouh Shoukri, will be attending.

#### Thursday, September 2 (Building: Accolade West Building [ACW])

#### WI/IAT: Keynote Speaker (8:30 - 9:30)

Chair: Prof. Jimmy Huang (York University, Canada)

**Location:** ACW 206, 2nd floor, Accolade West Building, Keele Campus **Title:** The Sensor Web: Unpredictable, Noisy and Loaded with Errors **Speaker:** Prof. Alan Smeaton (*Dublin City University, Ireland*)

**Coffee Break (9:30 - 10:00)** 

Location: 3rd floor, Accolade West Building

#### Session 2AM-A1-WI: WI Foundations (ACW 303)

Session Chair: Prof. Ning Zhong Session Time: 10:00 - 11:35

#### **Regular Papers:**

• Bees Swarm Optimization based Approach for Web Information Retrieval

Habiba Drias and Hadia Mosteghanemi

• Approximate Causal Representations In The Medical Domain

Lawrence J. Mazlack

- <u>Using Web-Intelligence for Excavating the Emerging Meaning of Target-Concepts</u> *Yair Neuman, Gabi Kedma, Yohai Cohen, and Ophir Nave*
- <u>A Computational Cognitive Model for Heuristics Retrieving on Human Problem Solving</u> Rifeng Wang, Lijuan Wang, Haiyan Zhou, and Jie Xiang
- Stochastic Simulation of Web Users

Pablo E. Román and Juan D. Velásquez

#### Session 2AM-A2-WI: Web Mining II (ACW 304)

Session Chair: Prof. Pierre Morizet-Mahoudeaux

**Session Time:** 10:00 - 11:35

#### **Regular Papers:**

- Coauthor Network Topic Models with Application to Expert Finding Jia Zeng, William K. Cheung, Chun-hung Li, and Jiming Liu
- Parsing Publication Lists on the Web

Kai-Hsiang Yang and Jan-Ming Ho

• A Categorized Sentiment Analysis of Chinese Reviews by Mining Dependency in Product Features and Opinions from Blogs

Hung-Yu Kao and Zi-Yu Lin

• <u>Communication Structure Discovery via Information Asymmetry in an Organizational</u> Social Network

Cheng-Te Li and Shou-De Lin

• Mining Fine Grained Opinions by Using Probabilistic Models and Domain Knowledge Qingliang Miao, Qiudan Li, and Daniel Zeng

#### Session 2AM-A3-WI: Semantics and Ontology Engineering III (ACW 305)

**Session Chair:** Prof. Ian Witten **Session Time:** 10:00 - 11:35

#### **Regular Papers:**

• <u>Semi-automatic Acquisition of Semantic Descriptions of Processes in the Web</u> *Julia Hoxha and Sudhir Agarwal* 

• Ontology-based Specific and Exhaustive User Profiles for Constraint Information Fusion for Multi-Agents

Xiaohui Tao, Yuefeng Li, Raymond Y.K. Lau, and Shlomo Geva

• <u>A Scalable Indexing Mechanism for Ontology-Based Information Integration</u> *Yingjie Li, Abir Qasem, and Jeff Heflin* 

• Learning in Presence Of Ontology Mapping Errors

Neeraj Koul and Vasant Honavar

• TOK: A Meta-model and Ontology for Heterogeneous Terminological, Linguistic and Ontological Knowledge Resources

Nizar Ghoula, Gilles Falquet, and Jacques Guyot

# Session 2PM-A1-WI: Web Support Systems I (ACW 303)

Session Chair: Prof. Peter Brusilovsky

**Session Time:** 11:45 - 12:45

#### **Regular Papers**

• Research Interests: Their Dynamics, Structures and Applications in Web Search Refinement

Yi Zeng, Erzhong Zhou, Yulin Qin, and Ning Zhong

• Asset-mapping Approaches to Web-based Collaborative Innovation

Donald Cowan, Paulo Alencar, Fred McGarry, Carlos Lucena, and Ingrid Nunes

• Towards a Self-Regulating Process of Pairwise Comparison in AHP

Arash Niknafs, Nasrollah Moghaddam Charkari, Seyed Mohammad Hosseini Nasab, and Ali akbar Niknafs

#### Session 2PM-A2-WI: Web Agents (ACW 304)

Session Chair: Prof. Ali Ghorbani Session Time: 11:45 - 12:45

#### **Regular Papers**

• Effective Web Service Selection via Communities Formed by Super-Agents Yao Wang, Jie Zhang, and Julita Vassileva

• Intelligent agents system for evacuation processes modeling

Robert A. Kosinski and A. Grabowski

• Feedback Dynamic Algorithms for Preemptable Job Scheduling in Cloud System

Jiayin Li, Meikang Qiu, Jianwei Niu, Wenzhong Gao, Ziliang Zong, and Xiao Qin

#### Session 2PM-A3-WI: Intelligent Human-Web Interction (ACW 305)

Session Chair: Prof. Udo Kruschwitz

**Session Time:** 11:45 - 12:45

### **Regular Papers**

• Impacts of Analysts' Cognitive Styles on the Analytic Process

Eugene Santos Jr., Hien Nguyen, Fei Yu, Deqing Li, and John T. Wilkinson

• <u>Mapping Features to Context Information: Supporting Context Variability for Context-aware Pervasive Applications</u>

Zakwan Jaroucheh, Xiaodong Liu, and Sally Smith

<u>Towards Understanding How Personality, Motivation and Events Trigger Web User Activity</u>

Konstantinos N. Vavliakis, Andreas L. Symeonidis, and Pericles A. Mitkas

# **Conference Lunch (12:45 - 14:30)**

**Location:** Underground Restaurant

#### Session 2PM-B1-WI: World Wide Wisdom Web [W4] (ACW 303)

**Session Chair:** Prof. Yuefeng Li **Session Time:** 14:30 - 16:00

#### **Regular Papers:**

• Expertise Matching via Constrained-based Optimization

Wenbin Tang, Jie Tang, and Chenhao Tan

• Enabling Self-organising Service Level Management with Automated Negotiation

Lei Liu and Hartmut Schmeck

• Integrating Provenance Information in Reservoir Engineering

Jing Zhao, Na Chen, Karthik Gomadam, and Viktor Prasanna

• Muzk Mesh: Interlinking Semantic Music Data

Mayank Singhi, Ying Ding, and Yuyin Sun

#### Session 2PM-B2-WI: Social Intelligent Systems (ACW 304)

Session Chair: Prof. Peter Brusilovsky

**Session Time:** 14:30 - 16:00

#### **Regular Papers:**

• Predicting the Future With Social Media

Sitaram Asur and Bernardo A. Huberman

• Ant-Based Simulation of Opinion Spreading in Online Social Networks

Carolin Kaiser, Johannes Kröckel, and Freimut Bodendorf

#### Session 2PM-B3-WI: Industry Track/Demo Track (ACW 305)

Session Chair: Prof. Dominik Slezak

**Session Time:** 14:30 - 16:00

#### **Regular Papers:**

- SONAR: Towards User-Centric Social Network Analysis and Visualization

  Christian Hütter, Björn-Oliver Hartmann, Klemens Böhm, Till Heistermann,

  Kevin-Simon Kohlmeyer, Reno Reckling, Martin Reiche, and David Soria Parra
- Exploiting Puzzle Diversity in Puzzle Selection for ESP-like GWAP Systems Yu-Song Syu, Hsiao-Hsuan Yu, and Ling-Jyh Chen

Transport to Banquet (18:30 - 19:00) Banquet (19:00 - 22:30)

#### Friday, September 3 (Building: Accolade West Building [ACW])

#### WI/IAT: Keynote Speaker (8:30 - 9:30)

Chair: Prof. Mohand-Said Hacid

Location: ACW 206, 2nd floor, Accolade West Building, Keele Campus

Title: Issues on Preference-Modelling and Personalization in Information Retrieval

Speaker: Prof. Pasi Gabriella

Coffee Break (9:30 - 10:00)

Location: 3rd floor, Accolade West Building

#### Session 3AM-A1-WI: Web Support Systems II (ACW 303)

Session Chair: Prof. Peter Brusilovsky

**Session Time:** 10:00 - 11:35

#### **Regular Papers:**

• An Approach to Model and Predict the Popularity of Online Contents with Explanatory Factors

Jong Gun Lee, Sue Moon, and Kavé Salamatian

• Finding Resources and Collaborators within Digital Collections

Darina Dicheva and Christo Dichev

- <u>Visualizing blog archives to explore content- and context-related interdependencies</u> *Justus Bross, Patrick Schilf, and Christoph Meinel*
- Improving AbraQ: an Automatic Query Expansion Algorithm
  Glen Robertson and Xiaoying Gao
- Knowledgeable Explanations for Recommender Systems

Markus Zanker and Daniel Ninaus

### Session 3AM-A2-WI: Web Mining III (ACW 304)

**Session Chair:** Prof. Aijun An **Session Time:** 10:00 - 11:35

#### **Regular Papers:**

• Hierarchical Cost-sensitive Web Resource Acquisition for Record Matching

Yee Fan Tan and Min-Yen Kan

• A Hybrid Approach to Data Clustering Analysis with K-means and Enhanced Ant-based Template Mechanism

Wei Zhang, Carl K. Chang, Hen-I Yang, and Hsin-yi Jiang

• Text Clustering via Term Semantic Units

Liping Jing, Jiali Yun, Jian Yu, and Houkuan Huang

• Estimating News Coverage of Web Search Results

Adam Jatowt, Yukiko Kawai, and Katsumi Tanaka

• ACO Based Approach and Integrating Information Retrieval Technologies in Selecting Bitmap Join Indexes

Habiba Drias and Ibtissem Frihi

#### Session 3AM-A3-WI: Semantics and Ontology Engineering IV (ACW 305)

**Session Chair:** Prof. Yuh-Jong Hu **Session Time:** 10:00 - 11:35

#### **Regular Papers:**

• Learning a Large Scale of Ontology from Japanese Wikipedia

Susumu Tamagawa, Shinya Sakurai, Takuya Tejima, Takeshi Morita, Noriaki Izumi, and Takahira Yamaguchi

• Query Answering in Fuzzy Description Logics with Data Type Support Jingwei Cheng, Z.M. Ma, and Yu Wang

• <u>Towards Axiomatizing the Semantics of UML Activity Diagrams: A Situation-Calculus Perspective</u>

Xing Tan and Michael Gruninger

- <u>SemPIF: A Semantic Meta-Policy Interchange Format for Multiple Web Policies</u> *Yuh-Jong Hu and Harold Boley*
- Ranking Ontologies Using Verified Entities to Facilitate Federated Queries

  Neda Alipanah, Piyush Srivastava, Pallabi Parveen, and Bhavani Thuraisingham

# WI/IAT Keynote Speaker (11:45 - 12:45)

Chair: Prof. Takahira Yamaguchi

Location: ACW 206, 2nd floor, Accolade West Building, Keele Campus

Title: Game Theory for Security: Lessons Learned from Deployed Applications

**Speaker:** Prof. Milind Tambe

**Conference Lunch (12:45 - 14:30)** 

Location: 3rd floor, Accolade West Building

#### Session 3PM-A1-WI: Web Technologies and Applications (ACW 303)

Session Chair: Prof. Orland Hoeber

**Session Time:** 14:30 - 16:00

### **Regular Papers:**

- <u>CentralMatch: A Fast and Accurate Method to Identify Blog-Duplicates</u> <u>Heejin Park, Sang-Chul Lee, Soon-Haeng Lee, and Sang-Wook Kim</u>
- <u>MapMarker: Extraction of Postal Addresses and Associated Information for General Web Pages</u>

Chia-Hui Chang and Shu-Ying Li

• Using Web Technologies for Integrative Drug Discovery

Qian Zhu, Sashikiran Challa, Prajakta Purohit, Yuying Sun, Michael S. Lajiness, David J. Wild, and Ying Ding

- Web Intelligence in Tourism: User Modeling and Recommender System

  Bruno Coleho, Constantino Martins, and Ana Almeida
- Agent-based Online Quality Measurement Approach in Cloud Computing Environment Zhenyu Liu, Tiejiang Liu, Tun Lu, Lizhi Cai, and Genxing Yang

## Session 3PM-A2-WI: Intelligent e-Technology (ACW 304)

**Session Chair:** Prof. Nick Cercone **Session Time:** 14:30 - 16:00

# **Regular Papers:**

• An Adaptive Model for Probabilistic Sentiment Analysis

Xiaohui Yu, Yang Liu, and Aijun An

• The Ethicality of Web Crawlers

Yang Sun, Isaac G. Councill, and C. Lee Giles

• Efficient and Correct Trust Propagation Using CloseLook

Grzegorz Wierzowiecki and Adam Wierzbicki

- A Strong Authentication Protocol based on Portable One–Time Dynamic URLs E. Galán, J.C. Hernández-Castro, A. Alcaide, and A. Ribagorda
- Reachability Analysis in Privacy-Preserving Perturbed Graphs

  Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, and Xiaodong Lin

# Session 3PM-A3-WI: Semantics and Ontology Engineering V (ACW 305)

**Session Chair:** Prof. Yang Liu **Session Time:** 14:30 - 16:00

# **Regular Papers:**

- MQuery: Fast Graph Query via Semantic Indexing for Mobile Context
  Yuan Zhang, Ning Zhang, Jie Tang, Jinghai Rao, and Wenbin Tang
- Modeling Ontology of Folksonomy with Latent Semantics of Tags

Ali Daud, Juanzi Li, Lizhu Zhou, Lei Zhang, Ying Ding, and Faqir Muhammad

• Impact of One-Timer/N-Timer Object Classification on the Performance of Web Cache Replacement Algorithms

Saloua Messaoud Abid and Habib Youssef

- <u>Topic Detection for Discussion Threads with Domain Knowledge</u> *Mingliang Zhu, Weiming Hu, and Ou Wu*
- On Using Query Logs for Static Index Pruning

  Hoang Thanh Lam, Raffaele Perego, and Fabrizio Silvestri

### Coffee Break (16:00 - 16:30)

Location: 3rd floor, Accolade West Building

## Session 3PM-B1-WI: Web Mining IV (ACW 303)

Session Chair: Prof. Jimmy Huang

**Session Time:** 16:30 - 18:00

### **Regular Papers:**

• <u>DSP: Robust Semi-Supervised Dimensionality Reduction using Dual Subspace Projections</u>

Su Yan, Sofien Bouaziz, and Dongwon Lee

Probabilistic Metrics for Soft-Clustering and Topic Model Validation

Educado H. Parrigoz, Parron Propaga Davido Magasti, and Eghio

Educado H. Parrigoz, Parron Propaga Davido Magasti, and Eghio

Eduardo H. Ramirez, Ramon Brena, Davide Magatti, and Fabio Stella

• <u>Similarity-based Bayesian Learning from Semi-structured Log Files for Fault Diagnosis</u> of Web <u>Services</u>

Xu Han, Zhongzhi Shi, Wenjia Niu, Kunrong Chen, and Xinghua Yang

• Probabilistic Modeling of User-Generated Reviews

Richong Zhang and Thomas Tran

### Session 3PM-B2-WI: Social Networks and Ubiquitous Intelligence (ACW 304)

**Session Chair:** Prof. Yang Liu **Session Time:** 16:30 - 18:00

# **Regular Papers:**

- <u>Discovering Research Communities by Clustering Bibliographical Data</u>
  Fabrice Muhlenbach and Stéphane Lallich
- <u>Characteristics Estimation of Information Sources by Information Diffusion Analysis</u> *Kazuhiro Kazama, Miyuki Imada, and Keiichiro Kashiwagi*
- Relations Expansion: Extracting Relationship Instances from the Web Haibo Li, Yutaka Matsuo, and Mitsuru Ishizuka

# Session 3PM-B3-WI: Web Services (ACW 305)

**Session Chair:** Prof. Aijun An **Session Time:** 16:30 - 18:00

# **Regular Papers:**

- Web Service Selection for Multiple Agents with Incomplete Preferences

  Hongbing Wang, Jie Zhang, Cheng Wan, Shizhi Shao, Robin Cohen, Junjie Xu,
  and Peicheng Li
- Business Process Decomposition based on Service Relevance Mining Zicheng Huang, Jinpeng Huai, Xudong Liu, and Jiangjun Zhu
- <u>Learning Task Specific Web Services Compositions with Loops and Conditional</u> <u>Branches from Example Executions</u>

Harini Veeraraghavan, Roman Vaculín, and Manuela Veloso

• Improving Web Service Survivability via Gracefully Degraded Substitution

Marlon Dumas, Yong Yang, and Liang Zhang

# IAT 2010 Program

# Wednesday, September 1 (Building: Accolade West Building [ACW])

# Conference Opening (8:15 - 8:30)

**Chair:** Prof. Jimmy Huang (York University, Canada)

Location: ACW 206, 2nd floor, Accolade West Building, Keele Campus

**Welcome:** Prof. Michael Siu (Vice-President Research and Innovation, York University)

### WI/IAT: Keynote Speaker (8:30 - 9:30)

Chair: Prof. Nick Cercone (York University, Canada)

Location: ACW 206, Accolade West Building, Keele Campus

Title: Wikipedia and How to Use it for Semantic Document Representation

**Speaker:** Prof. Ian Witten (*University of Waikato*, *New Zealand*)

### Coffee Break (9:30 - 10:00)

Location: 3rd floor, Accolade West Building

# Session 1AM-A1-IAT: Agent Systems Modeling and Methodology I (ACW 306)

**Session Chair:** Prof. Gill Dobbie **Session Time:** 10:00 - 11:35

# **Regular Papers:**

• An Agent Model for Decision Making Based upon Experiences Applied in the Domain of Fighter Pilots

Mark Hoogendoorn, Robbert-Jan Merk, and Jan Treur

- External Coordination Media in Capacity-Constrained Multiagent Systems
  Thomas Kemmerich and Hans Kleine Büning
- Selecting Behavior on Repeated Local Effect Functions

Kazuho Igoshi and Takao Miura

• Concept Learning Games: The Game of Query and Response

Nima Mirbakhsh, Arman Didandeh, and Mohsen Afsharchi

• An Organizational Design for Adaptive Sensor Networks

Walamitien H. Oyenan, Scott A. DeLoach, and Gurdip Singh

### Session 1AM-A2-IAT: Agent Systems Modeling and Methodology II (ACW 307)

**Session Chair:** Prof. Ali Ghorbani **Session Time:** 10:00 - 11:35

### **Regular Papers:**

- The Impacts of Diffusion Kernels on Recognition-Primed Multi-Agent Decision Making Xiaocong Fan and Meng Su
- Design and Evaluation of Explainable BDI Agents

Maaike Harbers, Karel van den Bosch, and John-Jules Meyer

• Intelligent Agents in Mobile Vehicular Ad-Hoc Networks: Leveraging Trust Modeling Based on Direct Experience with Incentives for Honesty

Umar Farooq Minhas, Jie Zhang, Thomas Tran, and Robin Cohen

• A Biologically-Inspired Cognitive Agent Model Integrating Declarative Knowledge and Reinforcement Learning

Ah-Hwee Tan and Gee-Wah Ng

• Motivated Learning for Goal Selection in Goal Nets

Huiliang Zhang, Zhiqi Shen, Chunyan Miao, and Xudong Luo

# WI/IAT Keynote Speaker (11:45 - 12:45)

Chair: Prof. Ali Ghorbani

Location: ACW 206, 2nd floor, Accolade West Building, Keele Campus

**Title:** Why Robots are More Than Just Agents

**Speaker:** Prof. Maria Gini (*University of Minnesota*, *USA*)

**Conference Lunch (12:45 - 14:30)** 

Location: 3rd floor, Accolade West Building

### Session 1PM-A1-IAT: Agent Systems Modeling and Methodology III (ACW 306)

Session Chair: Prof. Robert G. Reynolds

**Session Time:** 14:30 - 16:00

## **Regular Papers:**

- A Rich Communication Model in Opportunistic Decentralized Decision Making

  Aurélie Beynier and Abdel-Illah Mouaddib
- An Algorithm for Multi-robot Planning: SGInfiniteVI

Mohamed Amine Hamila, Emmanuelle Grislin-le Strugeon, Rene Mandiau, and Abdel-Illah Mouaddib

• Exploration and Exploitation in Adaptive Trust-Based Decision Making in Dynamic Environments

Mark Hoogendoorn, S. Waqar Jaffry, and Jan Treur

Round Tripping in Component Based Software Development

 Will Will Market Software Development

 No. 100 (1987)

 Round Tripping in Component Based Software Development

 No. 100 (1987)

 No. 100 (1987)

Yves Wautelet, Sodany Kiv, Vi Tran, and Manuel Kolp

• Monitoring Agent Communication in Soft Real-time Environments

Andreas L. Symeonidis and Pericles A. Mitkas

# Session 1PM-A2-IAT: Agent Systems Modeling and Methodology IV (ACW 307)

Session Chair: Prof. Takahira Yamaguchi

**Session Time:** 14:30 - 16:00

# **Regular Papers:**

- <u>Time-Critical Decision Making in Interactive Dynamic Influence Diagram</u> *Yifeng Zeng and Yanping Xiang*
- <u>Multiagent Meta-level Control for a Network of Weather Radars</u> Shanjun Cheng, Anita Raja, and Victor Lesser

- Epsilon-Subjective Equivalence of Models for Interactive Dynamic Influence Diagrams

  Prashant Doshi, Muthukumaran Chandrasekaran, and Yifeng Zeng
- Social Reinforcement Learning for Changing Environments

  Juan A. García-Pardo, J. Soler, and C. Carrascosa

Coffee Break (16:00 - 16:30)

Location: 3rd floor, Accolade West Building

### Session 1PM-B1-IAT: Agent Systems Modeling and Methodology V (ACW 306)

Session Chair: Prof. Tan Ah Hwee

**Session Time:** 16:30 - 18:00

### **Regular Papers:**

• <u>Learning Personal Agents with Adaptive Player Modeling in Virtual Worlds</u> *Yilin Kang and Ah-Hwee Tan* 

• An Agent Model for Analysis of Human Performance Quality

Michel C.A. Klein, Rianne M. van Lambalgen, and Jan Treur

• How Fast Can a BDI Agent Respond?

Huiliang Zhang, Chunyan Miao, Shell Ying Huang, Zhiqi Shen, and Xudong Luo

• DIRACT: Agent-Based Interactive Storytelling

Yundong Cai, Zhiqi Shen, Chunyan Miao, and Ah-Hwee Tan

# Session 1PM-B2-IAT: Agent Systems Modeling and Methodology VI (ACW 307)

**Session Chair:** Prof. Yifeng Zeng **Session Time:** 16:30 - 18:00

### **Regular Papers:**

• Efficient Value Function Approximation with Unsupervised Hierarchical Categorization for a Reinforcement Learning Agent

Yongjia Wang and John E. Laird

- <u>Coalition Formation Strategies for Self-Interested Agents in Task Oriented Domains</u> *Thomas Génin and Samir Aknine*
- Coordination of Temporal Plans for the Reactive and Proactive Goals

Muhammad Adnan Hashmi and Amal El Fallah Seghrouchni

• Empathy and Placebo for Autonomous Agents

Julien Saunier, Hazaël Jones, and Domitile Lourdeaux

# **Reception (6:30pm - 9:00pm)**

**Location:** Underground Restaurant in the Student Center, York University. The President of York University, Prof. Mamdouh Shoukri, will be attending.

# Thursday, September 2 (Building: Accolade West Building [ACW])

# WI/IAT: Keynote Speaker (8:30 - 9:30)

Chair: Prof. Jimmy Huang (York University, Canada)

**Location:** ACW 206, 2nd floor, Accolade West Building, Keele Campus **Title:** The Sensor Web: Unpredictable, Noisy and Loaded with Errors **Speaker:** Prof. Alan Smeaton (*Dublin City University, Ireland*)

Coffee Break (9:30 - 10:00)

Location: 3rd floor, Accolade West Building

# Session 2AM-A1-IAT: Autonomy-Oriented Computing I (ACW 306)

Session Chair: Prof. Ali Ghorbani

**Session Time:** 10:00 - 11:35

### **Regular Papers:**

 An Agent-Based Modeling Approach to Investigate Emergent Patterns in Ecological Systems

Jacintha Ellers, Mark Hoogendoorn, and David Wendt

• Towards Efficient Equilibria of Combinations of Network-Formation and Interaction Strategies

Björn-Oliver Hartmann and Klemens Böhm

Collaborative Function Approximation in Social Multiagent Systems

Dominik Dahlem and William Harrison

• Particle Swarm Optimization Based Hierarchical Agglomerative Clustering Shafiq Alam, Gillian Dobbie, Patricia Riddle, and M. Asif Naeem

# Session 2AM-A2-IAT: Autonomy-Oriented Computering II (ACW 205)

**Session Chair:** Prof. Jiming Liu **Session Time:** 10:00 - 11:35

# **Regular Papers:**

Distributed Advice-Seeking on an Evolving Social Network

Golriz Rezaei, Jens Pfau, and Michael Kirley

• Nash Welfare Allocation Problems: Concrete Issues

Antoine Nongaillard, Philippe Mathieu, and Patricia Everaere

• <u>Understanding the Behaviour of Reactive Robots in a Patrol Task by Analysing Their Trajectories</u>

Swagat Kumar, Nguyen Huy Thach, and Einoshin Suzuki

- Incentivising cooperation between agents for content sharing
  - S.M. Allen, M.J. Chorley, G.B. Colombo, and R.M. Whitaker
- A New Approach in Cooperative Decision Making in Multi-agent Systems Inspired by Human Visual Cortex

Maryam Esmaeili and Alberto Vancheri

# Session 2PM-A1-IAT: Autonomy-Oriented Computering III (ACW 306)

**Session Chair:** Prof. Robert G. Reynolds

**Session Time:** 11:45 - 12:45

# **Regular Papers**

• Selecting Operator Queries Using Expected Myopic Gain

Robert Cohn, Michael Maxim, Edmund Durfee, and Satinder Singh

• Enhancing Cultural Learning under Environmental Variability Using Layered Heterogeneous Sociometry-Based Networks

Mostafa Z. Ali, Robert G. Reynolds, and Rose Ali

• <u>Trustworthiness Tendency Incremental Extraction Using Information Gain</u> *Joana Urbano, Ana Paula Rocha, and Eugénio Oliveira* 

# Session 2PM-A2-IAT: Agent Systems Modeling and Methodology VII (ACW 205)

Session Chair: Prof. Milind Tambe

**Session Time:** 11:45 - 12:45

# **Regular Papers**

• Modular JADE Agents Design and Implementation Using ASEME

Nikolaos Spanoudakis and Pavlos Moraitis

• Prediction of Humans' Activity for Learning the Behaviors of Electrical Appliances in an Intelligent Ambient Environment

Javier Gil-Quijano and Nicolas Sabouret

### **Conference Lunch (12:45 - 14:30)**

**Location:** 3rd floor, Accolade West Building

# Session 2PM-B1-IAT: Industry Track (ACW 306)

**Session Chair:** Prof. Maria Gini **Session Time:** 14:30 - 16:00

### **Regular Papers:**

• <u>Integration of Multiagent Systems and Service Oriented Architectures in the Steel</u> Industry

Sven Jacobi, Christian Hahn, and David Raber

• Agent Technologies for Space Applications: The DAFA Experience

Francesco Amigoni, Andrea Brambilla, Michèle Lavagna, Rick Blake, Ian le Duc, Jonathan Page, Oliver Page, Sonia de la Rosa Steinz, Robin Steel, and Quirien Wijnands

• <u>Local Search Methods for Finding a Nash Equilibrium in Two-Player Games</u> *Sofia Ceppi, Nicola Gatti, Giorgio Patrini, and Marco Rocco* 

### Session 2PM-B2-IAT: Autonomous Knowledge and Information Agents (ACW 307)

Session Chair: Prof. Mohand-Said Hacid

**Session Time:** 14:30 - 16:00

# **Regular Papers:**

- Collaborative Learning of Ontology Fragments by Co-operating Agents

  Heather S. Packer, Nicholas Gibbins, and Nicholas R. Jennings
- <u>Predictive Analytics Using a Blackboard-Based Reasoning Agent</u> *Jia Yue, Anita Raja, and William Ribarsky*
- <u>Using a Social Orientation Model for the Evolution of Cooperative Societies</u> *Kan-Leung Cheng, Inon Zuckerman, Ugur Kuter, and Dana Nau*

Transport to Banquet (18:30 - 19:00) Banquet (19:00 - 22:30)

# Friday, September 3 (Building: Accolade West Building [ACW])

# WI/IAT: Keynote Speaker (8:30 - 9:30)

Chair: Prof. Mohand-Said Hacid

Location: ACW 206, 2nd floor, Accolade West Building. Keele Campus

Title: Issues on Preference-Modelling and Personalization in Information Retrieval

Speaker: Prof. Pasi Gabriella

Coffee Break (9:30 - 10:00)

Location: 3rd floor, Accolade West Building

# Session 3AM-A1-IAT: Distributed Problem Solving I (ACW 306)

Session Chair: Prof. Robert G. Reynolds

**Session Time:** 10:00 - 11:35

### **Regular Papers:**

• A Distributed and concurrent Framework for Facilitating Cooperation in Dynamic Environments

Toktam Ebadi, Maryam Purvis, and Martin Purvis

- <u>Multi-HDCS: Solving DisCSPs with Complex Local Problems Cooperatively</u>

  David Lee, Inés Arana, Hatem Ahriz, and Kit Hui
- <u>Using Negotiation to Reduce Redundant Autonomous Mobile Program Movements</u> *Natalia Chechina, Peter King, and Phil Trinder*
- Continuous Double Auction in Grid Computing: An Agent Based Approach to Maximize Profit for Providers

Aminul Haque, Saadat M. Alhashmi, and Rajendran Parthiban

• <u>Artifacting the Organizational Mechanisms: Adding Functionality in MAS Environments</u> Sergio Esparcia, Estefanía Argente, Roberto Centeno, and Ramón Hermoso

# Session 3AM-A2-IAT: Applications I (ACW 307)

**Session Chair:** Xiaohui Yu **Session Time:** 10:00 - 11:35

# **Regular Papers:**

• Enhancing the Interoperability between Multiagent Systems and Service-Oriented Architectures through a Model-Driven Approach

Christian Hahn, Sven Jacobi, and David Raber

• Behavior Design of Game Character's Agent

Tony Dujardin and Jean-Christophe Routier

- An Agent-Based Model for the Interplay of Information and Emotion in Social Diffusion Mark Hoogendoorn, Jan Treur, C. Natalie van der Wal, and Arlette van Wissen
- Multimodal Spectral Metrics with Discrete Finite Automata for Predicting
- Epileptic Seizures

Rory A. Lewis and Andrew M. White

• The Agent-Based Hedge Fund

Rui Pedro Barbosa and Orlando Belo

# WI/IAT Keynote Speaker (11:45 - 12:45)

Chair: Prof. Takahira Yamaguchi

**Location:** ACW 206, 2nd floor, Accolade West Building, Keele Campus

**Title:** Game Theory for Security; Lessons Learned from Deployed Applications

**Speaker:** Prof. Milind Tambe

**Conference Lunch (12:45 - 14:30)** 

**Location:** 3rd floor, Accolade West Building

### Session 3PM-A1-IAT: Distributed Problem Solving II (ACW 306)

**Session Chair:** Prof. Ning Zhong **Session Time:** 14:30 - 16:00

### **Regular Papers:**

• A Voting-Based Agent System for Course Selection in E-Learning
Ali M. Aseere, Enrico H. Gerding, and David E. Millard

• <u>DLB-SDPOP</u>: A Multiagent Pseudo-tree Repair Algorithm for Load Balancing in WLANs

Shanjun Cheng, Anita Raja, Jiang(Linda) Xie, and Ivan Howitt

• <u>Decentralized Resource Allocation and Scheduling via Walrasian Auctions with Negotiable Agents</u>

HuaXing Chen and Hoong Chuin Lau

• Knowledge Oriented Network Fault Resolution Method Based on Active Information Resource

Yusuke Takahashi, Daisuke Misugi, Akira Sakatoku, Akihiro Satoh, Akiko Takahashi, Kazuto Sasai, Gen Kitagata, Toru Abe, and Tetsuo Kinoshita

 A Distributed Asynchronous Constraint Optimization Algorithm Based on Dynamic Reduction of Constraint Graph

Jian Cao, Sijie Cai, and Yanhai Zhao

### Session 3PM-A2-IAT: Applications II (ACW 307)

**Session Chair:** Prof. Jimmy Huang

**Session Time:** 14:30 - 16:00

### **Regular Papers:**

- <u>Virtual Agent Perception in Multi-agent Based Simulation Systems</u> *T. Steel, D. Kuiper, and R.Z. Wenkstern*
- <u>An Intelligent Agent-Nased Model for Future Personal Information Markets</u> *Abdulsalam Yassine, Ali Asghar Nazari Shirehjini, Shervin Shirmohammadi, and Thomas T. Tran*
- Modeling Dynamic Groups for Agent-Based Pedestrian Crowd Simulations
  Fasheng Qiu and Xiaolin Hu
- Event Study Approach for Validating Agent-Based Trading Simulations Shih-Fen Cheng

- <u>A Framework for Developing Agent-Based Distributed Applications</u> *Michel Oey, Sander van Splunter, Elth Ogston, Martijn Warnier, and Frances M.T. Brazier*
- Reasoning with Imprecise Context Using Improved Dempster-Shafer Theory
  Chang Hoon Lyu, Min Seok Choi, Zhong Yuan Li, and Hee Yong Youn

Coffee Break (16:00 - 16:30)

Location: 3rd floor, Accolade West Building

# Session 3PM-B1-IAT: Distributed Problem Solving III (ACW 306)

**Session Chair:** Prof. Xiaohui Yu **Session Time:** 16:30 - 18:00

### **Regular Papers:**

- Getting What You Pay For: Is Exploration in Distributed Hill Climbing Really Worth It?

  Melanie Smith and Roger Mailler
- Effect of Human Biases on Human-Agent Teams

Praveen Paruchuri, Pradeep Varakantham, Katia Sycara, and Paul Scerri

- <u>Metrics for the Evaluation of DisCSP: Some Experiments on Multi-robot Exploration</u> *Pierre Monier, Arnaud Doniec, Sylvain Piechowiak, and René Mandiau*
- Ordered Multi-variable Multi-constrained Distributed Constraint Optimization Framework

Christopher Portway and Edmund H. Durfee

# Session 3PM-B2-IAT: Autonomous Auctions and Negotiation I (ACW 307)

Session Chair: Prof. Nick Cercone

**Session Time:** 16:30 - 18:00

# **Regular Papers:**

- <u>Characterization of Revenue Monotonicity in Combinatorial Auctions</u> *Taiki Todo, Atsushi Iwasaki, and Makoto Yokoo*
- Reducing Untruthful Manipulation in Envy-Free Pareto Optimal Resource Allocation Roie Zivan, Miroslav Dudík, Steven Okamoto, and Katia Sycara
- An Approach to Scalable Multi-issue Negotiation: Decomposing the Contract Space Based on Issue Interdependencies

Katsuhide Fujita, Takayuki Ito, and Mark Klein

• <u>An Interaction-Oriented Model of Customer Behavior for the Simulation of Supermarkets</u> *Yoann Kubera, Philippe Mathieu, and Sébastien Picault* 

# **Keynote Speakers**

### Ian Witten



Professor of Computer Science at the University of Waikato in New Zealand where he directs the New Zealand Digital Library research project. His research interests include language learning, information retrieval, and machine learning.

# **Speech Title:**

Wikipedia and how to use it for semantic document representation.

### Abstract

Wikipedia is a goldmine of information; not just for its many readers, but also for the growing community of researchers who recognize it as a resource of exceptional scale and utility. It represents a vast investment of manual effort and judgment: a huge, constantly evolving tapestry of concepts and relations that is being applied to a host of tasks.

This talk focuses on the process of "wikification"; that is, automatically and judiciously augmenting a plain-text document with pertinent hyperlinks to Wikipedia articles as though the document were itself a Wikipedia article. I first describe how Wikipedia can be used to determine semantic relatedness between concepts. Then I explain how to wikify documents by exploiting Wikipedia's internal hyperlinks for relational information and their anchor texts as lexical information. Data mining techniques are used throughout to optimize the models involved.

I will discuss applications to knowledge-based information retrieval, topic indexing, document tagging, and document clustering. Some of these perform at human levels. For example, on CiteULike data, automatically extracted tags are competitive with tag sets assigned by the best human taggers, according to a measure of consistency with other human taggers. All this work uses English, but involves no syntactic parsing, so the techniques are language independent.

#### **Milind Tambe**



Professor of Computer Science and Industrial and Systems Engineering at the University of Southern California(USC). He received his Ph.D. from the School of Computer Science at Carnegie Mellon University. He leads the TEAMCORE Research Group at USC, with research is focused on agent-based and multi-agent systems. He is a fellow of AAAI (Association for Advancement of Artificial Intelligence) and recipient of the ACM (Association for Computing Machinery) SIGART Agents Research award. He is also the recipient of a special commendation given by the Los Angeles World Airports police from the city of Los Angeles, USC Viterbi School of Engineering use-

inspired research award, Okawa foundation faculty research award, the RoboCup scientific challenge award, and the ACM recognition of service award. Prof. Tambe and his research group's papers have been selected as best papers or finalists for best papers at more than a dozen premier Artificial Intelligence and Operations Research Conferences and workshops, and their algorithms have been deployed for real-world use by several agencies including the LAX police, the Federal Air Marshals service and the Transportation security administration.

**Speech Title:** Game Theory for Security: Lessons learned from deployed applications.

### **Abstract**

Security at major locations of economic or political importance or transportation or other infrastructure is a key concern around the world, particularly given the threat of terrorism. Limited security resources prevent full security coverage at all times; instead, these limited resources must be deployed intelligently taking into account differences in priorities of targets requiring security coverage, the responses of the adversaries to the security posture and potential uncertainty over the types of adversaries faced.

Game theory is well-suited to adversarial reasoning for security resource allocation and scheduling problems because it suggests randomized policies that mitigate a key vulnerability of human plans: predictability. Casting the problem as a Bayesian Stackelberg game, we have developed new algorithms for efficiently solving such games to provide randomized patrolling or inspection strategies; our algorithms are now deployed in multiple applications. ARMOR (Assistant for Randomized Monitoring over Routes), our first game theoretic application, has been deployed at the Los Angeles International Airport (LAX) since August 2007 to randomizes checkpoints on the roadways entering the airport and canine patrol routes within the airport terminals. IRIS, our second application, is a game-theoretic scheduler for randomized deployment of the Federal Air Marshals (FAMS) requiring significant scale-up in underlying algorithms; IRIS was put into use to generate schedules in late 2009 with first schedules created by IRIS flown by air marshals starting January 2010. Finally, GUARDS has been deployed by the TSA (Transportation Security Administration) at the Pittsburgh and LAX airports starting October 2009 for pilot evaluation with a goal of potential larger-scale deployments. These applications are leading to real-world use-inspired research. This talk will outline our algorithms, key research results and lessons learned from these applications.

#### **Alan Smeaton**



Since 1997 Alan Smeaton has been a Professor of Computing at Dublin City University where he is Deputy Director of CLARITY: Centre for Sensor Web Technologies. His research interests are in the management of all kinds of heterogeneous, noisy, and errorsome data. Initially his research focused on searching through text archives and then moved to image search and on to video analysis, indexing and retrieval. Since 2001 Alan has been a founder and coordinator of TRECVid, an annual benchmarking activity with worldwide participation of approximately 400 researchers which measures the effectiveness of content-based operations on video archives. More

recently Alan has focused his work on managing information from heterogeneous sensor networks, making sense of the flood of data that comes from sensor applications in fields as diverse as energy monitoring, sports participation, injury rehabilitation, digital lifelogging, and environmental monitoring.

**Speech Title:** The Sensor Web: Unpredictable, Noisy and Loaded with Errors.

### **Abstract**

Classical information retrieval is based around a user having an information need, formulated as a query, and a system which matches the query against 'documents', retrieving those most likely to be relevant. In some applications there are challenges because the 'documents' are not discrete objects but highly inter-connected, and IR research has for decades developed models of the processes, devised novel ranking algorithms, and developed very elaborate benchmarking techniques for performance. But what if the information we need or seek is not neatly divided into documents, either discrete or inter-connected, but needs to be taken from a constant stream of data values, namely data from sensors. These sensors cover the physical sensors around us (environment, place, physical activities like traffic, weather, people movement, crowd gatherings like concerts and sports events) as well as the online sensors we have access to (blogs, tweets, etc.). Often termed the \*sensor web\*, this information source is characterised as being noisy, errorsome, unpredictable and dynamic, exactly like the real and the virtual worlds in which we live, work and play. In this presentation I introduce several diverse sensor web applications to show the breadth and pervasive nature of the sensor web and I then show some of the techniques which we use to manage the information which forms part of the sensor web.

#### Pasi Gabriella



Professor at the Universita' Degli Studi di Milano Bicocca, Milano, Italy, where she leads the Information Retrieval research Lab. Her research activity mainly concerns the modelling and design of flexible and personalized systems for the management and access to information. She is actually working on XML retrieval, Personalized Information Retrieval, Information Filtering, Document Clustering, Preference Modelling. She has co-edited seven books e several special issues of International Journals. She has published more than 170 papers on International Journals and Books, and on the Proceeding of International Conferences. She is a member of the Editorial Board of

several international journals among which Fuzzy Sets and Systems (Elsevier), Web Intelligence and Agent Systems (IOS Press), and the Journal of Computational Intelligence Systems (IJCIS), Atlantis Press.

**Speech Title:** Issues on preference-modelling and personalization in Information Retrieval.

#### Abstract

In recent years there has been a great deal of research about personalization in information access. The main issue is to improve the quality of search by producing user-tailored results related to specific user needs.

In this context two key research problems concerns how to model user preferences, and how to exploit them in effective personalisation processes. This talk will address the above problems, and will discuss some important issues related to their possible solutions. The talk will also point out some research directions worth to be explored.

### Maria Gini



Distingushed Professor of the College of Science and Engineering at the University of Minnesota. She specializes in the design of multirobot and multi-agent systems that are capable of making intelligent decisions. Such systems range from software agents to robots that move in unstructured and unknown environments and to autonomous vehicles that search a city to rescue people after a disaster. She is a Fellow of the AAAI and a Distinguished Scientist of the ACM. She is the chair of the ACM Special Interest Group on Artificial Intelligence (SIGART), a member of the board of the Autonomous Agents and Multi-Agent Systems society, and a member of the CRA-W board co-

chairing the Distributed Research Experiences for Undergraduates (DREU) program.

**Speech Title:** Why robots are more than just agents.

**Abstract:** Robots are more than just agents because they have a physical body and interact with the real world through their sensors and actuators. They also have limited power supply and often limited communications capabilities. In the talk we will explore how this affects the design of robot systems and address open challenges in design, validation, and performance evaluation of robot systems using a variety of examples

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Hakan Duman, British Telecom, UK

Tapio Elomaa, Tampere University of Technology, Finland

Xiaocong Fan, The Pennsylvania State University, United States

Klaus Fischer, German Research Center for AI, Germany

Adam Maria Gadomski, Cognitive Research Interuniversity Center

ECONA, Italian Research Agency ENEA, Italy

Matjae Gams, Joeef Stefan Institute, Slovenia

Nicola Gatti, Politecnico di Milano, Italy

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Maria Gini, University of Minnesota, United States

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Vladimir Gorodetsky, St.Petersburg Institute for Informatics and

Automation, Russia

Steve Goschnick, University of Melbourne, Australia

Eric Gregoire, CRIL CNRS, France

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Jessie Zhao

# **Restaurants Inside York University**

(For more locations, please visit: http://www.yorku.ca/foodservices/locations)

# **Executive Dining Room**

Schulich Executive Learning Centre (416) 736-5342

### Tuchner's

Seymour Schulich Building (416) 736-5846

### **Berries and Blooms**

York Lanes Retail Centre Food Court (416) 663-0030

### Jimmy the Greek

Student Centre (416) 736-5860

### **Pagoda**

Student Centre (416) 736-5873

# The Original Panzerotto and Pizza

Student Centre (416) 736-5889

### Wendy's

Student Centre (416) 736-5832

### The Great Canadian Bagel

York Lanes Retail Centre Food Court (416) 736-5555

### **Tastes Healthy Foods**

York Lanes Retail Centre Food Court (416) 736-5952

### **Mangia Mangia Italian Eatery**

York Lanes Retail Centre Food Court (416) 736-9484

# **Blueberry Hill**

York Lanes Retail Centre Food Court (416) 736-5594

# Timothy's Market Café

Seymour Schulich Building (416) 736-5342

# **Atkinson College Cafeteria**

Atkinson College (lower level) (416) 736-5326

# The Underground Restaurant

Student Centre (416) 736-5110 http://www.myunderground.ca/

#### **KFC & Taco Bell**

Student Centre (416) 736-5897

### Subway

Student Centre (416) 739-8555

### **Treats Café Emporium**

Student Centre (416) 736-5861

### Yogen Fruz

Student Centre (416) 736-5636

#### **Indian Flavour**

York Lanes Retail Centre Food Court (416) 663-2666

### **Sakura Japanese Restaurant**

York Lanes Retail Centre Food Court (416) 736-5471

### **Falafel Hut Village**

York Lanes Retail Centre Food Court (416) 736-5767

### Company's Coming Café

York Lanes Retail Centre Food Court (416) 650-0191

### **Great Restaurants in the GTA**

## **Italian**

#### Vibo

2995 Bloor St. West, Toronto M8X C1C (416) 239-1286 http://www.vibo.ca

#### La Fenice

319 King Street West, Toronto M5V 1J5 (416) 585-2377 http://www.lafenice.ca

### Asian

## Yamato Japanese Restaurant

24 Bellair Street, Toronto M5R 2C7 (416) 927-0077 http://yamato.sites.toronto.com

# **Crystal Rolls Pan Asian Cuisine**

372 Bloor St. West, Toronto M5S 1X2 (416) 921-6787 http://www.crystalrolls.com

### **French**

#### Celestin

623 Mount Pleasant Rd, Toronto M4S 2M9 (416) 544-9035 http://celestin.sites.toronto.com

# Flight 55 Restaurant & Lounge

713 College Street, Toronto M6G 1C2 (416) 533-6849 http://www.flight55.ca

#### Indian

### **Chakra Indian Restaurant**

2497 Yonge Street, Toronto M4P 2H6 (416) 487-7188 http://www.chakra.to

### Jaaadu Restaurant

1415 Yonge Street, Toronto M4T 1Y7 (416) 944-8885 http://www.jaaadu.com

#### Strada

2279 Bloor Street West, Toronto M6S 1P1 (416) 761-7494) http://www.stradarestaurant.com

# Spuntini Italian Restaurant

116 Avenue Road, Toronto M5R 2H4 (416) 962-1110 http://www.spuntini.ca

### Aki da Japanese Restaurant

1911 Queen Street East, Toronto M4L 1H3 (416) 691-2788 http://akida.sites.toronto.com

# **Genghis Khan Mongolian Grill**

900 Don Mills Road, North York M3C 1V6 (416) 449-8228 http://www.genghiskhanmongoliangrill.com

#### Cru Restaurant

946 Royal York Road, Etobicoke M8X 2E5 (416) 237-1282 http://www.crurestaurant.ca

### Marcel's Bistro & Lounge

315 King Street West, Toronto M5V 1J5 (416) 519-8600 http://www.marcels.com

### Nirvana the Flavours of India

35 Brunel Road, Mississauga L4Z 3E8 (905) 501-5500 http://www.nirvanatheflavoursofindia.com

### **Saffrontree Fine Indian Restaurant**

700 Bay Street, Toronto M5G 1Z6 http://www.shopsquareone.com

### **Internet Access**

York Univiersity will be providing 300 AirYork accounts for the conference attendances during the conference period. These accounts will enable Internet access while on York University campus.

### **Transit Information**







# Getting to Downtown Toronto (Union Station) from YorkU

# Using TTC (Duration: ~45 minutes)

- 1. Begin at YorkU in front of the Student Center building at the TTC stops
- 2. Take Express Bus 196 or Bus 106
- 3. Get off at the Downsview Subway Station
- 4. Get on the subway to Union Station (or another station close to your destination)

### Getting to the Toronto Pearson International Airport from YorkU

### Using TTC (Duration: ~90 minutes)

- 1. Begin at YorkU in front of the Student Center building at the TTC stops
- 2. Take Express Bus 196 or Bus 106
- 3. Get off at the Downsview Subway Station
- 4. Get on the subway line to Lawrence West
- 5. Take the 58 Malton bus to Toronto Pearson International Airport

### Taxi (Duration: ~20 minutes)

YorkU recommends using the Beck Taxi (http://www.bexktaxi.com). To get a cab, please call them at: (416) 751-5555.

For more TTC information, please visit their website or call them at: (416) 393-INFO

# **Major Attractions in the GTA**





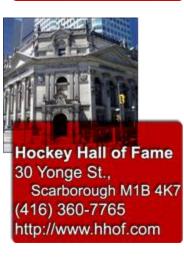














## **Dinner Cruise Information**

The dinner cruise is centrally located in the heart of Toronto's Waterfront and is provided by Mariposa Cruises. They are within walking distance from Union Station, CN Tower, Convention Center & a host of downtown hotels - all Mariposa Cruises boats are docked by the beautiful Queens Quay Terminal Building at 207 Queens Quay West at York St. This bustling area has shops and patios and with Harbourfront Center next door - this is a lovely area to visit. There are taxis available at the front of the building.



### **General Directions**

#### **From East**

Take 401 West to Don Valley Parkway. Take Don Valley Parkway South to Gardiner Expressway. Once on Gardiner Expressway, take the Yonge/York/Bay exit. Turn left onto Yonge Street and then right onto Queen's Quay - parking lots available east of York and 200 Queens Quay - on the north side of Queens Quay.

#### From North

Take Highway 400 South to Highway 401 West, Highway 401 West to Highway 427 South, then Highway 427 South to Gardiner Expressway Toronto. Take the Yonge/York/Bay Exit to the Yonge ramp. Turn right at the first light and proceed to Queen's Quay - turn right - parking lots available east of York and at 200 Queens Quay.

#### From West

Take Highway 401 East to Highway 427 South to Gerdiner Expressway Toronto. Take the Yonge/York/Bay Exit to the Yonge ramp. Turn right at the first light and proceed to Queen's Quay where you will turn right. Parking lots available east of York and at 200 Queenes Quay.

**By TTC:** From Union Station, both Harbourfront Streetcars/LRT (#509 & #510) access our location - travel two stops and exit at York Street. We are docked right along the east and south walls of Queens Quay Terminal Building.