



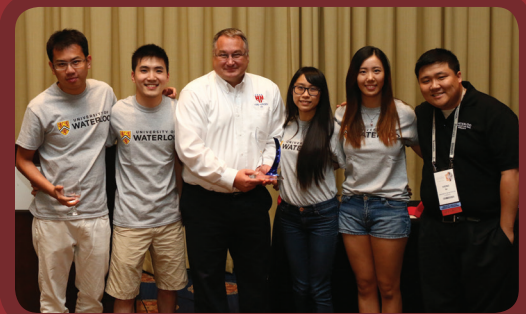
Centre for  
Information Integrity and  
Information Systems Assurance

## RESEARCH

## EDUCATION and KNOWLEDGE TRANSFER

## INTERACTION

**WATERLOO**  
ACCOUNTING AND  
FINANCE



## WE WELCOME INQUIRIES, SUGGESTIONS AND COMMENTS

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## BOARD OF DIRECTORS

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*Ontario CPAs' Chair in Accounting,  
University of Waterloo  
Director, UWCISA*

**Malik Datardina**, MAcc, CPA, CA, CISA  
*Senior Manager, Audit Analytics, Deloitte  
Assistant Director, UWCISA (ex officio)*

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University of Waterloo*

**Theophanis (Theo) Stratopoulos**, PhD  
*Associate Professor of Information Systems,  
University of Waterloo*

#### OBSERVERS:

**Taryn Abate**, CPA, CA, CPA (IL)  
*Director, Audit & Assurance  
Research, Guidance and Support, CPA Canada*

**Jodie N. Lobana**, CPA, CA, CIA, CISA,  
IFRS-Certified  
*Director, IIA Canada  
Managing Director, Lobana Consulting Group Inc.*

## MISSION STATEMENT

The mission of the University of Waterloo Centre for Information Integrity and Information Systems Assurance (UWCISA) falls under three headings:

**RESEARCH:** Identify, create and deliver research addressing the expanding boundaries of information integrity and assurance;

**EDUCATION AND KNOWLEDGE TRANSFER:** Support and promote the marketing and delivery of innovative educational activities and materials related to information integrity and assurance issues;

**INTERACTION:** Identify, communicate and promote information integrity and assurance issues that are important to professionals working in these areas; and to support and promote interaction on those issues among practitioners, educators and students.

The UWCISA (Centre) invites and welcomes new sponsors/collaborators to share in its mission.

## BACKGROUND

The University of Waterloo is a leading university in Canada and is well known for its information technology related research, teaching and entrepreneurship. The School of Accounting and Finance (SAF) is one of Canada's leading academic units in the accounting and finance fields and has both a Canada-wide and international reputation. The School is a strong supporter of the information integrity and information systems assurance fields, as demonstrated by its leading courses and programs in these areas and related research they have spawned. For information please visit [uwaterloo.ca/school-of-accounting-and-finance/our-programs](http://uwaterloo.ca/school-of-accounting-and-finance/our-programs).

The Centre was founded in 1998 by the School of Accounting and Finance at the University of Waterloo. The founding sponsors were the Chartered Professional Accountants of Canada (CPA Canada) and the Information Systems Audit and Control Association (ISACA).<sup>1</sup> The sponsors' objectives were to improve the quality of education and research in information integrity and information systems assurance, and to foster a close and continuing working relationship between the School, the sponsors and other partners with an interest in information integrity and information systems assurance. The Centre was renamed from the Centre for Information Systems Assurance to the Centre for Information Integrity and Information Systems Assurance in 2008 (retaining the acronym UWCISA) in recognition of the need to broaden the Centre's mandate and activities beyond systems assurance to information integrity. UWCISA is an administrative sub-unit within the Centre of Accounting Research and Education (CARE).

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<sup>1</sup> The following name changes have taken place since the founding of the UWCISA. ISACA replaced Information Systems Audit and Control Association on January 1, 2006. The School of Accounting and Finance replaced The School of Accountancy on November 19, 2007. Chartered Professional Accountants of Canada (CPA Canada) replaced Canadian Institute of Chartered Accountants (CICA) on April 1, 2013.



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## DIRECTOR'S MESSAGE

To the Board of Directors:

I am pleased to present this report on the operations and activities of the University of Waterloo Centre for Information Integrity and Information Systems Assurance during 2016, our nineteenth year of operation.

This year marks the first year in a renewed three-year funding commitment by the Centre's sponsors for the period 2016–2018, inclusive.

During the year, we continued our thought leadership role through service on CPA Canada's Assurance Innovation Committee (AIC) and the AICPA's Trust Services Information Integrity, Cybersecurity, and Data Analytics Task Forces. We also continued our research activities related to information integrity, IT governance, risk and internal control, business model and business process documentation, XBRL and data analytics and presented our research at a number of conferences as detailed in the report. During the year, we saw a number of publications result from these efforts as detailed in this report. Our work in progress includes projects addressing IT governance, risk and internal control, cybersecurity, information integrity, business model presentation for Integrated Reporting <IR>, robotics, AI and machine learning, and data analytics and visualization.

I am delighted to report that our research productivity in the field of accounting information systems has been recognized by our second place ranking in the global rankings of universities produced by Brigham Young University. These rankings are based on classifications of peer reviewed articles in 12 key accounting journals since 1990. We are also planning to expand our PD offerings in the areas of data analytics and visualization and cybersecurity during the coming year. We continue to work with other Centres with similar purposes, strengthening an international network for mutual support of our respective missions. We are also working to expand our relationship with the Institute of Internal Auditors (IIA) which has accredited UW's internal auditing education curriculum under its IAEP program. We are actively preparing for our 10th Biennial Research Symposium on Information Integrity and Information Systems Assurance to be held in October 2017.

We continue to welcome new partners to share in our mission. I thank the Centre's Board members and sponsors for their continued support. I look forward to working closely with all of you in the future.

Respectfully,

A handwritten signature in black ink, appearing to read 'J.E. Boritz'.

Dr. J.E. Boritz, FCPA, FCA, CISA

*Director*

## OPERATIONS AND ACTIVITIES FOR 2016

### RESEARCH

#### THOUGHT LEADERSHIP

The Centre provided thought leadership in several areas during 2016.

Our research productivity in the field of accounting information systems continues to be recognized by our second place ranking in the global rankings of universities produced by Brigham Young University. This is an advance from third place last year. These rankings are based on classifications of peer reviewed articles in 12 accounting journals since 1990. For more information about the rankings visit [byuaccounting.net/rankings/univrank/rank\\_university.php](http://byuaccounting.net/rankings/univrank/rank_university.php).

#### BIG DATA/DATA ANALYTICS

Audit Data Analytics (ADA): A Guide for Practitioners. Author is Greg Shields supported by an AICPA Task Force of which the Director is a member. The objective is to update the AICPA guide on Analytical Procedures with information on Audit Data Analytics. Publication is expected in mid-2017.



Theo Stratopoulos

Audit Data Analytics (ADA): Current State & Future Directions. Research Team is Theo Stratopoulos and Clark Hampton. The objective is to summarize the current state of data analytics in Canada. This paper was presented at the AAA 2016 Accounting IS Big Data Conference in San Francisco, CA, September 15–16, 2016. Funding for the survey was provided by CPA Canada.



Clark Hampton

Audit Data Analytics Use: An Exploratory Analysis. Research Team is Theo Stratopoulos, Clark Hampton and Chris Wolf. This paper will be presented at the AIS/SET midyear meeting in Orlando, FL, January 19–21, 2017.



Chirs Wong

Big Data and Analytics: Opportunity or Threat for the Accounting Profession. Research Team is Greg Richins, Andrea Stapleton, Theo Stratopoulos and Chris Wong. The objective is to discuss the anticipated impact of big data on the accounting profession. This paper was presented at *Journal of Information Systems (JIS)* Conference in Pleasanton, CA, October 13–14, 2016 and will be published in a special JIS issue on big data and data analytics in 2017. The paper was on the Social Science Research Network's (SSRN) top ten downloads list for several weeks.

#### CYBERSECURITY

Are External Auditors Concerned about Cyber Incidents? Evidence from Audit Fees. Research team is He (Staneley) Li and Won Gyun No, Rutgers University, and Efrim Boritz. The objective is to explore issues related to cybersecurity with relevance to risk management, internal control, and assurance. This paper will be presented at AAA midyear meeting of the Auditing Section, January 12–14, the AAA midyear meeting of the AIS/SET section January 19–21, 2017, in Orlando, FL, and at the International Symposium on Accounting Information Systems (ISAIS) to be held in Valencia, Spain, May 8–9, 2017.

AICPA Cybersecurity Working Group. The Director is part of the working group that is currently working on cybersecurity reporting and assurance guidelines.



He (Stanley) Li



Won Gyun No

#### BUSINESS RISK ASSESSMENT

Business Models and Business Model Descriptions: A Research Synthesis. Research team is Efrim Boritz and Giselle White. This paper addresses a series of research questions aimed at exploring the nature of business models and business model descriptions to better understand how they are and can be used in accounting and auditing. It was presented at the AAA annual meeting in New York, NY, August 6–10, 2016 and is under review at an accounting journal.



Giselle White

#### INFORMATION INTEGRITY

Information Integrity Control Guidelines. Project team is Efrim Boritz and Malik Datardina. The objectives are to: 1) define information integrity and to identify information integrity risks and controls for mitigating those risks; 2) define assurance practices for information integrity services; 3) interview or survey audit team members about their views on information integrity risks, controls and assurance practices. Funding is being provided by CPA Canada. Research is in progress and nearing completion.

#### IT GOVERNANCE, RISK AND INTERNAL CONTROL

Determinants of Readability of SOX 404 Reports. Research Team is Efrim Boritz, Louise Hayes and Lev Timoshenko. The objective is to investigate the determinants of readability of SOX 404 reports. This paper was presented at the AAA auditing section midyear



meeting research forum in Scottsdale, AZ, January 14–16, 2016 and at the CAAA annual conference in St. John's, Newfoundland, June 2–4, 2016. This paper was published in *Journal of Emerging Technologies in Accounting* (JETA): Fall 2016.



Louise Hayes

Understandability of Auditors' Internal Control Reports. Research Team is Efrim Boritz, Louise Hayes and Lev Timoshenko. The objective is to evaluate information content of SOX 404 internal control reports. This paper was presented at the AAA annual meeting in Atlanta, August 2014; the AAA annual meeting in Chicago, August 2015; the World Banking and Finance Conference in Hanoi, Vietnam, December 2015; and the AAA annual meeting in New York, NY, August 6–10, 2016. This paper is being submitted to an auditing journal.



Lev Timoshenko

## INTEGRATED REPORTING

Business Models in Integrated Reporting. Research team is Efrim Boritz and Giselle White. The objective is to review and evaluate the presentation of business models in integrated reports. This paper has been accepted for presentation at the International Symposium on Accounting Information Systems (ISAIS) to be held in Valencia, Spain, May 8–9, 2017.

Communicating Value Creation in Integrated Reporting. Research team is Efrim Boritz and Giselle White. The objective is to review and evaluate the presentation of value creation information in integrated reports.

## ROBOTICS, MACHINE LEARNING AND AI

Classifying Restatements: An Application of Machine Learning and Textual Analysis. Research team is Louise Hayes, University of Guelph and Efrim Boritz. The objective is to explore uses of machine learning technologies with applications to accounting and auditing. This paper was presented at the AAA annual conference in New York, NY, August 6–10, 2016. It will be presented at the AAA midyear meeting in Orlando, FL, January 12–14, 2017 and the European Auditing Association Conference in Valencia, Spain, May 10–12, 2017.

Do Differences in CFO Background Matter to Financial Statement Quality? An Application of Machine Learning and Textual Analytics. Research team is Louise Hayes, University of Guelph and Efrim Boritz. The objective is to explore uses of machine learning technologies with applications to accounting and auditing.

Robotics, Controls and Assurance. Research team is Robert Parker and Efrim Boritz. The objective is to consider the impact of the developing uses of robots on risk, control and assurance issues.

Robert Parker's article on self-driving cars, "Home James", won Best Resource/Infrastructure Article at the Kenneth R. Wilson awards presented by the Canadian Business Media Association in Toronto, June 7, 2016. To read the article go to: [cpacanada.ca/en/connecting-and-news/cpa-magazine/articles/2015/june/home-james](http://cpacanada.ca/en/connecting-and-news/cpa-magazine/articles/2015/june/home-james).



Robert Parker

## USE OF SPECIALISTS IN AUDITING

Auditors' and Specialists' Views about the Use of Specialists during an Audit. Research team is Efrim Boritz, Natalia Kochetova-Kozloski, St. Mary's University, Linda Robinson and Chris Wong. The objective is to describe current practices in using specialists in the audit. This paper was presented at the CAAA annual conference in Edmonton, May 2014; the AAA auditing section midyear meeting in Miami, January 2015; the European Accounting Association (EAA) Annual Conference in Glasgow, Scotland, April 2015; the Public Company Accounting Oversight Board (PCAOB) Standards Advisory Group Meeting in 2015; and the International Symposium on Audit Research (ISAR) in Boston, June 2015. This paper is currently under review.



Natalia Kochetova-Kozloski



Linda Robinson

## XBRL

Computer-Assisted Tools for Auditing XBRL Related Documents. Research Team is Efrim Boritz and Won Gyun No, Rutgers University. This paper was presented at the AAA midyear meeting in January 2009 in Charleston, SC; the XBRL International Conference in Paris, June 2009; the UWCISA Symposium, October 2009; and the XBRL conference, Kansas, April 2011. This paper was published in the *Journal of Emerging Technologies in Accounting* (JETA), December 2016.

The Quality of Interactive Data: XBRL versus Compustat, Yahoo Finance, and Google Finance. Research team is Efrim Boritz and Won Gyun No. This paper was presented at the 25th XBRL International Conference in Yokohama, Japan, November 2012, the AAA IS section midyear meeting in Ft. Lauderdale, FL, January 2013, the 26th XBRL International Conference in Dublin, Ireland, April 2013, and the AAA annual meeting in Anaheim, CA, August 2013. It was on SSRN's top download list for several months in the spring and summer of 2013. The paper is being revised for resubmission to an accounting journal.



Jap Efendi

The Impact of Senior Management Competencies on the Voluntary Adoption of an Innovative Technology. Research Team is Efrim Boritz, Jap Efendi, University of Sydney, Australia, and Jee-Hae Lim. The objective is to determine which management competencies (IT or Financial) were most strongly associated with voluntary adoption of XBRL during the SEC's XBRL voluntary filing program. This paper was presented at the XBRL 25th International Conference in Yokohama, Japan, November 2012, the AAA IS section midyear meeting in Ft. Lauderdale FL, January 2013; the International Conference on Information Systems (ICIS) in Auckland, NZ, December 2014; and an invited workshop series at Queensland University of Technology in Brisbane, AU, November 2015. This paper was accepted for publication in the *Journal of Information Systems* (JIS).



Jee-Hae Lim

XBRL Adoption and Bank Loan Contracting: Early Evidence. Research team is Gary Chen, Jeong-Bon Kim, Jee-Hae Lim and Jie Zhou. The objective is to examine how the adoption of XBRL for financial reporting impacts the pricing of bank loans. This paper was presented at the CAAA annual conference in Toronto, May 2015 and was accepted for publication in the *Journal of Information Systems* (JIS).

The SEC's XBRL Mandate and Credit Risk: Evidence on a Link between Credit Default Swap Pricing and XBRL Disclosure. Research team is Paul A. Griffin, Hyun A. Hong, Jeong-Bon Kim and Jee-Hae Lim. The objective is to examine how XBRL might relate to the default risk and information risk components of credit spread. This paper was presented at the AAA AIS midyear meeting in Charleston, SC, January 2015 and received "The Best Paper Award". The paper is being prepared for submission to an accounting journal.

An Examination of Potential Benefits of XBRL Reporting: Does XBRL Affect Firms' Long-Term Stock Liquidity? Research team is Jee-Hae Lim, Vernon J. Richardson and Rodney Smith. The objective is to examine potential benefits of XBRL reporting, focusing on the impact on market liquidity. This paper was presented at the AAA joint AIS/SET section midyear meeting in Houston, TX, January 21–23, 2016 and AAA annual meeting in New York, NY, August 6–10, 2016. The paper is being prepared for submission to an accounting journal.

The Impact of Service Provider Switches on XBRL Quality. Research team is Jee-Hae Lim and Tawei Wang. The objective is to examine the impact of service provider selections and switches on information comparability

among firms from different industries and across the pre- and post-XBRL periods. This paper was presented at the AAA joint AIS/SET section midyear meeting in Houston, TX, January 21–23, 2016 and at the Pacific Asia Conference on Information Systems in Chiayi, Taiwan, June 27–July 1, 2016, where it received "The Best Paper Award". The paper is being prepared for submission to an accounting journal.

The Effect of XBRL Adoption on the Receipt and Remediation of SEC Comment Letters. Research team is Min Jeong (Minna) Hong, and Jee-Hae Lim. The objective is to examine the effect of XBRL and the extent of customized extension element usage on the SEC's review process. This paper will be presented at the AAA midyear meeting of the AIS/SET section January 19–21, 2017, in Orlando, FL.

## TRUST SERVICES

Trust Services Task Force. The Director is serving on the AICPA task force to update Trust Services Principles and Criteria. The task force is also updating the 2015 Guide on Reporting on Controls at a Service Organization (SOC 2®).

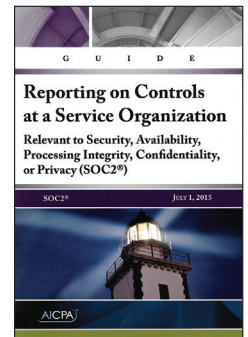
## FUNDING SPECIFIC RESEARCH AND EDUCATION PROJECTS

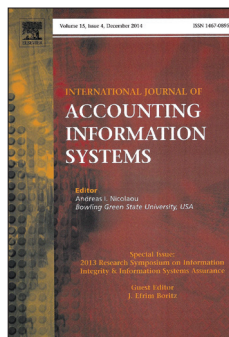
UWCISA's funding comes from donations provided by our generous sponsors, research grants from various agencies, professional development offerings and publication revenues. UWCISA is exploring new fundraising options to help the Centre establish a full-time staff to conduct its research, education and professional development offerings and activities on a long-term, sustainable basis.

We welcome new partners to help us achieve the Centre's mission.

## FELLOWSHIPS AND SCHOLARSHIPS

UWCISA makes funds available for Visiting Fellows and doctoral students. Our next fellow, Dr. Miklos Vasarhelyi of Rutgers University, will be visiting in 2017.





## SPONSORING RESEARCH SYMPOSIUM

### INFORMATION INTEGRITY AND INFORMATION SYSTEMS ASSURANCE SYMPOSIUM

The 9th Biennial Research Symposium was held October 1–3, 2015 at the Renaissance Hotel, One Blue Jays Way, Toronto, Canada. The symposium was sponsored by the University of Waterloo, CPA Canada, CaseWare IDEA Inc., ISACA Toronto Chapter, the Strategic and Emerging Technologies Section of the American Accounting Association, and the *International Journal of Accounting Information Systems*.

A special issue of the *International Journal of Accounting Information Systems* was published in September 2016, containing selected papers from UWCISA's 2015 Symposium, available at [sciencedirect.com/science/journal/14670895/22](http://sciencedirect.com/science/journal/14670895/22).

## EDUCATION AND KNOWLEDGE TRANSFER

### DEVELOPING COURSES, WORKSHOPS, CASES AND OTHER TEACHING MATERIAL

#### COURSES

##### IT Law



Darren Charters

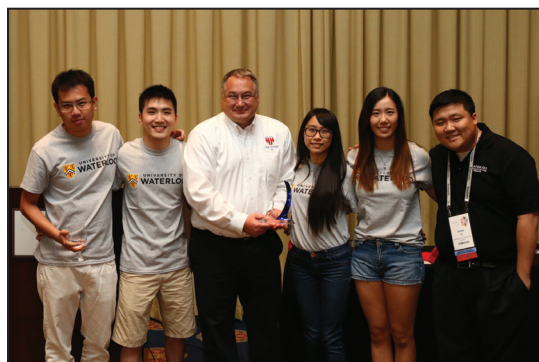
Under the leadership of Darren Charters the Centre sponsored the development and implementation of a course in IT Law.

##### IT Controls and Assurance

Under the leadership of Malik Datardina of Deloitte, the Centre sponsored the development and implementation of a course on IT controls and assurance.

##### Data Analytics and Visualization

Under Theo Stratopoulos' leadership and with the assistance of Malik Datardina of Deloitte, Kieng Iv of Brookfield Asset Management and May Leung of BMO, the Centre sponsored the development and implementation of a Business Analytics stream within the accounting program at the University of Waterloo. In addition to pre-requisite foundation courses in Statistics, Business Systems and Accounting



Information Systems, the program includes the following courses: Introduction to Data Analytics and Visualization; Intermediate Data Analytics and Visualization; Data Analytics for Assurance and Fraud Detection. As well, the University of Waterloo data analytics team, mentored by Kieng Iv and May Leung, won the "Most Value to Hire Heroes" award at Teradata University Network's 2016 Data Challenge held in Atlanta, GA, September 10-15, 2016.

#### WORKSHOPS

A data analytics and data visualization workshop on using IDEA, TABLEAU and R was presented by Kieng Iv, May Leung and Theo Stratopoulos at CPA Canada and sponsored by CaseWare IDEA Inc., in Toronto, July 6, 2016.

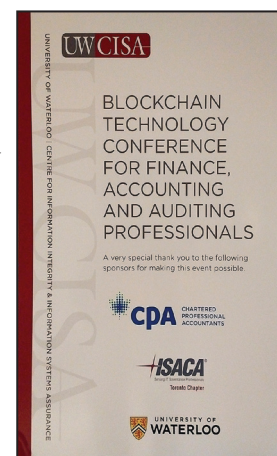


A blockchain technology conference for finance, accounting and auditing professionals was held in Toronto, September 30, 2016.

Topics covered included: a technology overview; blockchain risk intelligence and anti-money laundering; security; adoption; compliance; and the future of blockchain auditing and assurance.

### SHARING MATERIAL WITH OTHER EDUCATORS

A variety of materials is available for use by academics and practitioners. For information, please contact the Director.





## INTERACTION

### ALLIANCES AND RELATIONSHIPS

As part of its mission to interact with academe and practice, the Centre seeks to create and sustain relationships with academic units with similar objectives and professional associations with an interest in information integrity and information systems assurance. During the year, the Centre supported the following activities:

- As part of UWCISA's alliance with the SET section of the AAA, the Director has been the special editor on three calls for papers this year:  
Robotics, Machine Learning and Artificial Intelligence  
Blockchain Technology  
Cybersecurity Assurance

For more information please visit the SET section of the AAA at [aaahq.org/SET](http://aaahq.org/SET).

- Clark Hampton continues to lead the Centre initiative assisting the School of Accounting and Finance to develop its accredited program under the IIA's IAEP (Internal Auditing Education Program). Approval was received in July 2012. The relationship between the Centre and IIA continues to strengthen.
- Louise Hayes is a member of CPA Canada's Audit and Assurance Technology Committee.
- Theo Stratopoulos, Kieng Iv and May Leung are members of CPA Canada's Audit Data Analytics Task Force.
- Malik Datardina is a member of CPA Canada's Audit Data Analytics Committee and Audit and Assurance Technology Committee.
- The Director is a member of CPA Canada's Assurance Innovation Committee and the AICPA's Trust Services Information Integrity Task Force, CyberSecurity Task Force and Audit Data Analytics Task Force.

### DISSEMINATING BEST PRACTICES

#### CONFERENCES

Centre personnel made presentations at a number of conferences during 2016:

- the American Accounting Association (AAA) Annual Meeting,
- the AAA Accounting IS Big Data Conference,

- the AAA Accounting Information Systems Section Midyear Meeting,
- the AAA Auditing Section Midyear Meeting,
- the AAA *Journal of Information Systems* (JIS) Conference,
- the AAA Strategic and Emerging Technologies (SET) Section Midyear Meeting,
- the Canadian Academic Accounting Association (CAAA) Annual Conference,
- the CPA Canada IT Audit, Governance and Security Conference,
- the Pacific Asia Conference on Information Systems,
- the World Banking and Finance Conference.

## COMMUNICATION

### WEBSITE AND SOCIAL MEDIA OUTREACH

UWCISA's website, [uwaterloo.ca/uwaterloo-centre-for-information-system-assurance](http://uwaterloo.ca/uwaterloo-centre-for-information-system-assurance), serves as the Centre's portal. It includes calls for papers and research proposals, a resources section, a number of links and downloadables, and the IS Assurance blog.

UWCISA's most current Annual Report is posted to the website and summarizes the Centre's current year's activities. The reports are disseminated both electronically and in hardcopy formats. Past reports can be requested online at [uwaterloo.ca/uwaterloo-centre-for-information-system-assurance/annual-reports/request-annual-report](http://uwaterloo.ca/uwaterloo-centre-for-information-system-assurance/annual-reports/request-annual-report).

Our website is linked to key social networks such as Facebook, LinkedIn and Twitter. These social networks give us an opportunity to share information (like the flyer for the Symposium) with people who would not normally be closely tied to our Centre.

Articles in ISACA's Toronto Chapter Newsletter have been used to communicate UWCISA's activities to Chapter members.

### IS ASSURANCE WEBLOG

Malik Datardina maintains our blog at [uwcisa-assurance.blogspot.com](http://uwcisa-assurance.blogspot.com).



Malik Datardina

## FUTURE PLANS

*In the next twelve months, UWCISA will maintain its current research, education and knowledge transfer, interaction activities, and will undertake new initiatives as well. Plans for each key category are outlined below.*

## RESEARCH

### THOUGHT LEADERSHIP

UWCISA will continue working on the following projects during 2017:

- **Blockchain Technology.** Through a workshop and publications we will contribute to the development of understanding of this technology among accounting, finance and assurance practitioners and academics.
- **Business Model Descriptions and Business Risk Assessment.** Three papers on this topic will be completed and submitted for presentation at various conferences and publication.
- **Cybersecurity.** Through membership on the AICPA Trust Services Task Force we will contribute to the development of criteria for reporting on an entity's cybersecurity risk management program. One paper on this topic will be presented at various conferences and submitted for publication.
- **Information Integrity.** One monograph on this topic is being prepared for publication, and a new project will be started.
- **IT Governance, Risk and Internal Control.** Two papers on this topic will be completed and submitted for presentation at various conferences and publication.
- **Integrated Reporting.** Two papers on this topic will be completed and submitted for presentation at various conferences and publication.
- **Online Privacy.** One paper on this topic is being revised for presentation and publication.
- **Robotics and AI.** An article on this topic is being prepared.
- **Use of Specialists.** One paper on this topic is being revised for presentation and publication.
- **XBRL.** Two papers on this topic will be completed and submitted for presentation at various conferences and three papers are being prepared for publication.



### FUNDING SPECIFIC RESEARCH AND EDUCATION PROJECTS

UWCISA's fundraising committee will continue seeking ways to expand the funding base for the Centre. We invite partners to join us in our mission to improve the integrity of information and the quality and reliability of information systems and the processes used to create, implement, operate, maintain and change them.

### RESEARCH PROPOSALS

For Research Proposal Guidelines, visit [uwaterloo.ca/uwaterloo-centre-for-information-system-assurance/call-proposals](http://uwaterloo.ca/uwaterloo-centre-for-information-system-assurance/call-proposals).

### FELLOWSHIPS AND SCHOLARSHIPS

UWCISA will make funds available for Visiting Fellows and doctoral students. For details, contact the Director.

During the summer of 2017 UWCISA will host a visit by Dr. Miklos Vasarhelyi of Rutgers University, New Brunswick, New Jersey, USA.



Miklos Vasarhelyi

### SPONSORING RESEARCH SYMPOSIUM

The 10th Biennial Research Symposium will be held October 19-21, 2017 at the Renaissance Toronto Downtown Hotel, 1 Blue Jays Way, Toronto, Canada. The symposium is sponsored by the University of Waterloo, CPA Canada, ISACA Toronto Chapter, CaseWare IDEA Inc., the AAA's Strategic and Emerging Technologies (SET) Section, and the *International Journal of Accounting Information Systems*. We are also pleased to welcome Avenir as a new platinum sponsor of the symposium.

# AUENIR™

A Deloitte venture

A special issue of the *International Journal of Accounting Information Systems* will be published in 2018 containing selected papers from UWCISA's 2017 Symposium.

## EDUCATION AND KNOWLEDGE TRANSFER

### DEVELOPING COURSES, WORKSHOPS, CASES AND OTHER TEACHING MATERIAL

#### COURSES

Under Theo Stratopoulos' leadership and with the assistance of Malik Datardina and Kieng Iv the Centre has sponsored the development of a Business Analytics stream at the University of Waterloo. The program will be expanded in 2017.



Kieng Iv

#### WORKSHOPS

PD Workshops developed by the Centre on Blockchain Technologies for Accounting, Auditing and Assurance, Cybersecurity Risks, Controls and Assurance, Data Analytics and Data Visualization, and Audit Automation are being planned for 2017.



May Leung

### SHARING MATERIAL WITH OTHER EDUCATORS

The Centre will continue to share its material with educators around the world. For information, please visit our website or contact the Director.

## INTERACTION

### ALLIANCES AND RELATIONSHIPS

As part of its mission to interact with academe and practice, the Centre seeks to create and sustain relationships with academic units with similar objectives, professional associations and industry partners with an interest in information integrity and information systems assurance. In the coming year we will continue our outreach to units with similar goals and objectives to develop an international network for mutual support.

## DISSEMINATING BEST PRACTICES

### CONFERENCES

Centre personnel will make presentations at a number of conferences during 2017, including: the American Accounting Association (AAA) Auditing, AIS and SET section Midyear Meetings, the AAA Annual Meeting, the Canadian Academic Accounting Association (CAAA) Annual Conference, the International Symposium on Accounting Information Systems (ISAIS), the European Accounting Association (EAA) Annual Conference, and the World Banking and Finance Conference.

## COMMUNICATION

### WEBSITE AND SOCIAL MEDIA OUTREACH

- Robert Parker will provide an environmental scan for 2017 that will be posted on the UWCISA website in summer of 2017.
- Various social media networks will continue to be used (Facebook, Twitter, YouTube and LinkedIn).
- UWCISA plans to continue to improve the site in 2017, particularly for accessibility.

Your comments are welcome.

### IS ASSURANCE WEBLOG

- Malik Datardina will continue to manage the IS Assurance blog on behalf of the UWCISA.

## CENTRE PERSONNEL



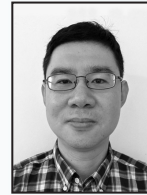
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CPAs Chair in Accounting  
Director*



*Darren Charters  
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Centre for  
Information Integrity and  
Information Systems Assurance

*The University of Waterloo Centre  
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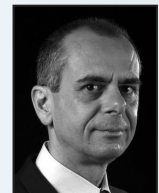
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**WATERLOO**  
ACCOUNTING AND  
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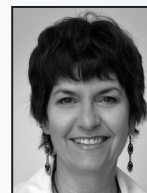
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