

**INNOVATION &  
ENTREPRENEURSHIP  
FORUM**

**ARTIFICIAL INTELLIGENCE  
“AI SQUARED”**

**MAY 03-04, 2018**

University of Toronto



UNIVERSITY OF  
**TORONTO**



清华大学

TSINGHUA UNIVERSITY

## Table of Contents

About the University of Toronto – Tsinghua University Forum ....	1
Delegates from Tsinghua University, China.....	2
PROGRAM.....	3
Thursday May 3, 2018: Launch of Forum & Showcase.....	3
Friday May 4, 2018: Research Talks .....	5
Biography & Presentation Abstract .....	7
Tsinghua University .....	7
University of Toronto .....	21
Map .....	31
Contact .....	32

## About the University of Toronto – Tsinghua University Forum

**Tsinghua University** and the **University of Toronto** are pleased to announce the launch of the Toronto – Tsinghua Entrepreneurship and Innovation Forum!

For 2018, *Artificial Intelligence* builds on the intense interest created by the launch of the Vector Institute in Toronto.

The aim of the forum is to bring together leading researchers, entrepreneurs, innovators, and students to discuss opportunities for research collaboration and partnerships in areas of topical and complementary interest.

The forum will showcase the world-class research programs and entrepreneurial activities of the two institutions through keynote talks, research presentations, and a student showcase event. The latter will focus on how students and faculty are translating their research activities from the university into the real world, including the challenges of launching start-ups and securing funding.

By having presentations from both Tsinghua and the University of Toronto, participants and forum attendees will be able to compare and contrast the innovation and entrepreneurship landscapes of both cities and countries.

University of Toronto and Tsinghua University have been collaborating on education and research since 2004. Opportunities such as the Innovation and Entrepreneurship Forum will strengthen and advance the innovative potential between both institutions, developing a global entrepreneurial ecosystem.



## Delegates from Tsinghua University, China

- Prof. Hong Gao, Vice Provost, International Education, Professor
- Prof. Minlie Huang, Associate Professor, Department of Computer Science and Technology
- Prof. Yu Wang, Associate Professor and Associate Dean, Department of Electronic Engineering
- Prof. Cangbi Yu, Executive Director of the Secretariat, Innovation and Entrepreneurship Education Alliance of China
- Prof. Xiaoyan Zhu, Department of Computer Science and Technology, Director of State Key Laboratory of Intelligent Technology and System
- Dr. Quanhong Shen, Incubation Business Director of TusHoldings Co., Ltd.; General Manager of Beijing TusPark Business Incubator Co., Ltd.
- Dr. Jun Ma, Director, Overseas Research and Development Management Office
- Ms. Bo Meng, Associate Dean, Office of International Cooperation and Exchange
- Mr. Don Qiu, Director for Cases Studies of the Institute of Data Science at Tsinghua University
- Ms. Yu Long, Program Manager, Global Partnership, Office of International Cooperation and Exchange

### VIP Alumnus

- Mr. Hongqiang Zhao, Partner, Board member and CFO, 100Credit; Alumnus, School of Economics and Management, Tsinghua University

## PROGRAM

Thursday May 3, 2018: Launch of Forum & Showcase

Location: Leslie L. Dan Pharmacy Building, 144 College St

- 1:00–2:00pm **Forum Registration**  
Location: Pharmacy Building, PB150, Leslie Dan Faculty of Pharmacy, 144 College St.
- 2:00–2:05pm **Welcome & Opening Remarks**
- **Prof. Chris Yip**, Associate Vice-President, International Partnerships
- 2:05–2:10pm **Remarks from the Consulate General of the P.R. of China**
- **Deputy Consul General Hong Hong**  
(accompanied by **Consul Sung**)
- 2:10–2:20pm **Remarks from Tsinghua University**
- **Prof. Hong Gao**, Vice Provost, International Office
- 2:30–2:50pm **Scene Setter — Promise and Potential of AI**
- **Prof. Alán Aspuru-Guzik**, Canada 150 Research Chair in Theoretical & Quantum Chemistry, U of T; Faculty Member, Vector Institute
- 2:50–3:00pm Coffee break

- 3:00-3:05pm **Research & Innovation at U of T**
- **Prof. Vivek Goel**, Vice-President, Research and Innovation
- 3:05–3:20pm **Entrepreneurship Landscape at Tsinghua and in China**
- **Dr. Cangbi Yu**, Senior Engineer, Executive Director of the Secretariat at the Innovation and Entrepreneurship Education Alliance of China (IEEAC)
- 3:20-3:30pm **Practice in Chinese Data Innovation Ecosystem**
- **Mr. Don Qiu**, Director for Cases Studies of the Institute of Data Science, Tsinghua University
- 3:30–5:00pm **Panel Showcase Presentations:**  
Discussion on AI Applications  
Moderator: Prof. Cynthia Goh
- **100Credit:** Mr. Hongqiang Zhao, Partner, Board member and CFO, 100Credit
  - **Blue J Legal:** Prof. Albert Yoon, Professor and Chair in Law and Economics U of T, co-founder of Blue J Legal
  - **Beijing DeePhi Tech:** Prof. Yu Wang, Associate Professor, Department of Electronic Engineering, Co-founder of Beijing DeePhi Tech
  - **WinterLight Labs:** Mr. Bill Simpson, Medical Science Liaison, WinterLight Labs
- 5:00–6:00pm **Cocktail Reception**  
Location: Atrium, Leslie L. Dan Pharmacy Building,  
144 College St

## Friday May 4, 2018: Research Talks

Location: Leslie L. Dan Pharmacy Building, 144 College St

8:00–9:00am **Registration**

9:00–9:10am **Welcome to Research Talks & Introductions**

- **Ms. Bo Meng**, Associate Dean, International Office of Cooperation and Exchange

9:10-9:30am **Keynote: Artificial Intelligence: How children’s lies lead to better artificial intelligence?**

- **Prof. Kang Lee**, Tier 1 Canada Research Chair, Dr. Eric Jackman Institute of Child Study, Applied Psychology and Human Development, OISE; Chief Science Officer, NuraLogix Corp

9:30–10:30am **Plenary A: AI – Machine Learning – Deep Learning**  
Moderator & speaker: **Prof. Joyce Poon**, Electrical and Computer Engineering, U of T

- **Prof. Xiaoyan Zhu**, Professor, Department of Computer Science and Technology, Director of State Key Laboratory of Intelligent Technology and System, Tsinghua University
- **Prof. David Fleet**, Computer and Mathematical Sciences, U of T
- **Prof. Yu Wang**, Associate Professor, Department of Electronic Engineering, Tsinghua University, Co-founder of Beijing DeePhi Tech

*Breakout Room reserved PB1210 (12th Floor) for collaborative discussions from 10:30-12noon*



10:30–11:30am **Plenary B: AI & its Applications**

Moderator: **Prof. Cynthia Goh**

- **Prof. Frank Rudzicz**, Computer Scientist (UHN), Assistant Professor (Comp Sci) U of T, Co-founder and President of WinterLight Labs
- **Prof. Minlie Huang**, Associate Professor, Department of Computer Science and Technology, Tsinghua University
- **Prof. Anna Goldenberg**, Scientist, Genetics and Genome Biology Program, at SickKids Research Institute, Assistant Professor, Computer Science (Computational Biology Group) U of T

*Breakout Room reserved PB800 (8th Floor) for collaborative discussions from 11:30am-12:30pm.*

11:30–2:00pm **Closing Reception**

- **Prof. Chris Yip**, Associate Vice-President, International Partnerships

*Lunch will be served at 12 noon*



## Biography & Presentation Abstract

(alphabetic order)

### Tsinghua University

#### **Hong Gao**

Vice Provost for International Education and Director of International Education Office at Tsinghua University. She is responsible for coordinating and increasing the accessibility of international education for both undergraduate and graduate students. She works closely with the Academic Affairs Office, the Graduate School, and the Office of International Cooperation and Exchange at Tsinghua towards the goal of educating future talents with global competence - an important element in the University's Global Strategy put forward in 2015. To realize this goal, she is making efforts to integrate global competence into learning outcomes of the curriculum, co-curriculum and extra-curriculum university-wide. She is also leading the development of online tutorial platform and training programs, enabling students to enhance their cross-cultural abilities in multiple dimensions. She has been supporting and facilitating the launch and operation of the Schwarzman Scholars Program, the Tsinghua-Berkeley Shenzhen Institute (TBSI), the Global Innovation Exchange Institute (GIX) in collaboration with the University of Washington, and the China-Italy Design Innovation Hub in collaboration with Politecnico di Milano.

Dr. Hong Gao received her B.S. degree in physics from Tsinghua University in 1982 and Ph.D. in physics from Louisiana State University in 1991. After one-year postdoctoral research at la Laboratoire Aime Cotton du Centre National de la Recherche Scientifique, Université



Paris-Sud, she became member of the faculty at Department of Physics in Tsinghua University. She joined the Graduate School in 1999 and served as the Associate Dean from 2006 to 2015, overseeing graduate and international programs, before she became Vice Provost in 2015. She served as President of the Association for Engineering Education in Southeast and East Asia and the Pacific (2009-2011) and Vice Secretary General of Chinese Society of Academic Degrees and Graduate Education (2011-2015).

高虹博士是清华大学国际教育副教务长、国际教育办公室主任、物理教授。她通过与学校各院系以及教务处、研究生院和国际处等的合作，致力于推进全校本科生和研究生的国际教育，特别是为实现学校培养具有全球胜任力的创新人才这一战略目标，努力推进全球胜任力培养融入学生的培养目标和培养过程，并通过建设信息平台为学生提升跨文化理解力和全球胜任力提供支持和帮助。她还负责协调苏世民学者项目、清华-伯克利深圳学院（与伯克利加州大学合作）、全球创新学院（与华盛顿大学合作）和中意设计创新基地（与米兰理工学院合作）等国际化办学项目的工作推进。

高虹博士于 1982 年在清华大学获物理学学士学位并留校任教。1991 年在美国路易斯安那州立大学获物理博士学位。1992 年在法国国家科学研究中心从事博士后研究工作。1993 年回到清华大学物理系任教，从事物理教学和研究工作。1999 年 8 月加入清华大学研究生院任培养办公室主任，2006-2015 年任研究生院副院长，主要负责研究生培养管理和国际化培养管理相关工作。2015 年起任国际教育副教务长。2009-2011 年曾任东南亚、东亚、大洋洲工程教育协会的轮值主席。2011-2015 年曾任中国学位与研究生教育学会副秘书长，2014 年至今任中国学位与研究生教育学会学术委员会副主任。

## Minlie Huan

Associate Professor, Department of Computer Science and Technology

Associate professor of Dept. of Computer Science and Technology, Tsinghua University. He received his PhD degree in 2006. He was awarded “Tsinghua Excellent Researcher Fellowship” in 2006 and was selected by “Beijing Century Young Elite Program” in 2013. He has published 50+ papers on top conferences such as ACL, AACL, IJCAI, EMNLP, KDD, ICDM, CIKM, and highly-impacted journals like TOIS, Bioinformatics, JAMIA etc. He served as area chairs for ACL 2016, EMNLP 2014, EMNLP 2011, and IJCNLP 2017, and Senior PC of IJCAI 2017/2018, and reviewers for ACL, IJCAI, AACL, EACL, COLING, EMNLP, NAACL, CIKM, ICDM, SDM, and reviewers for journals such as TOIS, TKDE, TALIP, etc. As principle investigator, he had established many collaborations with industrial companies such as Samsung, Microsoft, HP, Fujitsu, Google, ExxonMobil, Sogou, and Tencent. His homepage is at: <http://aihuang.org/p>

**黄民烈**，清华大学计算机系副教授，博士生导师。研究兴趣主要集中在人工智能、深度学习、强化学习，自然语言处理如自动问答、人机对话系统、情感与情绪智能等。已超过50篇CCF A/B类论文发表在ACL、IJCAI、AAAI、EMNLP、KDD、ICDM、ACM TOIS、Bioinformatics、JAMIA等国际顶级和主流会议及期刊上。SCI他引近400次。曾担任多个国际顶级会议的领域主席或高级程序委员，如IJCAI 2018、IJCAI 2017、ACL 2016、EMNLP 2014/2011，IJCNLP 2017等，担任ACM TOIS、TKDE、TPAMI、CL等顶级期刊的审稿人。作为负责人或学术骨干，负责或参与多项国家973、863子课题、多项国家自然科学基金，并与国内外知名企业如谷歌、微



软、三星、惠普、美孚石油、斯伦贝谢、阿里巴巴、腾讯、百度、搜狗、美团等建立了广泛的合作。获得专利授权近10项，其中2项专利授权给企业应用

*Topic: Building Intelligent Chatting Machines: Emotion, Personality, and Commonsense Knowledge*

Open-domain, open-topic chatting machine is one of the most challenging AI tasks due to the difficulties of natural language understanding and the requirements of world knowledge. In this talk, I will present three preliminary studies: the first one is to let a chatting machine to express emotions like happiness, sadness, angry, etc. with deep learning models, the second one is to assign a chatbot with a given personality (or identity) for generating more personality-coherent responses, and the third one is to demonstrate how commonsense knowledge can help dialogue generation in large-scale neural dialogue systems. I believe that these attempts will move forward to more intelligent, human-like chatting machines.

## Jun Ma

Jun Ma obtained her MSc and PhD degrees in Materials Physics from the University of Ulster, UK, where she worked on the development of materials for flat panel display screens. Dr. Ma is now director of the Overseas R&D Management Office of Tsinghua University and Executive Secretary General of the University Industry Collaboration Committee of Tsinghua University. Dr. Ma is also deputy director of National Technology Transfer Center of Tsinghua University. In these positions, Dr. Ma works closely with international universities and multinational companies to leverage resources from both Tsinghua University and its counterparts. The main objective is to provide collaboration platforms that allow cutting-edge research to be conducted and to promote win-win collaborations between Tsinghua University and its partners. Dr. Ma initiated several international R&D flagship programs include Tsinghua-Toyota Center and Tsinghua-Siemens Center of Knowledge Interchange and she is Director of Tsinghua-Siemens Center over past 10 years.

马军博士毕业于英国阿尔斯特大学，获得平板显示专业硕士和博士学位。1999 年马军博士任职于清华大学科技处科技开发部，2000 年根据学校发展需要创建科技处国际科研合作办公室任办公室主任。2004 年，科技处国际科研合作办公室和企合委海外部合并成立海外项目部，马军博士任海外项目部主任并于 2008 年被任命为清华大学与企业合作委员会常务副秘书长至今，主要负责清华大学承担的海外科研合作管理工作以及作为学校的授权代表推动和促进与海外的前沿科技研发相关的活动。



## **Bo Meng**

Associate Dean of the Office of International Cooperation and Exchange at Tsinghua University since October 2016, responsible for the global outreach. As a senior administrator, she led the international office in the School of Public Policy and Management since 2002, and served as the associate dean for development and international cooperation since 2013. She serves as a member in the Commission on Peer Review and Accreditation for the Network of Schools of Public Policy, Affairs, and Administration (COPRA/NASPAA) from September 2017 for three years.

孟波，清华大学国际处副处长，负责学校全球合作伙伴关系拓展。曾任清华大学公共管理学院副院长，主管学院国际合作与发展战略、清华-布鲁金斯公共政策中心副主任。2017年9月起担任“国际公共管理学院联盟”（NASPAA）同行评估认证委员会（COPRA）专家委员。

## **Don Qiu**

Director for Cases Studies of the Institute of Data Science at Tsinghua University, Director of Tsingdata D-Lab Innovation Center, Council Member of China Society for the Promotion of Science and Technology Commercialization, Standing Vice Secretary-General of Tsingdata Big Data Industry Alliance.

Don Qiu worked as Head of Nokia's Global Corporate Development, responsible for technology strategy and research institutions. Don also worked as Director of Strategic Development of AMD Greater China and as Director of Motorola's mobile products. Prior to returning to China in 2004, Don had worked at ATI, a graphic chips company, leading Chip Production Management and Asia Pacific



## Market.

Don graduated from Fudan University in China, National University of Singapore, and Ivey Business School in Canada.

Don has also been a mentor of post-graduate students in the School of Design, Hunan University, and has been sitting as a case reviewing panelist for Award of Outstanding Products, Services, and Application Solutions held by the Ministry of Industry and Information Technology, judge of the China Data Governance and Standards Awards, advisor of Internet and big data for China Quality Certification Center, and judge for municipal big data related industries, e.g. reviewing panel leader of Suzhou City Government Service Cloud.

邱东晓清华大学数据研究院案例研究室主任，清数 D-LAB 数据创新基地主任，中国科技产业化促进会理事，清数大数据产业联盟常务副秘书长。邱东晓曾任诺基亚全球企业发展部负责人，负责技术战略和研究院发展。邱东晓也曾任 AMD 大中华区战略发展总监和摩托罗拉移动产品总监。2004 年回国前，邱东晓在图形芯片公司 ATI 工作，负责过芯片产品管理和亚太市场。邱东晓毕业于复旦大学、新加坡国立大学和加拿大毅伟商学院。邱东晓还任湖南大学设计艺术学院硕士生导师。邱东晓是工信部大数据优秀产品、服务和应用解决方案案例编审委员，中国数据治理与标准奖评委，中国质量认证中心互联网和大数据顾问，以及地方大数据相关领域评委，如苏州市政务云评审组长。



## Quanhong Shen

Incubation Business Director of TusHoldings Co., Ltd and the General Manager of Beijing TusPark Business Incubator Co., Ltd. He joined Tus-Holdings Co., Ltd after receiving a Ph.D. from Department of Precision Instruments and Mechanology in Tsinghua University in 2007. During his ten-year career in Tus-Holdings Co., Ltd, he has served in several departments. In 2007, he was Client Manager in Tus-Holdings Co., Ltd; In 2010, he was Department Manager and Assistant General Manager of THTI Holdings Co., Ltd and in 2012, he was vice manager of Beijing TusPark Business Incubator Co., Ltd. From 2013 till now, he has been the General Manager of Beijing TusPark Business Incubator Co., Ltd. From 2014 till now, he has been Incubation Business Director of TusHoldings Co., Ltd. Besides, he is also Deputy Secretary-General of Beijing Nano Technology Industry Innovation Alliance and Member of the Z-Park Youth Federation.

沈全洪, 启迪控股股份有限公司孵化业务总监、北京启迪创业孵化器有限公司总经理。清华大学精密仪器与机械学系博士。2007年, 毕业于清华大学; 2007年, 任启迪控股股份有限公司客户经理; 2010年, 任北京启迪科创科技有限公司部门经理、总经理助理; 2012年, 任北京启迪创业孵化器有限公司副总经理; 2013至今, 任北京启迪创业孵化器有限公司总经理; 2014年12月至今, 担任启迪控股股份有限公司孵化业务总监。并担任北京纳米科技产业创新联盟副秘书长、中关村青年联合会委员。



## Yu Wang

Associate Professor, Department of Electronic Engineering, Co-founder of Beijing DeePhi Tech

Tenured Associate Professor in the Department of Electronic Engineering, Tsinghua University. His research interests focus on energy-efficient circuits and systems. Dr. Wang has authored and coauthored over 200 papers in refereed journals and conferences (including more than 40 IEEE/ACM journals), with a total Google Scholar citation of 2600. Currently he serves as Co-Editor-in-Chief for ACM SIGDA E-News, Associate Editor for IEEE Transactions on CAD, IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), and Special Issue Editor for Microelectronics Journal. He also serves as TPC member for DAC and ACM FPGA technical committee member for Asia Pacific region. He is now with ACM Distinguished Speaker Program. Yu Wang received The Natural Science Fund for Outstanding Youth Fund in 2016. He has received Best Paper Award in FPGA 2017, NVMSA 2017, ISVLSI 2012, and 9 Best Paper Nominations. His research on designing FPGA accelerator for deep learning has been converted into equity of DeePhi Tech (valued over 1 billion RMB) as intellectual property, which is devoted to providing the best deep learning chips and platforms.

汪玉，清华大学电子工程系长聘副教授，从事高能效电路与系统研究，发表论文 200 余篇，IEEE/ACM 杂志文章 40 余篇；谷歌学术引用 2600 余次。担任 ACM SIGDA E-News 主编，Microelectronics Journal Special Issue Editor, IEEE TCAD、TCSVT 编委，DAC 等领域顶级会议技术委员会委员，ACM 杰出演讲者，ACM FPGA 技术委员会亚太地区成员。16 年获得 NSFC 优秀青年基金。获得 FPGA17、



NVMSA17、ISVLSI12 最佳论文，以及 9 次国际会议最佳论文提名。深度学习 FPGA 加速器在 2016 年知识产权转化入股北京深鉴科技有限公司（估值超 10 亿人民币），打造世界最先进的深度学习芯片与平台。

*Topic: Software-Hardware Co-Design for Efficient Neural Network Acceleration*

To apply neural networks to wider applications, customized hardware are necessary since CPU and GPU are not efficient enough. FPGA can be an ideal platform for neural network acceleration (inference part) since it is programmable and can achieve much higher energy efficiency compared with general-purpose processors. However, the long development period and insufficient performance of traditional FPGA acceleration prevent it from wide utilization. We will review the current deep learning acceleration work together with the chart we make (<https://nics-efc.org/projects/neural-network-accelerator/>), and then review our solution: a complete design flow to achieve both fast deployment and high energy efficiency for accelerating neural networks on FPGA [FPGA 16/17]. Deep compression and data quantization are employed to exploit the redundancy in algorithm and reduce both computational and memory complexity. Two architecture designs for CNN and DNN/RNN are proposed together with compilation environment. We will further introduce our effort on how to turn these papers into production from Deephi Tech's perspective, i.e. what we achieved for more test cases, the application domain and products in Surveillance/ Data Center/ Automobile, and the deep learning inference chip design.

## **Xiaoyan Zhu**

Professor, Department of Computer Science and Technology, Director of State Key Laboratory of Intelligent Technology and System

Head of State key Lab of Intelligent Technology and Systems, Tsinghua University. Since 1993, Prof. Zhu has been on the faculty of Department of Computer Science and Technology, Tsinghua University. Her research interests include pattern recognition, neural network, machine learning, natural language processing, question and answering system. Recently her research focus on conversational AI. Prof. Zhu has authored or co-authored more than 100 papers in the top scientific journals, conference proceedings, including best paper and best student paper of ACL 2012, Coling2010, respectively.

朱小燕 1993 年到清华大学任教，现为清华计算机系教授，智能技术与系统国家重点实验室主任。主要研究领域为智能信息处理，其中包括：模式识别；神经网络；机器学习；自然语言处理；信息提取，智能问答系统等。近年研究工作主要集中于信息获取、交互智能的研究。作为项目负责人先后承担国家 863, 973 项目，自然科学基金项目、国际合作项目多项。获得国家发明专利十余项。发表论文近 100 篇。其中包括顶级国际会议 ACL2012 最佳学生论文和 COLING2010 最佳论文。

*Topic: Introduction to the State Key Lab of Intelligent Technology and Systems (LITS)*

The planning and construction of the State Key Laboratory of Intelligent Technology and Systems (LITS) began in July, 1987. It was certified by the government in February, 1990. During the thirteen years from 1990 to 2004, the lab passed the review by peer experts appointed by NSFC on behalf of the Ministry of Science and Technology (MOST) successfully



in all the three times, and was scored as an Excellent Lab each time. At the 10th anniversary celebration meeting of the State Key Lab Development in October, 1994, LITS was awarded the Golden Bull Prize for its excellent performance as a team. In 1997, it was selected as an Experimental Lab by MOST. At the 20th anniversary celebration meeting of the State Key Lab Development in 2004, the Lab was awarded the Golden Bull Prize again. Since 2004, LITS joint the construction of Tsinghua National Laboratory for Information Science and Technology as Computer Science and Artificial Intelligence Division. Homepage: <http://csai.tsinghua.edu.cn>

The main research directions are :

1. Theories and Methods of Artificial Intelligence such as Machine Learning
2. Intelligent Information Processing including text and image
3. Intelligent Control and Robot Systems
4. Multidisciplinary Research with Cognitive, Psychology and Social Science, etc.

Faculties:

13 professors (including 1 fellow of Chinese Academy of Sciences, 22 associate professors, 1 assistant professors.

Around 170 graduate students

## **Cangbi Yu**

Senior Engineer, Executive Director of the Secretariat at the Innovation and Entrepreneurship Education Alliance of China (IEEAC)

Senior Engineer, Executive Director of the Secretariat at "the Innovation and Entrepreneurship Education Alliance of China (IEEAC)" and Deputy Director of the base of art and science and technology innovation (ATI) of Tsinghua University. He got his Bachelor and Master degree in Electrical Engineering, Tsinghua University, and got his doctoral degree in Technology Economics from Chinese Academy of Social Sciences. He has been engaged in innovation and entrepreneurship education for a long time, conducting related research, planning innovation and entrepreneurship activities, and organizing the innovation and entrepreneurship competition.

虞苍璧“中国高校创新创业教育联盟”秘书处执行主任，清华大学艺术与科技创新基地副主任，高级工程师。清华大学工学学士、工学硕士，中国社会科学院技术经济学博士。长期从事创新创业教育工作，开展相关研究，策划创新创业活动，组织创新创业大赛。

*Topic: Innovation & Entrepreneurship Education at Tsinghua and in China*

## **Hongqiang (Hong) Zhao**

Partner, board member and CFO of 100Credit since December 2015. Prior to joining 100Credit, Mr. Zhao had been the CFO of NetEase e-Commerce Business (NASDAQ: NTES) and the Vice President of Finance at SouFun Holdings Limited (NYSE: SFUN), an operator of a leading real estate internet portal in China. Previously, Mr. Zhao worked in New York as the director of financial analysis for Viacom Inc. (NASDAQ: VIAB), a leading global entertainment content company. Between February 2009 and July 2011, Mr. Zhao served as an assistant chief auditor at the PCAOB, a regulatory oversight agency under the US SEC. Prior to that, Mr. Zhao had been a manager at KPMG LLP in the Washington D.C., providing professional services to internet, telecommunication and entertainment companies, for more than eight years since August 2000. Mr. Zhao holds a master's degree in accountancy from George Washington University and a bachelor's degree in accounting from Tsinghua University.

赵宏强，百融金服合伙人、董事、CFO

赵宏强先生自 2015 年 12 月起担任百融金服 CFO。加入百融之前，赵宏强先生曾纳斯达克上市公司网易旗下电商平台 CFO，以及中国最大的房地产门户网站，纽交所上市公司搜房网副总裁。此前，赵宏强先生曾担任财富 500 强，影视娱乐行业巨头维尔康姆全球财务分析总监，以及美国证监会下辖的美国上市公司监管委员会的助理首席审计师。此前的 9 年时间里，赵宏强先生在美国毕马威国际会计师事务所担任审计和咨询业务经理，主要服务于互联网，移动通讯，和媒体娱乐企业。赵宏强先生拥有美国乔治-华盛顿大学的会计学硕士学位和清华大学的经济学学士学位。



## University of Toronto

### **Alán Aspuru-Guzik**

Canada 150 Research Chair in Theoretical & Quantum Chemistry,  
University of Toronto; Faculty Member, Vector Institute

#### Research Interests

Robotics, machine learning, high-throughput quantum chemistry,  
quantum computing

#### Biography

Alán Aspuru-Guzik's research lies at the interface of computer science with chemistry and physics. He works in the integration of robotics, machine learning and high-throughput quantum chemistry for the development of materials acceleration platforms. These “self-driving laboratories” promise to accelerate the rate of scientific discovery, with applications to clean energy and optoelectronic materials. Alán also develops quantum computer algorithms for quantum machine learning and has pioneered quantum algorithms for the simulation of matter. He is jointly appointed as a Professor of Chemistry and Computer Science at the University of Toronto. Previously, he was a full professor at Harvard University. Alán is also a co-founder of Zapata Computing and Kebotix, two early-stage ventures in quantum computing and self-driving laboratories respectively.

#### Highlights

- Canada 150 Research Chair in Theoretical and Quantum Chemistry
- Google Focus Research Award in Quantum Computing
- CIFAR Senior Fellow, Biologically-Inspired Solar Energy Program
- MIT Technology Review 35 under 35
- Alfred P. Sloan Fellow
- Elected Fellow of the American Association for the Advancement of Science
- Fellow of the American Physical Society



## **Gwen Burrows**

Executive Director, International

Gwen Burrows is Executive Director, International at the University of Toronto. In that role, as part of the executive team of the Office of the Vice President International, she is leading the implementation of U of T's International Strategic Plan working in close collaboration with partners across the University.

A senior leader in the research and health sector, Gwen served in various leadership roles at The Hospital for Sick Children (SickKids) before joining University of Toronto in August 2017. From 2013-17, Gwen was the Executive Director, Communications, Public Affairs and Advocacy at SickKids, where she led executive communications, issues management, communications strategy development, and media relations. From 2006 to 2013, Gwen was Director of Strategic Projects at the SickKids Research Institute. In that role, working closely with the Chief of Research, she co-wrote the successful \$227 million Canada Foundation for Innovation application to fund the Peter Gilgan Centre for Research and Learning and was a key contributor to the implementation of the vision for that research facility. She also led the development of SickKids' International Qatar research strategy; the Research Institute's strategic plan; and the development of multi-disciplinary Centres at SickKids.

Gwen began her career at SickKids in the Foundation's National Grants Program – a Canada-wide funding program for child health research -- in 1997. There she held the role of Director, National Grants Program for 5 years, where she set the strategic framework for the granting program which supported child health researchers across the country.

Gwen has been an active volunteer in the charitable sector, including as President for the Couchiching Institute on Public Affairs from 2009-2011. Gwen holds a Masters in Philosophy from Johns Hopkins and a BA from McGill University.





## **David Fleet**

Professor of Computer Science

David Fleet is a Prof. of Computer Science in the Department of Computer and Mathematical Sciences Department at the University of Toronto Scarborough. He joined the U of T in Oct, 2003. Prior to that David worked in the Digital Video Analysis and Perceptual Document Analysis Groups at the Palo Alto Research Center (PARC) for 4 years. Before that he was on faculty at Queen's U in Kingston. Prof. Fleet served as Associate Editor (2000-2003), then Associate Editor-in-Chief (2004-2008), and now sits on the Advisory Board of IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI). He has also served as Program Co-Chair of IEEE CVPR (2003), ECCV (2014), and as Area Chair for numerous vision and learning conferences (CVPR, ECCV, ICCV, NIPS, ICML). He is a Senior Fellow of the Cdn. Institute for Advanced Research (CIFAR), and a member of the Vector Institute.

**Research Interests:** Computer Vision, Image Processing, Visual Perception, and Visual Neuroscience

**Teaching Interests:** Computer Graphics, Machine Learning, Computer Vision, Image Processing

**Awards and Grants:**

- Koenderink Prize, 2010 (for contributions to computer vision that withstood the test of time)
- Best Paper Award, British Machine Vision Conference, 2009
- Senior Fellow, Canadian Institute for Advanced Research, 2005
- Best Paper Award, ACM Symposium on User Interface Software and Technology, 2003
- PARC Excellence in Science Award, 2003
- Best Paper Runner-Up Award, IEEE Conference on Computer Vision and Pattern Recognition, 2001
- Marr Prize Honorary Mention, IEEE International Conference on Computer Vision, 1999
- Alfred P. Sloan Research Fellowship, 1996

**Education:** B.Sc. (Queen's), M.Sc.(Toronto), Ph.D.(Toronto)



## **Vivek Goel**

Vice President, Research and Innovation

Prof. Goel is the Vice President, Research and Innovation at the U of T and a Professor in the Institute of Health Policy, Management and Evaluation at the Dalla Lana School of Public Health. Professor Goel is a distinguished scholar with an extensive background in teaching, research and university administration. He obtained his medical degree from McGill U and completed post-graduate medical training in Community Medicine at the U of T. Dr. Goel obtained an MSc in Community Health from U of T and an MS in Biostatistics from Harvard U School of Public Health. His research has focused on health services evaluation and the promotion of the use of research evidence in health decision-making. Professor Goel joined the U of T in 1991 as Assistant Prof. in the Dept. of Preventive Medicine and Biostatistics. He was chair of the Dept. of Health Administration in the Faculty of Medicine from 1999 until 2001, then served as Vice-Provost, Faculty and subsequently was the University's Vice President and Provost from 2004 until 2008. He was a founding scientist at the Institute for Clinical Evaluative Sciences (ICES), where he continues as an Adjunct Senior Scientist. He served as founding President and CEO of Public Health Ontario from 2008 until 2014, where he was highly successful in building an academic public health services agency that provided scientific and technical advice to front-line practitioners. Prior to rejoining U of T he served as Chief Academic Strategist with Coursera, a global platform that connects universities and learners with online courses.

He has extensive experience in governance and in his University role serves on the boards of MaRS Innovation, the Vector Institute, the Centre for Commercialization of Regenerative Medicine, the Centre for Commercialization of Antibodies and Biologics, Compute Ontario, TRIUMF, IC-IMPACTS and is co-chair of the Southern Ontario Smart Computing Innovation Platform (SOSCIP). He is also the Chair of the Toronto Central Local Health Integration Network board and Vice-Chair of the Canadian Institute for Health Information



## Cynthia Goh

Department of Chemistry, the Institute of Medical Science, the Munk School of Global Affairs, and Director of the Impact Centre

M. Cynthia Goh received her PhD from the U of California at Los Angeles, and carried out postdoctoral fellowships at Columbia U and the U of California, Berkeley. Prof. Goh is a physical chemist with a diverse set of research interests, including fundamental studies of complex systems biomaterials, interfaces, probe microscopy, the development of new research instrumentation and nanotechnology. She is also known for her interest in the translation of scientific discovery into technology and products as well as the education of scientist-entrepreneurs. She invented the technique of diffraction-based sensing, a highly sensitive approach for the detection of biomolecules with applications in medical diagnostics and in drug discovery. Together with her students, she founded Axela Biosensors Inc. to commercialize the technology. Her scientific research on understanding of the self-assembly of biomolecules and polymers resulted in a platform technology for making nanoparticles that was the foundation for Vive Nano, now Vive Crop Protection with over 30 employees targeting agriculture applications. She is also co-founder of Dalenyi BioSurfaces, a company engaged in immunoassay tools, Sciventions, a scientist-to-scientist e-commerce solutions company, and Pueblo Science, a non-profit company engaged in science literacy for low resource settings.

Her interest in the education of scientist-entrepreneurs led her to introduce a non-credit seminar in 2004 at U of T. Since that time it has evolved into Entrepreneurship 101, the flagship entrepreneur training program of the MaRS Discovery District with over 1500 registered attendees annually. In 2010 she introduced the Impact Centre's flagship training program Techno, an intensive one-month workshop specifically geared for university scientists intending to build a tech-based company. Each year Techno produces about 15 start-ups based on the results of scientific research, many of which now have sales and follow-on funding.

## **Anna Goldenberg**

Scientist, Genetics and Genome Biology Program, at SickKids Research Institute, Assistant Professor, Computer Science (Computational Biology Group)

Anna Goldenberg is a Scientist in the Genetics and Genome Biology Program at SickKids Research Institute and Assistant Professor in the Department of Computer Science at the University of Toronto (Computational Biology Group) with a cross appointment in the department of Statistics. Her main research focus is to develop machine learning methods that can help decipher human disease heterogeneity, which involves combining data from multiple sources. Examples of her recent research include predicting necessity of thyroid biopsy and resection and age of cancer onset in children with cancer predisposition syndrome. Anna trained in machine learning at Carnegie Mellon University, with a postdoctoral focus in computational biology. The Goldenberg Lab collaborates with clinicians to ensure that work is relevant in the clinic. Anna is also a Member of the CIFAR Child and Brain Development group and a Member of the Scientific Management Committee of the Centre for Computational Medicine at SickKids.

### Highlights

- Department of Computer Science Award for exceptional mentoring and outstanding commitment to graduate student recruitment, University of Toronto
- Early Researcher Award from the Ministry of Research and Innovation

### Research Activity and News

- Vector faculty members David Duvenaud and Anna Goldenberg among Canada Research Chair award recipients
- Prof. [Kang Lee](#)  
Tier 1 Canada Research Chair, Dr. Eric Jackman Institute of Child Study, Applied Psychology and Human Development, OISE; Chief Science Officer, NuraLogix Corp



## **Joyce Poon**

Electrical and Computer Engineering

Joyce Poon received the Ph.D. and M.S. in Electrical Engineering from the California Institute of Technology (Caltech) in 2007 and 2003 respectively, and the B.A.Sc. in Engineering Science (physics option) from the University of Toronto in 2002. Her research is in the area of integrated photonics for communication and computing applications. The goal is to invent photonic devices and circuits that are ultra-compact, low-power, and high-speed. The research spans from theory to experiment. Her team actively collaborates with industry, research organizations, and universities in Canada and abroad to explore topics in integrated photonics.

### Memberships/Awards

- Canada Research Chair in Integrated Photonic Devices (Tier 2), 2012 – present
- IBM Faculty Award, 2010, 2011
- Ontario Ministry of Research and Innovation Early Researcher Award, 2009
- NSERC University Faculty Award, 2008
- Milton and Francis Clauser Doctoral Prize (Caltech), 2007
- Member, IEEE and IEEE Photonics Society
- Member, Optical Society of America

## **Frank Rudzicz**

Computer Scientist (UHN), Assistant Professor (Comp Sci), Co-founder and President WinterLight Labs, Faculty member (Vector Institute) and Scientific Advisor (Surgical Safety Technologies)

Dr. Rudzicz is an expert in speech recognition and artificial intelligence in applications designed for individuals with special speech characteristics. His work in natural language and speech processing is multidisciplinary and involves machine learning, human-computer interaction, artificial intelligence, computer vision, speech-language pathology, rehabilitation engineering, digital signal processing and linguistics. Dr. Rudzicz's long-term aim is to produce language software that can improve the quality of life of individuals with cognitive or physical disabilities. This research augments existing techniques by refining the statistical relationships between neural, articulatory and acoustic levels of speech within modern automatic speech recognition systems. These augmented speech systems can be for several applications including: i) automated human-computer dialog systems that include speech synthesis to help individuals complete daily tasks; and ii) prosthetic communication aids for human-human interaction that modify the acoustics of hard-to-understand speech to make it more understandable.

## **Bill Simpson**

Medical Science Liaison, WinterLight Labs



## **Chris Yip**

### **Associate Vice-President, International Partnerships**

Professor, BAsC (Toronto), PhD (Minnesota), FAAAS, FEIC, Peng

#### Main Appointments

- Associate Vice-President, International Partnerships
- Department of Chemical Engineering & Applied Chemistry
- Institute of Biomaterials & Biomedical Engineering

#### Additional Appointments

- Department of Biochemistry
- Donnelly Centre for Cellular & Biomolecular Research

#### Research Themes

- Nanotechnology, Molecular Imaging & Systems Biology

#### Research Themes

- Nanotechnology, Molecular Imaging & Systems Biology

#### Research Interests

Molecular self-assembly focusing on protein-ligand and biomolecular complexes and elucidation of the mechanisms associated with the development of solution and solid-state structure and molecular conformation. Study of biomolecular association and ligand-receptor interactions using oriented molecular arrays at interfaces. Application of scanning probe microscopy to the characterization of biomolecular processes and structures.

## **Albert Yoon**

Professor and Chair in Law and Economics U of T, co-founder of Blue J Legal

Albert Yoon holds the Chair in Law and Economics.

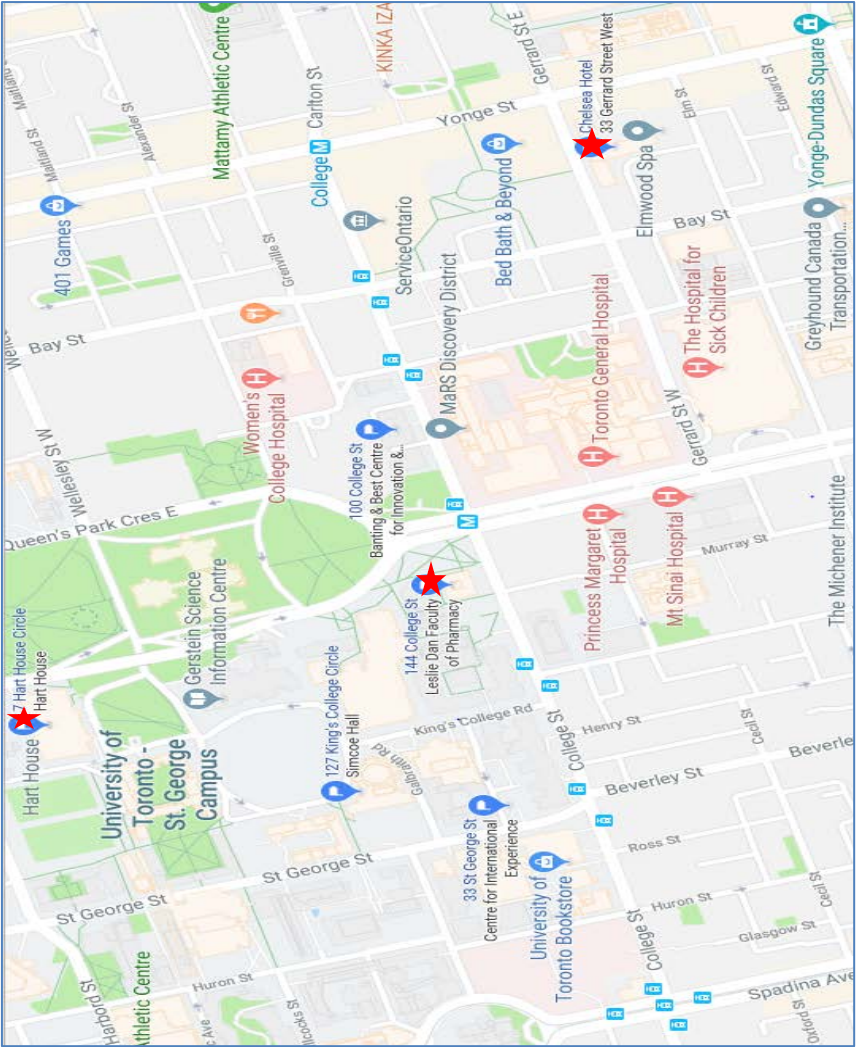
Albert received his undergraduate degree from Yale and his law and doctoral (political science) degrees from Stanford. During law school, he was the senior articles editor of the Stanford Law Review. After graduation, he clerked for the Hon. R. Guy Cole of the U.S. Court of Appeals for the Sixth Circuit and was a Robert Wood Johnson Scholar in Health Policy Research at U.C. Berkeley. Before joining the Faculty of Law, Albert was professor of law at Northwestern University, during which he was a Law and Public Affairs Fellow at Princeton University and a Russell Sage Visiting Scholar in New York City.

Albert examines labor markets within and outside the legal profession. He has published in the Chicago, Stanford, and Virginia law reviews; and the Annals of Applied Statistics, Journal of Law & Economics, Journal of Theoretical Politics, among others. He is a recipient of the Ronald H. Coase Prize for best article in Law and Economics and a member of the American Law Institute.

Beyond his academic career, Albert is co-founder of Blue J Legal, the company behind Tax Foresight and Employment Foresight: the next generation of legal research tools that harness the power of artificial intelligence to provide instant and comprehensive answers in complex areas of tax and employment law



# Map



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## Thank you

