



مركز دراسات التشريع
الإسلامي والأخلاق
Research Center for Islamic
Legislation and Ethics
عضو في جامعة حمد بن خليفة
Member of Hamad Bin Khalifa University

**CILE International
Seminar**

Artificial Intelligence: Theoretical Foundations, Applications and Governing

Policies 18-19 May, 2021

Doha, Qatar



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**Convenor: Dr. Mohammed Ghaly (Professor of Islam and Biomedical Ethics,
CILE, HBKU)**

The Research Center for Islamic Legislation and Ethics (CILE) is organizing this seminar in collaboration with two other entities at Hamad Bin Khalifa University (HBKU), namely the College of Science and Engineering (CSE) and the Qatar Center for Artificial Intelligence (QCAI) at Qatar Computing Research Institute (QCRI).

As part of its long-term plans to examine the interplay of Islamic Ethics and Artificial Intelligence (AI), CILE organizes this Internal Seminar with the aim of improving the knowledge of researchers and specialists in Islamic Ethics and cognate fields in Islamic Studies to explore the possible venues for examining the interplay of AI and Islamic Ethics, coordinating research projects and eventually developing an interdisciplinary AI Islamic Ethics Discourse.

Against this background, this seminar will focus on two main themes:

- **(1) Theoretical Foundations & Applications**

Speakers within this theme will provide an overall state-of-art overview of the relevant technical issues and advancements. Each presentation will cover two main points, namely (a) explaining the scientific and technical aspects in a way accessible to the general educated people and (b) outlining the types of moral dilemmas and ethical questions, usually encountered by practitioners in the respective fields.

- **(2) Ethical Principles, Guidelines and Policymaking**

Speakers within this theme will analytically and critically review the main ethical principles and guidelines adopted by (a) Tech Giants such as Google, IBM and Microsoft, (b) transnational bodies such as the European Union and the Institute of Electrical and Electronics Engineers (IEEE), and (c) national bodies of the so-called “AI Superpowers” including China and the United States, in addition to Qatar as a representative example from the Muslim world.

Day 1

Tuesday, 18 May, 2021

12:45 – 13:30

Opening Session

[Ahmad Hasnah](#) (Hamad Bin Khalifa University, HBKU), President(TBC)
[Richard O'Kennedy](#) (VP for Research at HBKU, & VP For Research, Development and Innovation (RDI) At Qatar Foundation (QF)
[Emad Shahin](#) (College of Islamic Studies (CIS),at HBKU), Dean
[Mounir Hamdi](#) (College of Science and Engineering (CSE) at HBKU) Dean
[Ahmed Elmagarmid](#) (Qatar Computing Research Institute (QCRI), at HBKU), Executive Director
Moderator: [Mohammed Ghaly](#)

(A) Theoretical Foundations & Main Applications

13:30 – 14:00

Historical Overview: From Computer Science to Artificial Intelligence and Machine Learning
- [Michael Wooldridge](#)

14:00 – 14:30

Internet of Things (IoT)
- [Ala Al Fugaha](#)

14:30- 15:00

Transportation and Automated Vehicles
- [Fethi Filali](#)

15:00 -16:00

Panel Discussion
- Moderators: [Junaid Qadir](#) and [Mohsen Guizani](#)

16:00- 16:30

Break

16:30- 17:00

Warfare and Automat Weapons
- Sinan Al-Obaidi and Aisha Fakhroo ([Barzan Holdings](#))

17:00- 17:30

Healthcare and Biomedical Research
- [Mowafa Househ](#) & [Tanvir Alam](#)

17:30- 18:30

Panel Discussion
Moderators: [Marwa Qaraqe](#) and [Liaquat Hossain](#)

Day 2

Wednesday 19 May, 2021

(B) Ethical Principles, Guidelines and Policymaking

13:00 – 13:30

Ethical Principles and Guidelines: Analytical Survey

- [Barry Solaiman](#)

13:30 – 14:00

Policymaking: Legal Perspective

- [Carmel Shachar](#)

14:00 – 14:30

National Strategy For Qatar

- [Sanjay Chawla](#)

14:30– 15:00

Panel Discussion

- Moderators: [Ahmed Elmagarmid](#) and [Barry Solaiman](#)

15:00 – 14:20

Coffee break

14:20 – 15:30

Concluding Session

- [Mohammed Ghaly](#) and [Mutaz al-Khatib](#)

Opening Session

Dr. Ahmad M. Hasnah



Dr. Ahmad M. Hasnah is the President of Hamad Bin Khalifa University (HBKU), a member of Qatar Foundation for Education, Science, and Community Development (QF) in Doha, Qatar

Since he joined QF in 2002, Dr. Hasnah has been a key player in the development of Education City– a unique hub for knowledge and education through partnerships with world-class educational and

research institutions.

In his roles as the Director of Academic Affairs and later as the Associate Vice President for Higher Education, Dr. Hasnah has been actively involved in the negotiations which led to many of the QF partner universities joining Qatar Campus', including, Texas A&M University, Carnegie Mellon University, and Georgetown University.

Following his appointment as the Executive Vice-President and Provost of HBKU in May 2014, he has been instrumental in the establishment of six colleges namely, the College of Islamic Studies, College of Humanities and Social Sciences, the College of Science and Engineering, College of Law, College of Health and Life Sciences, and the College of Public Policy, which offer interdisciplinary graduate and PhD programs.

Dr. Hasnah has contributed to the Research and Development Enterprise of QF and served as a member of the Steering committee of the Qatar National Research Fund and the QF Strategic Research Board. Moreover, he is currently overseeing three research institutes under HBKU that focus on Qatar's Grand Challenges in the areas of energy and environment, biomedical and computing.

He has also taken part in the conception and shaping of the World Innovation Summit for Education (WISE), a unique global event which aims to create an international multi-disciplinary platform to shape education models, explore ground-breaking innovations and take concrete steps in making significant improvements to worldwide education in the 21st century.

He is on many Joint Advisory Boards, including Weill Cornell Medicine-Qatar and Northwestern University in Qatar. He was a member of the Joint Advisory Boards of Texas A&M University at Qatar, Carnegie Mellon University in Qatar and Virginia Commonwealth University in Qatar for the past 10 years and a member of the Board of Trustees of the Community College of Qatar for the past 6 years.

Dr. Hasnah has been a panelist at many international conferences such as the NAFSA Conference in the US, Going Global Forum, SCUP North Atlantic Regional Conference, and Reinventing Higher Education Conference at IE University in Madrid.

He holds a Master's degree (1993) and PhD (1996) in Computer Science from the Illinois Institute of Technology, USA. He graduated from Qatar University in 1990 with a Bachelor of Science in Mathematics and Physics.

Dr. Richard O'Kennedy



Dr. Richard O'Kennedy, B.Sc., Ph.D., C. Biol., FRSB., F.I.Biol.I., Dip. F.S., Dip. C.S., Dip. Computing, MRIA, is the Vice-President for Research at Hamad Bin Khalifa University, and the Vice-President for Research, Development and Innovation (RDI) at Qatar Foundation, Doha, Qatar. He is a member of the Royal Irish Academy and the Qatar RDI Council.

Previously, he was a Professor and the Scientific Director of the Biomedical Diagnostics Institute at Dublin City University (DCU) Ireland. He is the past President of the London International Youth Science Forum, Past President of the Institute of Biology of Ireland, past Chairman/Founder of the Centre for Talented Youth (CTY) in Ireland, and has represented Ireland and the Royal Irish Academy (RIA) at the International Union of Biochemistry and Molecular Biology (IUBMB). In 2018, he was selected as the representative of the IUBMB for Qatar. He was a member of the Industrial Research and Commercialisation Committee of Enterprise Ireland, the National Bioethics Council for Ireland, and the Life Sciences and Health Committee of the RIA.

Prior to this, he was the Vice-President for Teaching and Learning at DCU, Chair of the Management Committee of the Dublin Region Higher Education Alliance (11 Institutions and ca 66,000 students) and Visiting Scientist at M.D. Anderson Cancer Centre at the University of Texas at Houston, where his work was selected as 'Invention of the Year'.

He directs the Applied Biochemistry Research Group that is internationally recognized for its expertise in antibody generation and immuno/ biosensor assay development. He has published extensively (250 peer-reviewed papers, 51 reviews, 40 book chapters, 2 books + 1 in process), and has mentored 70 Ph.Ds to completion and has a Google Scholar H-Index of 54 with over 12,000 citations.

He has academic collaborations worldwide, has carried out many collaborations with industry, has 7 patents, multiple licenses, and many of his reagents/innovations have been licensed and commercialized.

He is the Founder and Chief Scientific Officer of AbYBiotech, Chairman of the Scientific Board of Glycoselect – a highly innovative Biotech company, has acted as a reviewer for over 60 journals, is the Editor of three journals, and acts as a reviewer for ca 30 international funding bodies.

He has a keen interest in innovative approaches to healthcare, and has received many awards for Research: Biochemistry Medal of the RIA; President's Award for Research, 3 Fujitsu Awards for Innovation; Ireland's Bioscience Lab of the Year, 2014, Teaching: President's award, DCU; Outstanding Masters Programme Award, Graduate Ireland, 2011, and Outreach: Outstanding Education and Outreach Lab, 2017; CTY award, 2018.

Dr. Emad Shahin



Dean of HBKU's College of Islamic Studies (CIS), Qatar Foundation and previous Interim Provost of Hamad Bin Khalifa University (HBKU). Before joining CIS, he was the Hasib Sabbagh Distinguished Visiting Chair of Arabic and Islamic Studies, a visiting professor of Political Science at the School of Foreign Service at Georgetown University and the editor-in-chief of The Oxford Encyclopedia of Islam and Politics.

Shahin holds a PhD (1989) from the Johns Hopkins School of Advanced International Studies, an MA (1983) and a BA (1980) from the American University in Cairo. He has taught in leading universities in the United States including Harvard, Notre Dame, Georgetown, George Washington, and Boston University.

His research and teaching interests focus on Islam and Politics, Comparative Politics, Democracy and Political Reform in Muslim societies. Shahin has authored, co-authored and co-edited six books and has more than 50 scholarly publications including journal articles, book chapters and encyclopedia entries. His publications include *Political Ascent: Contemporary Islamic Movements in North Africa* (1998), co-editorship with Nathan Brown of *The Struggle over Democracy in the Middle East and North Africa* (2010); and co-authorship of *Islam and Democracy* (2005 in Arabic). He is the editor-in-chief of *The Oxford Encyclopedia of Islam and Politics* (2014) and co-editor with John L. Esposito of *The Oxford Handbook of Islam and Politics* (2013).

Previously, Shahin was a Distinguished Visiting Scholar at Columbia University (April 2014-March 15), public policy scholar at The Woodrow Wilson International Center for Scholars (February- August 2014). He was the Henry R. Luce Associate Professor of Religion, Conflict and Peacebuilding at the University of Notre Dame's Kroc Institute for International Peace Studies (2009-2012). He was visiting associate professor in the department of Government at Harvard University (2006-2009), faculty affiliate with the Kennedy School of Government, and visiting scholar in the Islamic Legal Studies Program at Harvard Law School (2006-2007).

Shahin was nominated two years in a row for the Harvard University Joseph R. Levenson Memorial Teaching Prize, May 2007 and May 2008; and is the recipient of the AUC Excellence in Undergraduate Teaching Award for the Academic Year 2001-2002.

Dr. Ahmed K. Elmagarmid



Founding executive director of the Qatar Computing Research Institute (QCRI). Prior to joining Qatar Foundation in 2010, he served as Chief Scientist in Hewlett- Packard and Professor of Computer Science at Purdue University where he is now an emeritus professor. Dr. Elmagarmid is a recipient of the NSF Presidential Young Investigator (PYI) Award from President Reagan in 1988 and a recipient of The 2019 Contribution Award from the ACM- SIGMOD

Technical Society. He is an IEEE Fellow, an ACM Fellow and an AAAS Fellow. The University of Dayton and Ohio State University have both named him among their distinguished alumni.

Dr Elmagarmid received his B.S. in computer science from the University of Dayton (1977) and his M.S. (1981) and Ph.D. (1985) from Ohio State University.

Dr. Mounir Hamdi



Is the founding Dean of the College of Science and Engineering at Hamad Bin Khalifa University (HBKU). He is an IEEE Fellow for contributions to design and analysis of high-speed packet switching, which is the highest research distinction bestowed by IEEE.

As founding Dean of the College of Science and Engineering, Dr. Hamdi led the foundation of 15 graduate programs and 1 undergraduate program and all the associated research labs and activities. Before joining HBKU, he was Chair Professor at the Hong Kong University of Science and Technology (HKUST), and the Head of the Department of Computer Science and Engineering. He received the B.S. degree in Electrical Engineering - Computer Engineering minor (with distinction) from the University of Louisiana in 1985, and the MS and the PhD degrees in Electrical Engineering

from the University of Pittsburgh in 1987 and 1991, respectively.

He was a faculty member in the Department of Computer Science and Engineering at the Hong Kong University of Science and Technology since 1991, where he was a founding member of the University. He became the Head and Chair Professor of the Department. In 1999 to 2000 he held visiting professor positions at Stanford University, USA, and the Swiss Federal Institute of Technology, Lausanne, Switzerland as well as Honorary Professor in various Chinese Universities such Nanjing University and Chinese Southeast University. His general area of research is in high-speed wired/wireless networking in which he has published more than 400 research publications, received numerous research grants, and graduated more 50 MS/PhD students. In addition, he has frequently consulted for companies and governmental organizations in the USA, Europe and Asia. He is also a frequent keynote speaker in International Conferences and Forums on matters related to cutting-edge research and education.

Prof. Hamdi is/was on the Editorial Board of various prestigious journals and magazines including IEEE Transactions on Communications, IEEE Communication Magazine, Computer Networks, Wireless Communications and Mobile Computing, and Parallel Computing as well as a guest editor of IEEE Communications Magazine, guest editor-in-chief of two special issues of IEEE Journal on Selected Areas of Communications, and a guest editor of Optical Networks Magazine. He has chaired more than 20 international conferences and workshops. He was the Chair of IEEE Communications Society Technical Committee on Transmissions, Access and Optical Systems, and Vice-Chair of the Optical Networking Technical Committee, as well as member of the ComSoc technical activities council. He received the best paper award at the IEEE International Conference on Communications in 2009 and the IEEE International Conference on Information and Networking in 1998.

In addition to his commitment to research and professional service, he is also a dedicated teacher and renowned quality-assurance educator. He received the best 10 lecturers award (through university-wide student voting for all university faculty held once a year), the distinguished engineering teaching appreciation award from the Hong Kong University of Science and Technology, and various grants targeted towards the improvement of teaching methodologies, delivery and technology. He is frequently involved in higher education quality assurance activities as well as engineering programs accreditation all over the world.

Dr. Mohammed Ghaly



Professor of Islam and Biomedical Ethics, Research Center for Islamic Legislation & Ethics (CILE), Hamad Bin Khalifa University in Doha, Qatar

He has a B.A. degree in Islamic Studies from Al-Azhar University (Egypt) and M.A. and PhD degrees in the same specialization from Leiden University (the Netherlands). During the period 2007-2013, Ghaly was a faculty member at Leiden University.

The intersection of Islamic Ethics and biomedical sciences is Ghaly's main specialization. He is the editor-in-chief of the *Journal of Islamic Ethics* (published by Brill). Since 2011, Ghaly has been a faculty member at the Erasmus Mundus Program; the European Master of Bioethics, jointly organized by a number of European universities. Ghaly lectured on Islamic (bio)ethics at many universities worldwide including Imperial College London, Oxford University, University of Oslo, University of Chicago and Georgetown University.

Ghaly was affiliated as Visiting Scholar/Researcher with a number of universities including the Kennedy Institute of Ethics at Georgetown University, USA (academic year 2014-2015), School of Anthropology and Museum Ethnography at the University of Oxford (academic year 2017-2018) and School of Philosophy at the Erasmus University Rotterdam (academic year 2018- 2019).

Besides his book *Islam and Disability: Perspectives in Theology and Jurisprudence* (Routledge, 2010) and the edited volumes *Islamic Perspectives on the Principles of Biomedical Ethics* (Imperial College & World Scientific, 2016) and *Islamic Ethics and the Genome Question* (Brill, 2019), Ghaly is the single author of more than forty peer-reviewed publications and serves on the editorial board of a number of academic journals. He is also the Lead Principal Investigator (LPI) and research consultant of a number of funded research projects. His publications can be accessed via <https://cilecenter.academia.edu/MohammedGh>

Theoretical Foundations & Main Applications**Historical Overview: From Computer Science to Artificial Intelligence and Machine Learning****Speaker: Dr. Michael Wooldridge**

Professor of Computer Science and Head of Department of Computer Science at the University of Oxford, and a program director for AI at the Alan Turing Institute. He has been an AI researcher for more than 30 years, and has published more than 400 scientific articles on the subject, including nine books. He is a Fellow of the Association for Computing Machinery (ACM), the Association for the Advancement of AI (AAAI), and the European Association for AI (EurAI). From 2014-16, he was President of the European Association for AI, and from 2015-17 he was President of the International Joint Conference on AI (IJCAI). He was a recipient of the Lovelace medal from the British Computer Society in 2020 – the premier computing award in the UK – and received the Outstanding Educator Award from the Association for Advancement of AI (AAAI) in 2021. He has published two popular science introductions to AI: *The Ladybird Expert Guide to AI* (2018), and *The Road to Conscious Machines* (Pelican, 2020).

Internet of Things (IoT)

Speaker: Dr. Ala Al-Fuqaha



Professor at the Information and Computing Technology division, college of Science and Engineering, Hamad Bin Khalifa University. His research interests include the use of machine learning in general and deep learning in particular in support of the data-driven and self-driven management of large-scale deployments of Internet of Things and smart city infrastructure and services, Wireless Vehicular Networks, cooperation and spectrum access etiquette in cognitive radio networks, and management and planning of software-defined networks. He is a senior member of the IEEE and an ABET commissioner. He serves on editorial boards of multiple journals including IEEE Communications Letter, IEEE Network Magazine, and Springer AJSE. He also served as chair, co-chair, and technical program committee member of multiple international conferences including IEEE VTC, IEEE Globecom, IEEE ICC, and IWCMC.

Transportation and Automated Vehicles

Speaker: Dr. Fethi Filali



Is the Director of Technology & Research at Qatar Mobility Innovations Center (QMIC). He is leading the technology development of QMIC's solutions in the area of Smart Cities, Artificial Intelligence, Internet of Things, and Connected & Automated Vehicles solutions. He has invented technologies and developed algorithms that have been shipped in many QMIC products, including Masarak®, Labeeb® and WaveTraf®, creating commercial impact in the order of millions of dollars.

Dr. Filali received his Ph.D. in Computer Science and Habilitation degrees from the University of Nice Sophia Antipolis, France, in 2002 and 2008, respectively.

Prior to joining QMIC in 2010, Dr. Filali was with the Mobile Communications department of EURECOM, France, as Assistant then Associate Professor for 8 years.

His research grants include 15 competitive awards from several funding agencies (European Commission, The French National Research Agency, and Qatar National Research Fund).

He was the Ph.D. Director of ten Ph.D. students in the area of intelligent transportation, wireless sensor and mesh networks, vehicular communications, big data analytics, internet of things, and mobility management.

Dr. Filali co-authored more than 140 research papers in international peer-reviewed conferences and journals and (co-)filed more than 10 patent applications.

Panel Discussion

Panel Moderator: Dr. Junaid Qadir



[SM'14] Professor at the Information Technology University (ITU) of Punjab in Lahore, Pakistan, where he directs the IHSAN Research Lab. His primary research interests are in the areas of computer systems and networking, applied machine learning (ML), using ICT for development (ICT4D); human-beneficial artificial intelligence (AI); ethics of technology, AI, ML, big data, and data science. He has published more than 150 peer-reviewed articles at various high-quality research venues. He is one of the leading researchers in the area of the security of ML in the context of smart cities, autonomous vehicles, and networks, and has given tutorials on the topics of adversarial ML attacks, ethical AI, and robust AI. He was awarded the highest national teaching award in Pakistan—the higher education commission's (HEC) best university teacher award—for the year 2012-2013. He has been appointed as ACM Distinguished Speaker for a three-year term starting from 2020. He is a senior member of IEEE and ACM. He has written articles in journals focused on ethics, social sciences, and human development including articles published in *Islam and Civilization Renewal (ICR)* [published by IAIS Malaysia], *Inderscience International Journal of Pluralism and Economics Education (IJPEE)*, *Journal of Islamic Banking and Finance (JIBF)*. He is the Lead Principal Investigator on the project “Culturally informed pro-social AI regulation and persuasion framework”, which has been granted an award in the Facebook Research Ethics in AI for Asia-Pacific Initiative in 2020.

Panel Moderator: Dr. Mohsen Guizani

(S'85–M'89–SM'99–F'09) received the B.S. (with distinction) and M.S. degrees in electrical engineering, the M.S. and Ph.D. degrees in computer engineering from Syracuse University, Syracuse, NY, USA, in 1984, 1986, 1987, and 1990, respectively. He is currently a Professor at the Computer Science and Engineering Department in Qatar University, Qatar. Previously, he served in different academic and administrative positions at the University of Idaho, Western Michigan University, University of West Florida, University of Missouri-Kansas City, University of Colorado-Boulder, and Syracuse University. His research interests include wireless communications and mobile computing, computer networks, mobile cloud computing, security, and smart grid. He is currently the Editor-in-Chief of the IEEE Network Magazine, serves on the editorial boards of several international technical journals and the Founder and Editor-in-Chief of Wireless Communications and Mobile Computing journal (Wiley). He is the author of nine books and more than 750 publications in refereed journals and conferences. He guest edited a number of special issues in IEEE journals and magazines. He also served as a member, Chair, and General Chair of a number of international conferences. Throughout his career, he received three teaching awards and four research awards. He is the recipient of the 2017 IEEE Communications Society Wireless Technical Committee (WTC) Recognition Award, the 2018 AdHoc Technical Committee Recognition Award for his contribution to outstanding research in wireless communications and Ad-Hoc Sensor networks and the 2019 IEEE Communications and Information Security Technical Recognition (CISTC) Award for outstanding contributions to the technological advancement of security. He was the Chair of the IEEE Communications Society Wireless Technical Committee and the Chair of the TAOS Technical Committee. He served as the IEEE Computer Society Distinguished Speaker and is currently the IEEE ComSoc Distinguished Lecturer. He is a Fellow of IEEE and a Senior Member of ACM.

Warfare and Automated Weapons

Speaker: Dr. Sinan Al-Obaidi



Received his BSc in 2011 in electrical engineering from Texas A&M University at Qatar, and his Ph.D. in 2018 from Texas A&M University at College Station-TX-USA in Power Electronics from Electrical Engineering Department. His area of expertise fall within developing autonomous defense systems and their counter mechanisms. Throughout his career development Dr. Al-Obaidi received technology entrepreneurial grants from the NSF and MIT, PhD sponsorship from Qatar Research Leadership Program- QNRF and Honoree Recipient of Her Highness Sheikha Moza Bint Nasser Al-Misnad scholarship for Undergraduate studies. Today Dr. Al-Obaidi is contributing to the advancement of R&D for the defense and security domain in Qatar through Barzan Holdings R&D managing engineering portfolio of 250 m USD projects.

Day 1

Tuesday May 18, 2021

Speaker: Ms. Aisha Fakhroo (TBC)

Healthcare and Biomedical Research

Speaker: Dr. Mowafa Said Househ



Researcher, innovator, social entrepreneur, teacher, and author of health informatics in the Arab World affiliated with Hamad Bin Khalifa University, College of Science and Engineering, Qatar Foundation, Qatar. His primary research interests are around the use of information and communication technologies to empower patients and clinicians, specifically focusing on Social Media and Mobile Technologies in Healthcare in the promotion of public

health practice and healthcare literacy. Dr. Househ is also an adjunct Associate Professor at the University of Victoria School of Health Information Science, Victoria, BC, Canada. Dr. Househ has received several awards locally and internationally within the field of health informatics recognizing his research and entrepreneurship efforts which include: Researcher Award, King Abdullah International Medical Research Centre, 2015; MBC Hope Awards for Innovation and Social Entrepreneurship in 2015; Finalist for the Massachusetts Institute of Technology Arab Enterprise Forum competition, 2014; Young Researcher Award, King Abdullah International Medical Research Centre, 2010; Northern British Columbia Healthcare in Technology Award, Canada, 2007; The Michael Smith Foundation for Health Research Trainee Award, Canada, 2003. Dr. Househ has published over 130 research articles and over 6 books in the field of health informatics.

Discussion and concluding remarks**Panel Moderator: Dr. Marwa Qaraqe**

Assistant Professor, Information and Computing Technology Division, College of Science and Engineering, Hamad bin Khalifa University. Dr. Qaraqe received her Ph.D. and Master of Science degree in Electrical Engineering from Texas A&M University in College Station, Texas, USA., and she graduated Summa Cum Laude from Texas A&M University. Dr. Qaraqe's research interests are in machine learning and wireless communication. Her work in machine learning and signal processing includes predictive analytics for health, education, as well as security-related problems. In the area of machine learning and security, Dr. Qaraqe works on the development of AI-based models for the detection of malicious or compromised users within a network. Dr. Qaraqe also has extensive work in predictive analytics in medicine, with focus in diabetes, Autism, epilepsy, and stress detection. Dr. Qaraqe also serves as a reviewer to several IEEE and technical international journals and conferences.

Panel Moderator: Dr. Liaquat Hossain

Ron and Carol Cope Professor and Department Chair of the newly created Department of Cyber Systems at University of Nebraska at Kearney USA. He served on a variety of senior leadership roles such as Head of School, Associate Dean and Sub Dean at the University of Sydney's Faculty of Engineering and IT and was promoted to Full Professor (Tenured) in 2010, Information School of Syracuse University and the University of Hong's Department of Information and Technology Studies from 2001-2019. He completed his PhD in information and communications technology from the University of Wollongong Australia in 1998 and was invited to work as a Postdoctoral Fellow under the guidance of Professor Lee W Mcknight in information Economics at Centre for Technology, Policy and Industrial Development of Massachusetts Institute of Technology. He has been investigating the functioning and robustness of hierarchical structures and potential problem leading to disruption or delay in the adaptation of behaviours for optimal functioning. He is the specialty Editor in Chief of Frontiers in Science journal on Frontiers in Psychology.

Ethical Principles, Guidelines and Policymaking**Ethical Principles and Guidelines: Analytical Survey****Speaker: Dr. Barry Solaiman**

Assistant Dean of Students and an Assistant Professor specializing in Healthcare Law and Constitutional Law. He holds a PhD in Law from the University of Cambridge, has been called to the London Bar, and is an accredited civil and commercial mediator. He was formerly Editor-in-Chief of both the Cambridge International Law Journal and Medicine and Law. In Qatar, he is an advisor to the Ministry of Public Health, a Member of Aspetar Hospital's Ethics Committee, and Co-Director of the Intersection of Law and Medicine Series at Weill Cornell Medicine-Qatar. Internationally, he is Chair of the Young Members Committee of the World Association for Medical Law. He is the Lead Project Investigator for an HBKU grant analyzing the development of guidelines for the use of artificial intelligence in healthcare research and has several publications in the field.

Policymaking: Legal Perspective

Speaker: Dr. Carmel Shachar



Executive Director of the [Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics](#) at Harvard Law School. She is responsible for oversight of the Center's sponsored research portfolio, event programming, fellowships, student engagement, development, and a range of other projects and collaborations. Carmel was responsible for designing, recruiting for, and launching both the Center's Health Care General Counsel Roundtable and the Center's [Advisory Board](#). She is involved heavily with the Center's [Project on Precision Medicine, Artificial Intelligence, and the Law](#), and its [Diagnosing in the Home](#) Initiative. Carmel is also a Lecturer at Law on Harvard Law School, where she co-teaches a course on "Health Care Rights in the Twenty-First Century."

Carmel's scholarship focuses on law and health policy, in particular the regulation of access to care for vulnerable individuals, the use of telehealth and digital health products, and the application of public health ethics to real world questions. Her work has been published in venues such as the [New England Journal of Medicine](#), [JAMA](#), the [Hastings Center Report](#), and [Nature Medicine](#). She has been interviewed and quoted in venues such as [BBC News](#), [Politico](#), [CNN](#), and [Slate](#). She has co-edited several books published with the Cambridge University Press, including [Transparency in Health and Health Care in the United States](#), [Disability, Health, Law, and Bioethics](#), *Consumer Genetics: Ethical and Legal Considerations of New Technologies* (forthcoming), and *Innovation and Protection: The Future of Medical Device Regulation* (forthcoming).

National Strategy For Qatar

Speaker: Dr. Sanjay Chawla



Research director at QCRI. Prior to joining QCRI, Dr. Chawla was a Professor in the Faculty of Engineering and IT at the University of Sydney. From 2008-2011, he also served as the Head (Department Chair) of the School of Information Technologies. He was an academic visitor at Yahoo! Research in 2012. Dr. Chawla's work has been recognized with several best paper awards, including in leading conferences such as SIAM International Conference in Data Mining (2006) and IEEE International Conference in Data Mining (2010). He

is a co-author on a popular text in spatial database management systems: "Spatial Databases: A Tour," which has been translated into Chinese and Russian. He serves on the Editorial Boards of IEEE TKDE and DMKD Journal and served previously as PC Chair of PAKDD (2012). He received his PhD from the University of Tennessee (USA) in 1995.

Panel Discussion

Panel Moderator: Dr. Ahmed K. Elmagarmid (see above)

Panel Moderator: Dr. Barry Solaiman (see above)

Concluding Session

Dr. Mohammed Ghaly (see above)

Dr. Mutaz Al-Khatib



Associate Professor of Methodology and Ethics at the Research Center for Islamic Legislation and Ethics, as well as the first-of-its-kind MA program in Applied Islamic Ethics at the College of Islamic Studies at Hamad Bin Khalifa University. He holds a BA in Islamic Studies from Damascus (1997) and in Arabic Literature from Al-Azhar University. Al-Khatib was a founding member of the *al-Multaqā al-Fikrī li-l-Ibdā'* (Intellectual Forum for Innovation, 1999), and the anchor of "Al Sharia wa-l Ḥayāt" program on Al Jazeera Channel (2004 -2013). He was also Editor-in-Chief of the section "Islam and Contemporary Affairs" on IslamOnline.net (2003-2008). He was a visiting fellow at ZMO in Berlin (2006) and a visiting scholar at the Forum Transregionale Studien, Berlin (2012-2013) as well as a Visiting Lecturer at the American University of Beirut, the Islamic University of Beirut and Qatar University. He has presented lectures at various reputable academic institutions. He is a reviewer for a number of journals and has authored and edited several books and over 30 academic articles on Ḥadīth criticism, Islamic Ethics, Islamic intellectual history, *Maqāṣid* (the higher objectives of Sharia) and Islamic Law. He has also written numerous journal articles for Arabic language newspapers and magazines.