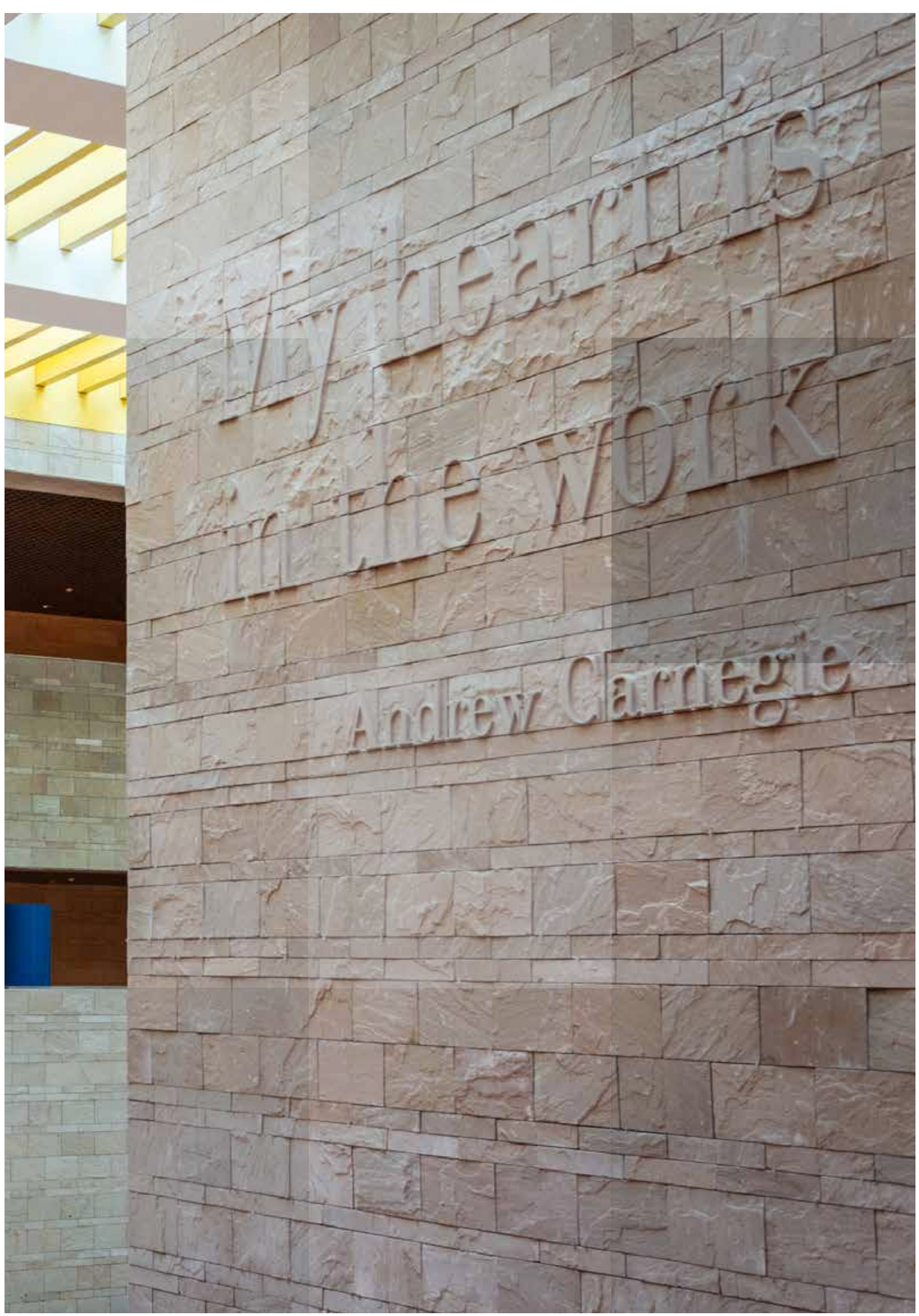
Investigation. Collaboration. Impact.

Research Initiatives
2018–19

Carnegie Mellon University Qatar

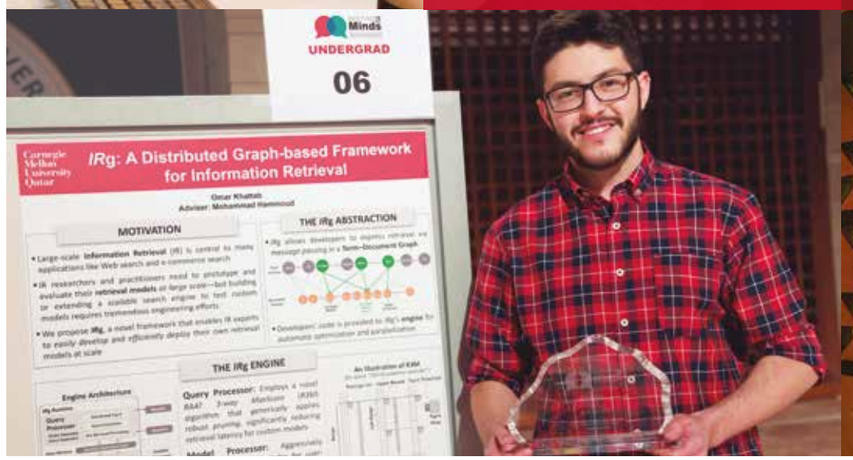
Research at Carnegie Mellon

A research institute like no other, Carnegie Mellon is home to the world's leading experts in a range of fields. In this tradition, Carnegie Mellon Qatar nurtures and develops opportunities for faculty members and students to build regionally relevant research programs in their areas of expertise.



Contents

APPENDICES



From Dean Michael Trick

Welcome to *Research Initiatives 2018-19*, **a compilation of the research highlights from the last academic year at Carnegie Mellon University in Qatar.**

At Carnegie Mellon, we describe our research as "delivering work that matters." We are a research university like no other, with a clear mission to investigate questions that will have real impact. At the CMU-Q campus, we have an additional charge: to deliver work that matters to Qatar.

For faculty members, research is a way to explore questions and deepen understanding within their areas of expertise. Our faculty researchers are dedicated to scientific inquiry, exploration and discovery, and their body of work demonstrates creativity, hard work and a commitment to finding real answers. Living and working within Qatar, they focus both on questions that are unique to Qatar, and issues that are applicable in our modern world.

At an undergraduate campus, there is another reason why research matters: systematic inquiry and investigation enhances learning. Our undergraduate students can experience the scientific process directly, with hands-on work in a variety of areas. This work nurtures the skills of creativity and critical thinking, and for some students, sparks a career path in research. For others, research develops the skills of teamwork and problem solving, which are invaluable in the workplace.

Research Initiatives 2018-19 offers a glimpse into the work our faculty and students have achieved over the academic year. I invite you to learn more about the thought and inquiry taking place at Carnegie Mellon University in Qatar.

Michael Trick
Dean
Harry B. and James H. Higgins Professor of Operations Research

Research at CMU-Q

At its heart, research at Carnegie Mellon looks for practical answers to complex, real world problems. In this spirit, we at the Qatar campus encourage our faculty members and students to explore their fields and engage in projects that will have an impact.

Faculty Research Highlights

Research at Carnegie Mellon focuses on work that matters across the spectrum of human experience. In this tradition, faculty researchers at the Qatar campus focus on making a real world impact in a variety of fields of study.

Faculty research

15
ongoing NPRP research projects

18
book chapters

40
publications

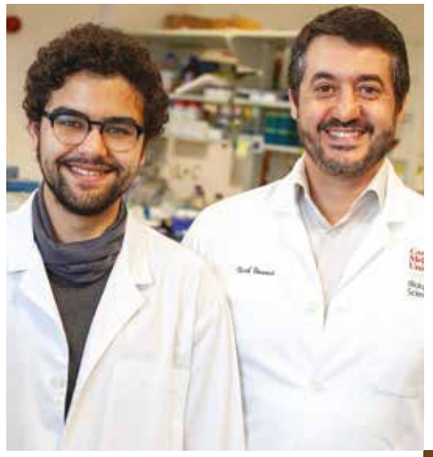
51
conference presentations

Turkish Natural Language Processing

Kemal Oflazer, along with co-editor **Murat Saraçlar** of Boğaziçi University in Istanbul, spent more than four years bringing together 25 years of work in the area of Turkish Natural Language Processing. The book was published in 2018 in both hard-copy and online versions, and more than 2,000 copies of various chapters have been downloaded.

Digital, 3D model to help in prenatal care

CMU-Q's **Hasan Demirkoparan** and **Heiko Topol** have created a new mathematical model to predict how human tissue responds to the physical stresses of pregnancy. The digital 3D model could lead to a new tool for doctors to measure the risk of miscarriage or pre-term delivery.



New avenue of investigation for cancer therapy

CMU-Q researchers have discovered a new area of inquiry that could lead to more effective breast cancer treatment. **Ihab Younis** and **Ettaib El Marabti**, a 2017 graduate, have investigated how the cellular mechanism splicing is different in cancer cells. Targeting these cells could be one way to kill cancer cells while leaving healthy tissue intact.

Alan Male's *A Companion to Illustration*

Susan Hagan was invited to contribute a chapter to **Alan Male**'s, *A Companion to Illustration: Art and Theory*, a benchmark reference volume that explores the definition of illustration and its impact on culture. Hagan's chapter discusses illustrators as collaborative problem solvers.

> One function of language is that it connects people to history, heritage and identity. We are a world of nations, and language also serves to create national cohesion.
>
> **Dudley Reynolds**
> *Language Policy in Globalized Contexts*
> 2019 WISE Research

WISE roundtable on language learning policy

Dudley Reynolds led a roundtable discussion on the topic of language learning and multilingualism. The discussion was part of the WISE Happening series, a monthly forum hosted by the World Innovation Summit for Education (WISE).

HBKU collaborations

Nesrine Affara delivered a seminar for the Life Science Seminar Series at Hamad Bin Khalifa University, sharing insights into the mechanisms that link humoral immunity, inflammation and cancer.

Ihab Younis presented his work on deregulation of minor intron splicing as a critical contributor to breast cancer at the College of Health and Life Sciences Research Day.

Faculty Research Highlights

Faculty members at the Carnegie Mellon Qatar campus are actively engaged in projects that have local, regional and international significance.

Liberal Arts conference at Texas A&M

Several CMU-Q faculty members, including keynote speaker **Dudley Reynolds**, presented at the seventh annual Liberal Arts International Conference hosted by Texas A&M University at Qatar. The conference aimed to shed light on the liberal arts in a dynamic global era.

New molecular biology lab

Gordon Rule established a new lab with a team of students investigating the molecular basis of how glutathione transferase inhibits a kinase. This work could lead to a new class of anti-cancer agents.

Health care initiative

Mustafa Akan's work designing a more equitable distribution of donor livers is part of CMU's new Tepper Health Care Initiative, which supports faculty members' research advances in health care. Over the 2018-19 academic year, Akan was invited to present his research to the American Transplant Congress, the American Society of Transplant Surgeons, the INFORMS Healthcare Conference, and the Australian Society of Operations Research.

Qatar Faculty Forum

Benjamin Reilly shared his research at the Qatar Faculty Forum, Qatar Foundation's regular academic seminar series for the liberal arts and sciences. Reilly discussed how the risk of malaria affected travel to Rome in the years 1400 to 1850.

International faculty collaborations

- **Christos Kapoutsis** was selected for the International Federation for Information Processing's Working Group 1.2, "Descriptional Complexity."
- **Kemal Oflazer** was invited to serve as associate editor of Computer Speech and Language (Elsevier).
- **Giselle Reis** was elected to the steering committee for "Logical Frameworks and Meta Languages: Theory and Practice Workshops." She also served as program chair for the 2018 Logical Frameworks and Meta Languages: Theory and Practice (LFMTP).

Research into e-textbooks

At information literacy conferences in Europe and North America, **Teresa MacGregor** and **Alicia Salaz** presented their research into textbook format preference. The study looks at how libraries can maximize the learning value of e-textbooks by training students to use digital platform features more effectively.

Climate change and sustainability

Chadi Aoun presented a workshop on climate change and sustainability at the Qatar Investment Authority, as well as a lecture on green information systems at the THIMUN Qatar Leadership Conference. In 2019, he was invited to serve on the SustainableQatar advisory board.

New projects

- **Incoming subaward with Qatar University**

  The Garbled Computer: Towards computing without seeing

  Co-LPI: **Ryan Riley**
  Co-LPI: **Qutaibah Malluhi**, Qatar University

- **Incoming subaward with Hamad Bin Khalifa University**

  Circumventing of microbial bioinvasion controls by ballast water

  PI: **Annette Vincent**
  LPI: **Basem Shomar**, Qatar Environment and Energy Research Institute (QEERI), HBKU

- **New seed grant in arts and sciences**

  Pilot corpus of undergraduate information systems writing in Qatar

  Pia Gomez Laich

- **New seed grant in biological sciences**

  Molecular mechanism of Jun Kinase (JNK) inhibition by GSTP1: Phase I - reagent development

  Gordon Rule

Research Seminar Series

The Research Office launched a new seminar series for the CMU-Q community, inviting students, faculty and staff to learn more about the ongoing projects at the university.

SLATE-Q: Making writing expectations explicit through interdisciplinary collaborations

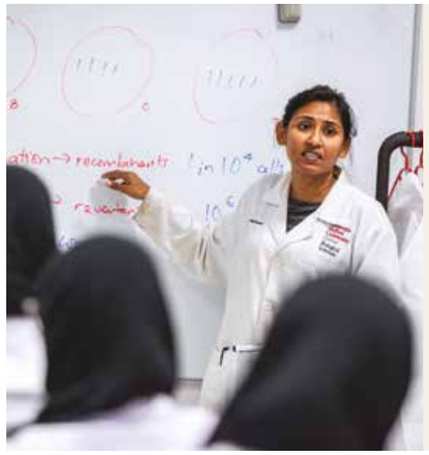
University students are expected to write analytically and argumentatively, but many lack the awareness or language control, and assignments often do not make expectations explicit. A collaboration between applied linguists and information systems faculty members, this study has developed pedagogical interventions to support learners as they write effective, analytical texts.

The SLATE-Q team is led by **Silvia Pessoa** and includes CMU-Q principal investigators **Selma Limam Mansar, Pia Gomez Laich, Divakaran Liginlal, Thomas Mitchell,** and **Susan Hagan**. The team also includes **Ahmar Mahboob**, University of Sydney, and **Ryan Miller**, Kent State University.

Modeling collagenous soft tissue

Mathematical models that describe how soft biological tissue responds to mechanical stress are an essential part of basic biomechanics. This project creates continuum level mathematical formulations that describe the relation between swelling, deformation, stress, and key metabolic factors.

Heiko Topol is a postdoctoral research associate with a background in mechanical engineering. The co-lead principal investigators for this project are CMU-Q's **Hasan Demirkoparan** and **Thomas Pence** from Michigan State University.



Bacteriophages in wastewater: isolation and use

Water security and sustainability in Qatar is a critical issue, since the only source of drinking water is the desalinated seawater from the Arabian Gulf. Water quality and safety is a key component of water security. This project aims to isolate and use bacteriophages as biomonitoring tools in wastewater treatment plants to validate the efficacy of the treatment process.

Annette Vincent is the program director of biological sciences and the lead principal investigator for this project. The principal investigators include CMU-Q's **Valentin Ilyin** and **Basem Shomar** from HBKU's Qatar Environment and Energy Research Institute.

A comparison of the impact of the Basel Standards upon Islamic and conventional bank risks in the gulf state region

Subsequent to the 2008 global crisis, Basel III has proposed some major changes to banking regulations. This project is a comparative study of the Islamic and conventional banking sector risks using market data generated from a sample of publicly listed Islamic and conventional banks in the Gulf Cooperation Council (GCC) region.

John O'Brien and **Fuad Farooqi** are part of the business administration faculty at CMU-Q, teaching courses in finance and accounting. In addition to Islamic finance, their research interests lie in the areas of fintech and the blockchain.

Formalization of automated trading systems in a concurrent linear framework

By formally representing the core of a financial exchange as a set of logical formulas, it is possible to both run the exchange and prove properties about it. This project uses a concurrent and linear framework to model a financial order matching system where buy and sell orders are matched according to the price-time priority.

Dragiša Žunić was a postdoctoral research associate who worked with co-lead principal investigators CMU-Q's **Giselle Reis** and CMU's **Iliano Cervesato** on this project.

Role of the PDZ- and LIM-containing protein Zasp in integrin-mediated cell adhesion

In multicellular organisms, cells attach to each other and the matrix around them using specific adhesion proteins called integrins to form functional tissues and organs. Cells can regulate their adhesion to move, migrate and invade. This study focuses on how cells regulate integrin function, which could help better understanding how normal cells function and how disease onset takes place.

Mohamed Bouaouina is an assistant teaching professor of biological sciences at CMU-Q and lead principal investigator on the project.

Student and Alumni Research Highlights

For their research projects, students are encouraged to reach beyond traditional program boundaries to tap into creativity, innovative problem solving and teamwork.

School of Computer Science award for research

Omar Khattab received the Alumni Award for Undergraduate Excellence in Computer Science by CMU's School of Computer Science. The award was given for Khattab's senior thesis, which he completed under the mentorship of **Mohammad Hammoud**.

iGEM competition

A team of students from four programs developed a rapid, inexpensive test using CRISPR technology to screen for carriers of sickle cell anemia. They presented their project at the International Genetically Engineered Machine (iGEM) competition in Cambridge, Massachusetts.

ISSCR Abstract Merit Award

CMU-Q alumna **Bushra Memon**, who is now pursuing her PhD at the College of Health and Life Sciences at Hamad Bin Khalifa University, was recognized by the International Society for Stem Cell Research for her outstanding research on diabetes during the 2019 ISSCR Conference in Los Angeles.

Alumni diabetes research at CUDOS 2018

CMU-Q alumni showcased their work at the conference series on understanding molecular mechanisms in cardiovascular biology, diabetes, obesity and stroke, organized by Sidra Medicine. **Alya Al-Kurbi, Asma Al-Naama, Omair Al Nuaimi, Reem Hasnah** and **Mohammed Janahi** each presented work in the area of Type 1 diabetes.

> "I spent all of my time researching at CMU-Q, which is now reflected in the work I do. I am able to do this job because of the laboratory skills I developed at CMU-Q."
>
> **Saad Rasool**
> Research Specialist, Sidra Medicine
> Class of 2018

Frontiers of Oncology

Sophomore student **Abdullah Shaar** co-authored a *Frontiers of Oncology* article that investigates the role of a proto-oncoprotein in human malignancies. Shaar worked on the project during an internship at the National Center for Cancer Care and Research at Hamad Medical Corporation.

Voice technology at the World Economic Forum

CMU-Q alumnus **Mahmoud Al Ismail**, now a research associate at the School of Computer Science, was part of a CMU delegation to the World Economic Forum's Annual Meeting of New Champions, in Tianjin, China. Al Ismail is part of a team at the Language Technologies Institute.

Student Projects

Through research projects, students develop the skills of intellectual rigor and creative problem solving that are integral to their careers and future studies.

QSIURP 2018 awards

Through the Qatar Student-Initiated Undergraduate Research Program, students develop research skills by working on projects that are driven by their interests. The projects are research, scholarly, or artistic activities that lead to the production of new knowledge, increased problem-solving capabilities, original, critical, or historical theory and interpretation, or the production of art.

- **Sayeda Amir**, Role of Kindlin-2 in breast cancer cell adhesion and migration
  Faculty advisor: **Mohamed Bouaouina**
- **Mohammed Yusuf Ansari** and **Maimoon Siddiqui**, Developing a group study mobile application by researching human computer interaction
  Faculty advisor: **Giselle Reis**
- **Aya Nour**, Effect of p38α-dependent AUF1 phosphorylation on transcription factor ATF3 stabilization
  Faculty advisor: **Ihab Younis**
- **Julian Sam** and **Sameer Ahmad**, Code translation for implementing a functional assertion engine in SML
  Faculty advisor: **Giselle Reis**

International conferences

- IEEE Local Computer Networks Conference, **Shaden Shaar**, Chicago, USA
- CIKM 2018 International Conference on Information and Knowledge Management, **Omar Khattab**, Turin, Italy
- iGEM 2018 Giant Jamboree competition, **Kaan Aksoy, Dina Altarawneh, Joana Khatib, Maimoon Siddiqui**, Boston, USA
- 17th IEEE International Conference on Machine Learning and Applications, **Shaden Shaar**, Orlando, USA

Senior Honors theses

- **Al-Dana Al-Mohannadi**, Toward enhancing technology use in Qatar's public schools
  Faculty advisor: **Susan Hagan**
- **Khalid Al-Naemi**, Integrin-mediated signaling in breast cancer cells
  Faculty advisor: **Mohamed Bouaouina**
- **Najlaa Al-Thani**, Metagenomic analysis of DNA and RNA profiles in ballast water
  Faculty advisor: **Annette Vincent**
- **Sayeda Amir**, Role of Kindlin-2 in breast cancer cell adhesion and migration
  Faculty advisor: **Mohamed Bouaouina**
- **Aisha Fakhroo**, PTEN gene encodes a ncRNA that acts as a potent tumor suppressor in breast cancer
  Faculty advisor: **Ihab Younis**
- **Kawthar Jafarian**, Molecular tools for microbial viability assessment in environmental samples: Case study of ballast water
  Faculty advisor: **Annette Vincent**
- **Youssef Kanbour**, Targeted demethylation of CpG islands
  Faculty advisor: **Ihab Younis**
- **Omar Khattab**, A distributed, graph-based framework for information retrieval
  Faculty advisor: **Mohammad Hammoud**
- **Aya Nour**, The effect of p38α kinase on binding of AUF1 protein to ATF3 transcripts in breast cancer
  Faculty advisor: **Ihab Younis**

Meeting of the Minds

The annual Meeting of the Minds symposium featured research projects from all five programs of study, including 26 from undergraduate students. Expert judges represented organizations from across Qatar.

CMU-Q awards

Best project: First place

- **Omar Khattab**, IRg: A distributed graph-based framework for information retrieval
  Advisor: **Mohammad Hammoud**

  Khattab created a novel framework that makes it easier and more efficient for information retrieval experts to develop and deploy scalable search engines. Large-scale information retrieval is central to many applications like web and e-commerce searches.

Best project: Second place

- **Beom Jin Jayden Park** and **Hawra Al-Saygh**, Effect of aspartame on kinetics of calf intestinal alkaline phosphatase
  Advisor: **Annette Vincent**

Best project: Third place

- **Youssef Kanbour**, Re-expression of BCRA1 using targeted DNA demethylation in breast cancer cells
  Advisor: **Ihab Younis**

Best poster design

- **Al-Dana Al-Mohannadi**, Educating girls in Qatar: Toward enhancing technology use in public schools
  Advisor: **Susan Hagan**

QNRF undergraduate awards

Qatar National Research Fund and CMU-Q have a long history of partnership and collaboration, and the fruits of this partnership are on display at Meeting of the Minds. Many of the student projects are off-shoots of larger, faculty-led projects that have been generously funded by QNRF.

31
posters

21
external judges

This year's QNRF awards were presented by senior program manager for ICT at QNRF, **Dr. Munir Tag**.

- **Albandari Al-Khater**, Modulating PARP1 splicing in breast cancer as potential therapeutic approach
  Advisor: **Ihab Younis**
- **Omar Khattab**, IRg: A distributed graph-based framework for information retrieval
  Advisor: **Mohammad Hammoud**
- **Anis Charfi, Syed Mehdi** and **Esraa Mohamad**, ARAP – Author profiling and its application for market segmentation

Planning and Statistics Authority awards

For many years, the Planning and Statistics Authority has supported undergraduate research at CMU-Q with special awards for projects relevant to Qatar.

The awards from the Planning and Statistics Authority were announced by **Dr. Barak Yehya**, a longtime friend and supporter of CMU-Q.

- **Aisha Fakhroo, Boshra Al-Sulaiti** and **Reem Elasad**, PTEN gene encodes a ncRNA that acts as a potent tumor suppressor in breast cancer
  Advisor: **Ihab Younis**
- **Kawthar Al-Sadat**, Molecular tools for microbial viability assessment in environmental samples: Case study of ballast water
  Advisors: **Basem Shomar**, Qatar Environment and Energy Research Institute, and **Annette Vincent**
- **Al-Dana Al-Mohannadi**, Educating girls in Qatar: Toward enhancing technology use in public schools
  Advisor: **Susan Hagan**
- **Faiq Defiandry**, What does the eye say?
  Advisor: **Jennifer Bruder**
- **Anis Charfi, Esraa Mohamad** and **Syed Mehdi**, Deception detection in Arabic text

Appendices

Ongoing Externally Funded Projects
Faculty Publications
Faculty Presentations
Meeting of the Minds Posters
Faculty Members
About Us

Ongoing Externally Funded Projects

National Priorities Research Program, Qatar National Research Fund

a. Role of the PDZ- and LIM-containing protein Zasp in integrin-mediated cell adhesion.
Lead PI: **Mohamed Bouaouina**

b. Teams of aquatic/aerial robots for marine environmental monitoring (TARMEM)
Lead PI: **Gianni Di Caro**
Subaward partners:
PI: Enrico Simetti, University of Genova
PI: Filippo Arrichiello, University of Cassino and Southern Lazio

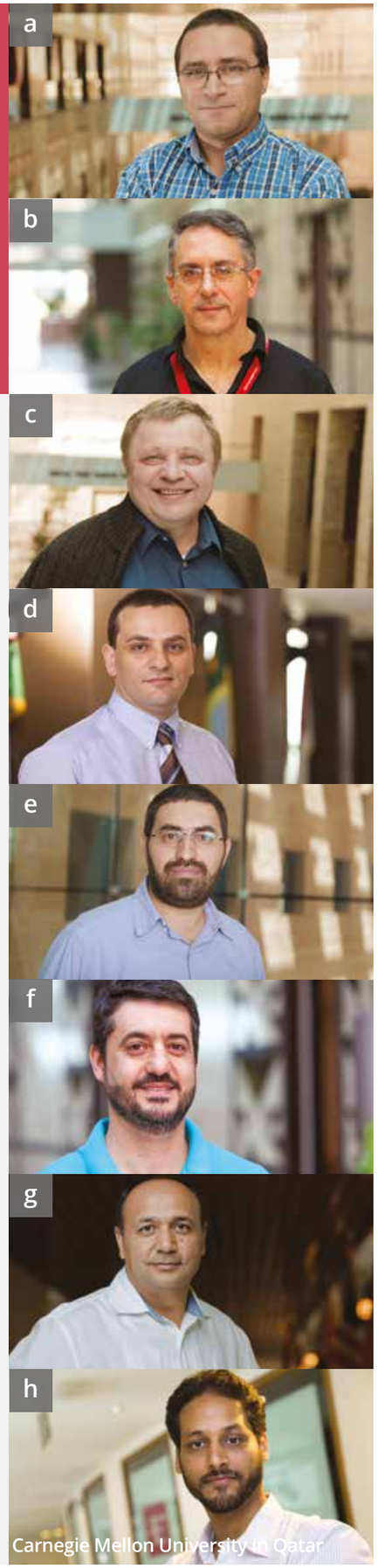
c. Personalised drug selection for cancer treatment in Qatar
PI: **Valentin Ilyin**
Subcontract with Hamad Medical Corporation (HMC):
Lead PI: Peter Coveney, University College London
Co-Lead PI: Mohamad Ussama Al Homsi, HMC

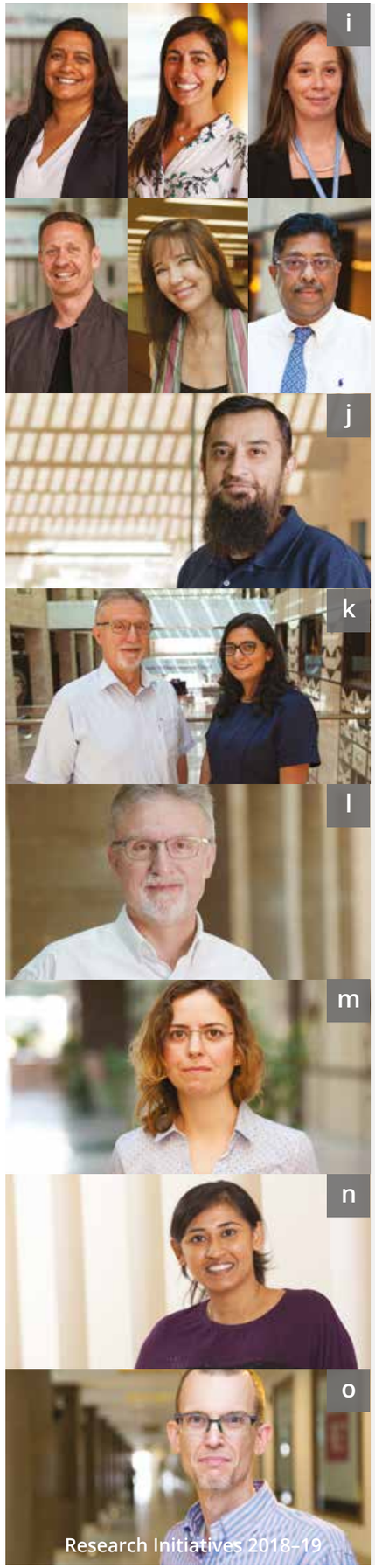
d. Arab author profiling for cyber-security
Lead PI: **Anis Charfi**
Subaward partners:
PI: Wajdi Zaghouani, Hamad Bin Khalifa University
PI: Abdelmajid Ben Hamadou, Centre de Recherche en Numérique de Sfax, Tunisia
PI: Paolo Ross, Polytechnic University of Valencia, Spain

e. Scalable analytics engine for big graphs on the cloud
Lead PI: **Mohammad Hammoud**
Subaward partners:
PI: Tamar Elsayed, Qatar University
PI: Rami Melhem, University of Pittsburgh

f. Molecular profiling of breast cancer transcriptome and splicing aberrations
Lead PI: **Ihab Younis**

g. New mathematical models for the large strain swelling response of biological tissues: Applications to edema, inflammation, and pregnancy
Co-Lead PI: **Hasan Demirkoparan**
Lead PI: Thomas Pence, Michigan State University, UA





h. Towards mobile opportunistic cloud computing: Enabling generic computation offloading to extreme heterogeneous entities
Lead PI: **Khaled Harras**

QHCN: Towards reliable and efficient mHealth system with multimodal processing and communications for effective remote patient diagnosis
PI: **Khaled Harras**
Subcontract with Qatar University (QU):
Lead PI: Amr Mohamed, QU

i. SLATE-Q: Scaffolding literacy in academic and tertiary environments: The case of communication in information systems
Lead PI: **Silvia Pessoa**
PI: **Pia Gomez Laich**
PI: **Selma Limam Mansar**
PI: **Thomas Mitchell**
PI: **Susan Hagan**
PI: **Divakaran Liginlal**
Subaward partners:
PI: Ryan Miller, Kent State University
PI: Ahmar Mahboob, University of Sydney

j. Bringing computer science to secondary schools – Curriculum design and implementation
Lead PI: **Saquib Razak**

k. MADAR: Multi-Arabic dialect applications and resources
Co-Lead PI: **Kemal Oflazer**
PI: **Houda Bouamor**
Subaward partners:
Lead PI: Nizar Habash, New York University Abu Dhabi
PI: Owen Rambow: Columbia University

l. Testing English reading comprehension through deep text analysis and question generation
Lead PI: **Kemal Oflazer**
PI: Teruko Mitamura, Carnegie Mellon University

m. Automated verification of properties of concurrent, distributed and parallel specifications with applications to computer security
Co-Lead PI: **Giselle Reis**
Lead PI: Iliano Cervesato, Carnegie Mellon University
Subaward partner:
PI: Carsten Schürmann, University of Copenhagen

n. Using bacteriophages as biomonitoring tools for water quality measurements
Lead PI: **Annette Vincent**
PI: **Valentin Ilyin**
Subaward partner:
PI: Basem Shomar, Qatar Environment and Energy Research Institute (QEERI), HBKU

Qatar Foundation World Innovation Summit for Education (WISE)

o. Language policy in globalized contexts
Lead PI: **Dudley Reynolds**

Faculty Publications, July 2018 to June 2019

- C.G Rickert, Z. Leung, **Mustafa Akan**, J.F. Markmann, S. Tayur, H. Zhao and H. Yeh. "DOME: A new strategy for prioritizing hepatocellular carcinoma patients on the liver transplant waitlist." In *American Journal of Transplantation.*
- E. Nadar, A. Akcay, **Mustafa Akan** and A. Scheller-Wolf. "The benefits of state aggregation with extreme-point weighting for assemble-to-order systems." In *Operations Research*.
- **Mustafa Akan**. "Queueing games." In *Handbook of Healthcare Analytics: Theoretical Minimum for Conducting 21st Century Research on Healthcare Operations.* Tinglong Dai and Sridhar Tayur (Eds.). John Wiley and Sons, Inc.
- Paolo Rosso, Francisco Rangel Prado, Bilal Ghanem and **Anis Charfi**. "ARAP: Arabic author profiling for cyber-security." In *Procesamiento del Lenguaje Natural.*
- Heiko Topol, **Hasan Demirkoparan** and T. J. Pence. "Morphoelastic fiber remodeling in pressurized thick-walled cylinders with application to soft tissue collagenous tubes." In *European Journal of Mechanics A/Solids*.
- J. Guzzi, A. Giusti, L. Gambardella and **Gianni Di Caro**. "A model of artificial emotions for behavior-modulation and implicit coordination in multi-robot systems." In *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO).*
- J. Guzzi, A. Giusti, J. Nagi, L. Gambardella and **Gianni Di Caro**. "Artificial emotions as dynamic modulators of individual and group behavior in multi-robot system." In *Proceedings of the 17th International Conference on Autonomous Agents and Multiagent Systems (AAMAS).*
- J. Ban, J. Guzzi, F. Amigoni, Eduardo Feo-Flushing, A. Giusti, L. Gambardella and **Gianni Di Caro**. "An integer linear programming model for fair multitarget tracking in cooperative multirobot systems." In *Autonomous Robots*.
- **Pia Gomez Laich**, R. T. Miller and **Silvia Pessoa**. "Scaffolding argumentative analytical writing in a design class: A corpus analysis of student writing." In *Linguistics and Education*.
- **Pia Gomez Laich** and N. Taguchi. "Task complexity effects on interaction during a collaborative persuasive essay writing task: A conversation-analytic perspective." In *Task-based approaches to teaching and assessing pragmatics*. N. Taguchi and Y. Kim (Eds.). John Benjamins.
- **Susan Hagan** and D. Barron. "Reviewing practice-based design research: The pursuit of a disciplinary destination." In *She Ji: The Journal of Design, Economics, and Innovation*.
- **Susan Hagan**. "Illustrators: Collaborative problem solvers in three environments." In *A Companion to Illustration*. A. Male (Ed.). Wiley Blackwell, Inc.
- K. Fernandes, R. Melhem and **Mohammad Hammoud**. "Dynamic elasticity for distributed graph analytics." In *Proceedings of the 10th IEEE International Conference on Cloud Computing Technology and Science.*
- K. Fernandes, R. Melhem and **Mohammad Hammoud**. "Investigating and modelling performance scalability limits for distributed graph analytics." In *Proceedings of the 10th IEEE International Conference on Cloud Computing Technology and Science.*
- M.H. Mofrad, R. Melhem and **Mohammad Hammoud**. "Revolver: Vertex-centric graph partitioning using reinforcement learning." In *Proceedings of the 10th IEEE International Conference on Cloud Computing Technology and Science.*
- Y. Ahmad, O. Khattab, A. Malik, A. Musleh, **Mohammad Hammoud**, M. Kutlu, M. Shehata and T. Elsayed. "LA3: A scalable link- and locality-aware linear algebra-based graph analytics system." In *Proceedings of the Forty-fourth International Conference on Very Large Data Bases.*
- A. Saeed, A. Abdelkader, A. Neishaboori, **Khaled A. Harras** and A. Mohamed. "On realistic target coverage by autonomous drones." In *Proceedings of IEEE Transactions on Sensor Networks.*
- A. Guirguis, F. Digham, K. Seddik, M. Ibrahim, **Khaled A. Harras** and M. Youssef. "Primary user aware optimal discovery routing for cognitive radio networks." In *Proceedings of IEEE Transactions on Mobile Computing.*
- H. Abdelnasser, M. Youssef and **Khaled A. Harras**. "A ubiquitous WiFi-based fine-grained gesture recognition system." In *Proceedings of IEEE Transactions on Mobile Computing.*
- M. Aazam, S. Zeadally and **Khaled A. Harras**. "Deploying fog computing in industrial internet of things and Industry 4.0." In *Proceedings of IEEE Transactions on Industrial Informatics.*
- Deepak Kumar, M.R. Myers, U. Al Homsi and **Valentin Ilyin**. "Role of ESR pathway genes." In *Breast Cancer: A Review. Advances in Breast Cancer Research.*
- **Christos Kaptousis**. "Optimal 2DFA algorithms for one-way liveness on two and three symbols." In *Adventures between lower bounds and higher altitudes – Essays dedicated to Juraj Hromkovič on the occasion of his 60th birthday*. H.-J. Böckenhauer, D. Komm and W. Unger (Eds.). Springer.
- M. Anabtawi, **Christos Kapoutsis**, S. Hassan, and M. Zakzok. "An oracle hierarchy for small one-way finite automata." In *Proceedings of the International Conference on Language and Automata Theory and Applications.*
- **Christos Kapoutsis**. "Minicomplexity: Some motivation, some history, and some structure." In *Proceedings of the International Conference on Current Trends in Theory and Practice of Informatics (SOFSEM 2019).*
- **Thomas Mitchell** and **Silvia Pessoa**. "A case study of teacher development through collaboration between writing faculty and a design professor to scaffold the writing of arguments." In *Second language writing instruction in international contexts: Language teacher preparation and development*. L. Seloni and S. Henderson Lee (Eds.). Multilingual Matters.
- **Kemal Oflazer** and M. Saraçlar. "Turkish and its challenges for language processing." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- G. Eryiğit, J. Nivre and **Kemal Oflazer**. "Dependency Parsing of Turkish." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- **Kemal Oflazer**. "Morphological analysis for Turkish." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- Ö. Çetinoğlu and **Kemal Oflazer**. "Deep parsing of Turkish with lexical-functional grammar." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- Ö. Çetinoğlu, O. Bilgin and **Kemal Oflazer**. "Turkish Wordnet." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- D. Zeynep Hakkani-Tür, G. Tür, **Kemal Oflazer**, M. Saraçlar and D. Yuret. "Morphological disambiguation for Turkish." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- G. Eryiğit, **Kemal Oflazer** and U. Sulubacak. "Turkish Treebank." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- **Kemal Oflazer**, R. Yeniterzi and İ. Durgar-El Kahlout. "Statistical machine translation and Turkish". In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- R. Yeniterzi, G. Tür and **Kemal Oflazer**. "Statistical machine translation and Turkish." In *Turkish Language Processing*. K. Oflazer and M. Saraçlar (Eds.). Springer Verlag.
- J. Araki, L. Mulaffer, A. Pandian, Y. Yamakawa, **Kemal Oflazer** and T. Mitamura. "Interoperable annotation of events and event relations across domains." In *Proceedings of the 14th Joint ACL – ISO Workshop on Interoperable Semantic Annotation*.
- **Kemal Oflazer** and M. Saraçlar (Eds). *Turkish Language Processing*. Springer Verlag.
- **Taeyong Park** and A. Reeves. "Local unemployment and voting for president: Uncovering causal mechanisms." In *Political Behavior*.
- **Silvia Pessoa**, **Thomas Mitchell** and **Ben Reilly**. "Scaffolding the writing of argumentative essays in history: A functional approach." In *The History Teacher*.
- **Silvia Pessoa**, **Thomas Mitchell** and **Pia Gomez Laich**. "Applying the onion model to teaching argumentative analytical writing across the disciplines." In *Journal of English for Academic Purposes.*
- **Silvia Pessoa**, **Pia Gomez Laich**, **Divakaran Liginlal** and **Thomas Mitchell**. "Scaffolding case analysis writing: A collaboration between IS and Writing Faculty." In *Journal of Information Systems Education*.
- **Silvia Pessoa** and **Thomas Mitchell**. "Preparing students to write in the disciplines: Unpacking the language of description, analysis, and argument." In *Changing Practices for the L2 Writing Classroom: Moving Beyond the Five-Paragraph Essay*. N. Caplan and A. Johns (Eds.). University of Michigan Press.
- **Silvia Pessoa**, **Thomas Mitchell** and R.T. Miller. "Scaffolding literacy at a branch campus of an American university in the Middle East: Interdisciplinary collaborations." In *Western curricula in international contexts*. M. Rajakumar (Ed.). Rowman and Littlefied.
- **Silvia Pessoa**, **Thomas Mitchell** and **Aaron Jacobson**. "Scaffolding argumentative writing history: Connecting theory, practice, and assessment." In *Proceedings from the 45th International Systemic Functional Linguistics Congress.*
- S. Hassan, S. Shaar, B. Raj and **Saquib Razak**. "Interactive evaluation of classiers under limited resources." In *Proceedings of the 17th IEEE International Conference on Machine Learning and Applications.*
- S. Shaar, **Saquib Razak**, F. Dalvi and S.H. Moosavi. "Group identification in crowded environments using proximity sensing." In *Proceedings of the IEEE 43rd Conference on Local Computer Networks.*
- **Benjamin Reilly**. "Cardinal numbers: Changing patterns of malaria and mortality in Rome, 494-1850." In *Journal of Interdisciplinary History.*
- **Benjamin Reilly**. "The historical ecology of malaria in Ethiopia: Deposing the spirits." In *Journal of African Studies.*
- **Giselle Reis** and B. Woltzenlogel Paleo. "Complexity of translations from resolution to sequent calculus." In *Mathematical Structures in Computer Science.*
- B. Xavier, C. Olarte, **Giselle Reis** and Vivek Nigam. "Mechanizing focused linear logic in Coq." In *Electronic Notes in Theoretical Computer Science 338.*
- **Dudley Reynolds**. "The process of writing." In *Preparing Adult English Learners to Write for College and the Workplace*. R. Fernandez, J. K. Peyton, and K. Schaetzel (Eds.). University of Michigan Press.
- **Dudley Reynolds**. "LTAs that learn." In *The Role of Language Teacher Associations in Professional Development*. A. Elsheikh, C. Coombe, O. Effiong (Eds.). Springer.
- **Dudley Reynolds**. "Writing assessment." In *The TESOL Encyclopedia of English Language Teaching (Vol. 8 Assessment and Evaluation)*. J. I. Liontas (Ed.). John Wiley and Sons, Inc.
- **Dudley Reynolds**, D. Freeman, A. Abu-Tineh, C. Camerattia, M. Epperson, W. Toledo and A. Webre. "How Qatar English teachers think about professional development." In *Proceedings of the Qatar Foundation Annual Research Conference.*
- M. AlSabah, G. Oligeri and **Ryan Riley**. "Your culture is in your password: An analysis of a demographically-diverse password dataset." In *Computers and Security.*
- **Gordon Rule**, A.L. Rockwood and Johnson-Davis. "LC-MS/MS method for the quantification of the leflunomide metabolite, teriflunomide, in human serum/plasma." In *Methods in Molecular Biology*.
- C. Stead, **Nui Vatanasakdakul** and **Chadi Aoun**. "Big data analytics capabilities for IFRS9 success." In *Proceedings of the 26th European Conference on Information Systems.*
- E. El Marabti and **Ihab Younis**. "The cancer splicesome: Reprograming of alternative splicing in cancer." In *Frontiers in Molecular Biosciences.*
- **Mohamed Zayed** and A. Schneidewind. "Spin plaquette entanglement in SrCu2(BO3)." In *Annual Report 2018, Heinz Maier-Leibnitz Zentrum.*

Faculty Presentations, July 2018 to June 2019

- **Mustafa Akan**. "REACH: A new strategy for prioritizing hepatocellular carcinoma patients on the liver transplant waitlist." American Transplant Congress. Boston, USA.
- **Mustafa Akan**. "Stratifying HCC patients for liver transplantation. REACH: Risk of Exceeding Allocation Criteria for HCC." American Society of Transplant Surgeons: 19th Annual State of the Art Winter Symposium. Miami, USA.
- **Mustafa Akan**. "REACH: A new strategy for prioritizing hepatocellular carcinoma patients on the liver transplant waitlist." INFORMS Healthcare Conference, MIT Sloan School. Boston, USA.
- **Mustafa Akan**. "Size based exception points for fair liver allocation." INFORMS Healthcare Conference, MIT Sloan School. Boston, USA.
- **Mustafa Akan**. "Pricing in a two-sided market with time-sensitive customers and suppliers." Australian Society of Operations Research (ASOR) Conference. Melbourne, Australia.
- **Mustafa Akan**. "Size based exception points for fair liver allocation." INFORMS Annual Meeting. Seattle, USA and Phoenix, USA.
- **Chadi Aoun**. "How can you save the world with Green Information Systems?" THIMUN Qatar Leadership Conference. Doha, Qatar.
- **Chadi Aoun**. "Climate change and sustainability: Implications for effective governance." Qatar Investment Authority (QIA). Doha, Qatar.
- **Lauren Burakowski**, **Jennifer Bruder**, and E. D. Thiessen. "Exploring implicit attitudes of gender in a multi-national population." 31st APS Annual Convention. Washington D.C., USA.
- T. J. Pence and **Hasan Demirkoparan**. "Swelling twist interaction in a fiber reinforced hyperelastic tube." 10th European Solid Mechanics Conference. Bologna, Italy.
- Heiko Topol, **Hasan Demirkoparan** and T. J. Pence. "Stretch-dependent remodeling of collagen-like dispersed fibers." 10th European Solid Mechanics Conference (ESMC). Bologna, Italy.
- **Gianni Di Caro**. "A survey of machine learning for combinatorial optimization." 30th European Conference on Operational Research. Dublin, Ireland.
- **Pia Gomez Laich**, **Divakaran Liginlal** and M. Maune. "Teaching analytical argumentative writing across disciplines." Liberal Arts International Conference (LAIC), Texas A&M University. Doha, Qatar.
- **Pia Gomez Laich** and R. M. Miller. "Making expectations clear: SFL-based scaffolding of writing in information systems." International Systemic Functional Congress (ISFC), Boston College. Boston, USA.
- S. El-Ayyat, S.G. Aly and **Khaled A. Harras**. "On integrating space syntax metrics with socialaware opportunistic forwarding." IEEE Wireless Communication and Networking Conference (WCNC). Marrakech, Morocco.
- A. Emam, A.A. Abdellatif, A. Mohamed and **Khaled A. Harras**. "EdgeHealth: An energy-efficient edge-based remote mHealth monitoring system." IEEE Wireless Communication and Networking Conference (WCNC). Marrakech, Morocco.
- A. Saeed, Y. Zhao, N. Dukkipati, E. Zegura, M. Ammar, **Khaled A. Harras** and A. Vahdat. "Efficient and flexible software packet scheduling." USENIX Symposium on Networked Systems Design and Implementation (NSDI). Boston, USA.
- A. Elgazzar, M. Aazam and **Khaled A. Harras**. "EdgeStore: Leveraging user-owned edge devices for mobile storage offloading." IEEE International Conference on Cloud Computing Technology and Science (CloudCom). Nicosia, Cyprus.
- M. Aazam, **Khaled A. Harras** and A. Elgazzar. "Delay tolerant computing: The untapped potential." ACM MobiCom Workshop on Challenged Networks (CHANTs). New Delhi, India.
- A. Emam, A. Mtibaa and **Khaled A. Harras**. "Message in a bottle: Extending communication coverage via boat-to-boat WiFi Communciation" ACM MobiCom Workshop on Challenged Networks (CHANTs). New Delhi, India.
- A. Saeed, M. Ammar, E. Zegura and **Khaled A. Harras**. "If you can't beat them, augment them: Improving local WiFi with only above driver changes." IEEE International Conference on Network Protocols (ICNP). Cambridge, UK.
- H. Geddawy, K. Habak, **Khaled A. Harras** and M. Hamdy. "An energy aware IoT femtocloud System." IEEE International Conference on Edge Computing (EDGE). San Francisco, USA.
- M.A. Shah and **Khaled A. Harras**. "Hitting three birds with one system: A voice-based CAPTCHA for the modern user." IEEE International Conference on Web Services (ICWS). San Francisco, USA.
- **Divakaran Liginlal**, **Silvia Pessoa**, **Pia Gomez Laich** and **Chadi Aoun**. "Applying the onion model to scaffold writing development in information systems courses." 24th Americas Conference on Information Systems (AMCIS). New Orleans, USA.
- **Divakaran Liginlal**, **Silvia Pessoa**, **Pia Gomez Laich** and **Teresa MacGregor**. "Case development and genre perspectives: A study of academic writing in human computer interaction design courses." 5th ICMIBI International Conference on Training, Education, and Management. Saint Julian's, Malta.
- M. Zakaria, **Divakaran Liginlal** and **Chadi Aoun**. "Measuring corporate transparency in sustainability reporting, TREO Talk." 24th Americas Conference on Information Systems (AMCIS). New Orleans, USA.
- M. Zakaria, **Divakaran Liginlal** and **Chadi Aoun**. "Measuring corporate transparency in sustainability reporting: An information entropy-based approach." 8th International Conference on Restructuring of the Global Economy (ROGE). University of Oxford, UK.
- L.K. Al-Thani and **Divakaran Liginlal**. "A study of natural interactions with digital heritage artifacts." 3rd International Congress and Expo, San Francisco, USA.
- **Teresa MacGregor** and **Alicia Salaz**. "You can lead students to VitalSource, but you can't make them think … or can you? The impact of training on e-textbook platform preference and recommendations for recasting library practice." Association of College and Research Libraries (ACRL) Biannual Conference. Cleveland, USA.
- **Teresa MacGregor** and **Alicia Salaz**. "Maximizing the learning value of e-textbooks: Practice recommendations based on a quasi-experiment." European Conference on Information Literacy (ECIL) Annual Conference. Oulu, Finland.
- **Teresa MacGregor**, J. Chisnell and L. Kelley. "Swipe right on JSTOR: Modeling online and speed dating methodologies to match students with library databases." Library Instruction West (LIW) Annual Conference. Grand Junction, USA.
- **Thomas Mitchell**, **Pia Gomez Laich** and **Silvia Pessoa**. "Explicit instruction of genre and student writing development: Results from interdisciplinary collaborations." 2nd International Conference on English Across the Curriculum. Hong Kong, China.
- **Kemal Oflazer**. "Türkçe Doğal Dil İşleme." (Turkish Natural Language Processing). Boğaziçi University Summer School on Machine Learning in Speech and Language Processing and Bioinformatics. Istanbul, Turkey.
- **Kemal Oflazer**. "Machine Translation." Boğaziçi University Summer School on Machine Learning in Speech and Language Processing and Bioinformatics. Istanbul, Turkey.
- **Taeyong Park**. "Dynamic specifications and overfitting in time series analysis." The 35th Annual Meeting of the Society for Political Methodology. Salt Lake City, USA.
- **Taeyong Park**. "Dynamic specifications and overfitting in time series analysis." 2018 IPSA World Congress of Political Science. Brisbane, Australia.
- **Silvia Pessoa** and **Pia Gomez Laich**. "Scaffolding writing in higher education through collaborations between writing and disciplinary faculty using an SFL-based genre approach: The case of information systems." Symposium of Second Language Writing, University of British Columbia. Vancouver, Canada.
- **Silvia Pessoa**, **Thomas Mitchell**, **Pia Gomez Laich**, M. Maune and R. Miller. "Applications of SFL and LCT in scaffolding information systems and business writing." American Association of Applied Linguistics (AAAL). Atlanta, USA.
- **Silvia Pessoa**, **Thomas Mitchell**, **Pia Gomez Laich**, M. Maune and R. Miller. "The application of the onion model and the teaching learning cycle for scaffolding analytical argumentative writing across the disciplines." TESOL Convention. Atlanta, USA.
- **Silvia Pessoa**, **Thomas Mitchell**, and **Aaron Jacobson**. "Scaffolding the writing of arguments in history through an interdisciplinary collaboration: The value of explicit language-based writing instruction." Liberal Arts International Conference (LAIC), Texas A&M University. Doha, Qatar.
- **Silvia Pessoa** and **Thomas Mitchell**. "Scaffolding the writing of arguments in history: The value of explicit language-based writing instruction." Symposium of Second Language Writing, Simon Fraser University. Vancouver, Canada.
- **Silvia Pessoa** and **Thomas Mitchell**. "Developing argument writing in history through SFL-informed instruction and assessment." International Systemic Functional Congress, Boston College. Boston, USA.
- **Daniel C. Phelps**. "An introduction to statistical learning." Hamad Medical Center. Doha, Qatar.
- **Giselle Reis**. "Towards a playground for logicians." Women in Logic. Oxford, UK.
- **Giselle Reis**. "Formalization of automated trading systems in a concurrent linear framework." Linearity and TLLA. Oxford, UK.
- **Dudley Reynolds**. "From competition to collaboration." WISE Happening Roundtable. Doha, Qatar.
- **Nui Vatanasakdakul**. "Cyber war: Qatar blockade – GCC countries." Community College of Qatar. Doha, Qatar.
- **Nui Vatanasakdakul**. "Digital transformation to risk transformation in financial sector." 5th Information Security Conference. Doha, Qatar.
- **Nui Vatanasakdakul**, **Chadi Aoun**, and Y. Putra. "Social media adoption among micro enterprise in Indonesia." 4th International Conference on Information and Network Technologies (ICINT). Kyoto, Japan.
- **Zelealem Yilma**. "Maximally centralized bipartite graphs." 10th International Colloquium on Graph Theory and Combinatorics. Lyon, France.
- **Ihab Younis**. "Deregulation of minor intron splicing as a critical contributor to breast cancer." Hamad Bin Khalifa University, College of Health and Life Sciences Research Day. Doha, Qatar.

Meeting of the Minds Posters

Biological Sciences

Effects of pH and temperature on the activity of alkaline phosphatase from sheep's brain, **Sara AlDarwish**, **Maha AlTamimi**

Effect of high temperatures on alkaline phosphatase isolated from *Escherichia coli*, **Khulood Al-Haroon**, **Noora Al-Shukri**

Kinetic study on effects of the inhibitor L-Phenylalanine on calf intestinal alkaline phosphatases, **Haya Alkaabi**, **Naila AlSowaidi**

Comparing thermostability and enzyme kinetics of bacterial alkaline phosphatase and calf-intestinal alkaline phosphatase at high temperatures, **Reem Al-Karbi**, **Sondoss Hassan**

Modulating PARP1 splicing in breast cancer as potential therapeutic approach, **Albandari Al-Khater**

Integrin-mediated signaling in breast cancer cells, **Khalid Al-Naemi**

Molecular tools for microbial viability assessment in environmental samples: Case study of ballast water, **Kawthar Al-Sadat**

Metagenomic analysis of DNA and RNA profiles in ballast water, **Najlaa Al-Thani**

Role of kindlin-2 in breast cancer cell adhesion and migration, **Sayeda Sakina Amir**

Role of P21 in the regulation of apoptosis in breast cancer tumor formation, **Sayeda Sakina Amir**

PTEN gene encodes a ncRNA that acts as a potent tumor suppressor in breast cancer, **Aisha Fakhroo**, **Boshra Al-Sulaiti**, **Reem Elasad**

Biological Sciences (continued)

Expression and purification of dihydrofolate reductase, **Dona Ferdinando**, **Muhammad Nahin Khan**

Effect of EDTA on enzymatic activity of calf intestinal alkaline phosphatase, **Muhammad Nahin Khan**, **Dona Ferdinando**

The role of p38α kinase in regulating AUF1 binding to ATF3 transcripts in breast cancer, **Aya Nour**

Effect of aspartame on kinetics of calf intestinal alkaline phosphatase, **Beom Jin Jayden Park**, **Hawra Al-Saygh**

Assessing the catalytic activities of purified placental alkaline phosphatase and alkaline phosphatase from MDA.MB.231 cancer cell-line, **Reema Subeh**, **Zahra Al-Raisi**

Business Administration

Near-optimal dynamic pricing strategies for selling limited inventory to rational customers, **Shireen Ahmed**, **Fahad Bahzad**, **Abraham Farooqui**

Supporting students development of self-authorship and reflective judgement, **Zeina Darwiche**

Two-sided matching with random utility and outside options, **Anthony Lo**, **Fariza Shiyap**, **Xinyu Ma**

Design of service points in queuing networks, **Madhvi Menon**, **Menatalla Mahmoud**

Computational Biology

Re-expression of BRCA1 using targeted DNA demethylation in breast cancer cells, **Youssef Kanbour**

Computer Science

Code translation for implementing a functional assertion engine in SML, **Sameer Ahmad**, **Julian Sam**

IRg: A distributed graph-based framework for information retrieval, **Omar Khattab**

Information Systems

Educating girls in Qatar: Toward enhancing technology use in public schools, **Al-Dana Al-Mohannadi**

What does the eye say?, **Faiq Defiandry**

Effect of language direction on spatial cognition, **Masooma Zehra**, **Danish Memon**

Postgraduate posters

An oracle hierarchy for small one-way finite automata, **Malek Anabtawi**, **Sabit Hassan**, **Christos Kapoutsis**, **Mohammad Zakzok**

MADAR Twitter user dialect identification, **Houda Bouamor**, **Nizar Habash**, **Sabit Hassan**, **Kemal Oflazer**

ARAP – Author profiling and its application for market segmentation, **Anis Charfi**, **Syed Mehdi**, **Esraa Mohamad**

Deception detection in Arabic text, **Anis Charfi**, **Esraa Mohamad**, **Syed Mehdi**

Supporting students writing case analysis in information systems and organizational behavior, **Silvia Pessoa**, **Pia Gomez Laich**, **Thomas Mitchell**, **Michael Maune**

Faculty Members	
Nesrine Affara	Assistant Teaching Professor, Biological Sciences
Mustafa Akan	Associate Professor, Operations Management
Serkan Akgüç	Assistant Teaching Professor, Finance
Andres Amerikaner	Visiting Assistant Professor, English
Chadi Aoun	Associate Teaching Professor, Information Systems
Ravichandra Bachu	Assistant Teaching Professor, Chemistry
Serra Boranbay-Akan	Assistant Teaching Professor, Economics
Houda Bouamor	Visiting Assistant Professor, Information Systems
Mohamed Bouaouina	Assistant Teaching Professor, Biological Sciences
Jennifer Bruder	Assistant Teaching Professor, Psychology
Lauren Burakowski	Assistant Teaching Professor, Psychology
Stephen Calabrese	Visiting Associate Professor, Economics
Anis Charfi	Associate Teaching Professor, Information Systems
Milton Cofield	Distinguished Service Professor, Business Management
Hasan Demirkoparan	Associate Teaching Professor, Mathematics
Gianni Di Caro	Associate Teaching Professor, Computer Science
Fuad Farooqi	Associate Teaching Professor, Finance
John Gasper	Associate Teaching Professor, Economics
Ebru Genç	Visiting Assistant Professor, Marketing
Pia Gomez Laich	Assistant Teaching Professor, English
David Emmanuel Gray	Assistant Teaching Professor, Philosophy
Susan Hagan	Associate Teaching Professor, Information Systems
Mohammad Hammoud	Assistant Teaching Professor, Computer Science
Khaled Harras	Program Director, Computer Science and Computational Biology Teaching Professor, Computer Science
Erik Helin	Special Lecturer, Spanish
Ludmila Hyman	Assistant Teaching Professor, English
Zeinab Ibrahim	Teaching Professor, Arabic Studies
Valentin Ilyin	Associate Teaching Professor, Computational Biology
Aaron Jacobson	Visiting Assistant Professor, History
Lansiné Kaba	Thomas M. Kerr Distinguished Career Professor
Christos Kapoutsis	Associate Teaching Professor, Computer Science
Niraj Khare	Assistant Teaching Professor, Mathematics
Ramesh Krishnamurti	Professor, Architecture
Cecile le Roux	Visiting Assistant Professor, Organization and Behavior
Divakaran Liginlal	Teaching Professor, Information Systems

Faculty Members (continued)	
Selma Limam Mansar	Senior Associate Dean, Education Area Head, Information Systems Teaching Professor, Information Systems
Teresa MacGregor	Director, Library
Patrick McGinnis	Program Director, Business Administration Distinguished Career Professor, Business Communication
Thomas Mitchell	Associate Teaching Professor, English
John O'Brien	Senior Associate Dean, Faculty and Outreach Area Head, Business Administration Associate Professor, Accounting and Experimental Economics
Kemal Oflazer	Associate Dean, Research Area Head, Computer Science Teaching Professor, Computer Science
Marion Oliver	Area Co-Head, Arts and Sciences Teaching Professor, Mathematics
Taeyong Park	Visiting Assistant Teaching Professor, Statistics
Silvia Pessoa	Associate Teaching Professor, English
Daniel Phelps	Program Director, Information Systems Associate Teaching Professor, Information Systems
Saquib Razak	Associate Teaching Professor, Computer Science
Benjamin Reilly	Teaching Professor, History
Giselle Reis	Assistant Teaching Professor, Computer Science
Dudley Reynolds	Area Co-Head, Arts and Sciences Teaching Professor, English
Ryan Riley	Associate Teaching Professor, Computer Science
Gordon Rule	Area Head, Biological Sciences Professor, Biological Sciences
Alicia Salaz	Senior Librarian and Information Scientist
Peter Stüttgen	Visiting Associate Teaching Professor, Marketing
Michael Trick	Dean Harry B. and James H. Higgins Professor of Operations Research
Nui Vatanasakdakul	Visiting Associate Professor, Information Systems
Annette Vincent	Program Director, Biological Sciences Associate Teaching Professor, Biological Sciences
George White	Distinguished Career Professor, Entrepreneurship
Zelealem Yilma	Assistant Teaching Professor, Mathematics
Bonnie Youngs	Teaching Professor, French and Francophone Studies
Ihab Younis	Assistant Teaching Professor, Biological Sciences
Mohamed Zayed	Associate Teaching Professor, Physics

About Us

For more than a century, Carnegie Mellon University has challenged the curious and passionate to imagine and deliver work that matters. A private, top-ranked and global university, Carnegie Mellon sets its own course with programs that inspire creativity and collaboration.

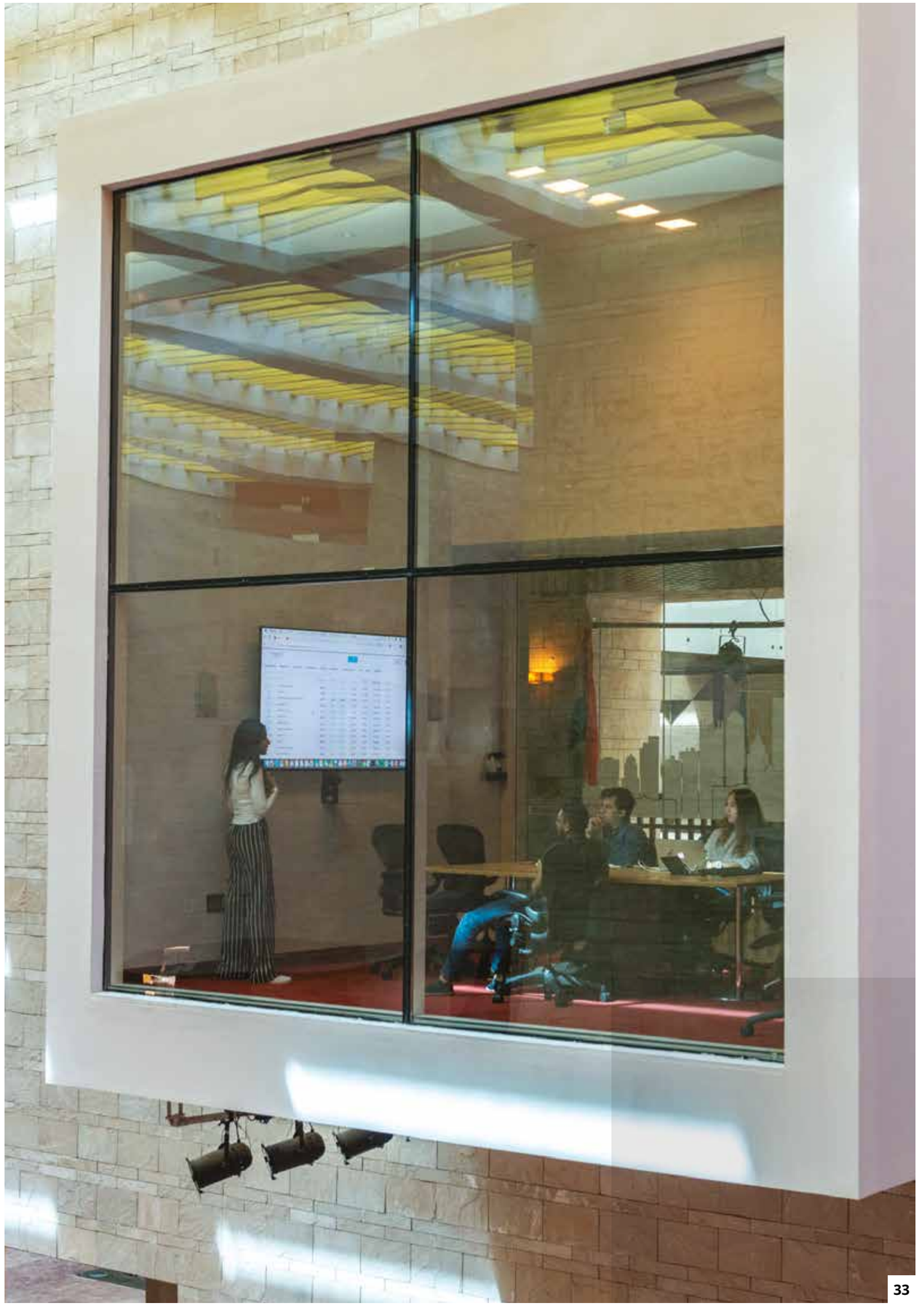
In 2004, Carnegie Mellon and Qatar Foundation began a partnership to deliver select programs that will contribute to the long-term development of Qatar. Today, Carnegie Mellon Qatar offers undergraduate programs in biological sciences, business administration, computational biology, computer science, and information systems. More than 400 students from 48 countries call Carnegie Mellon Qatar home.

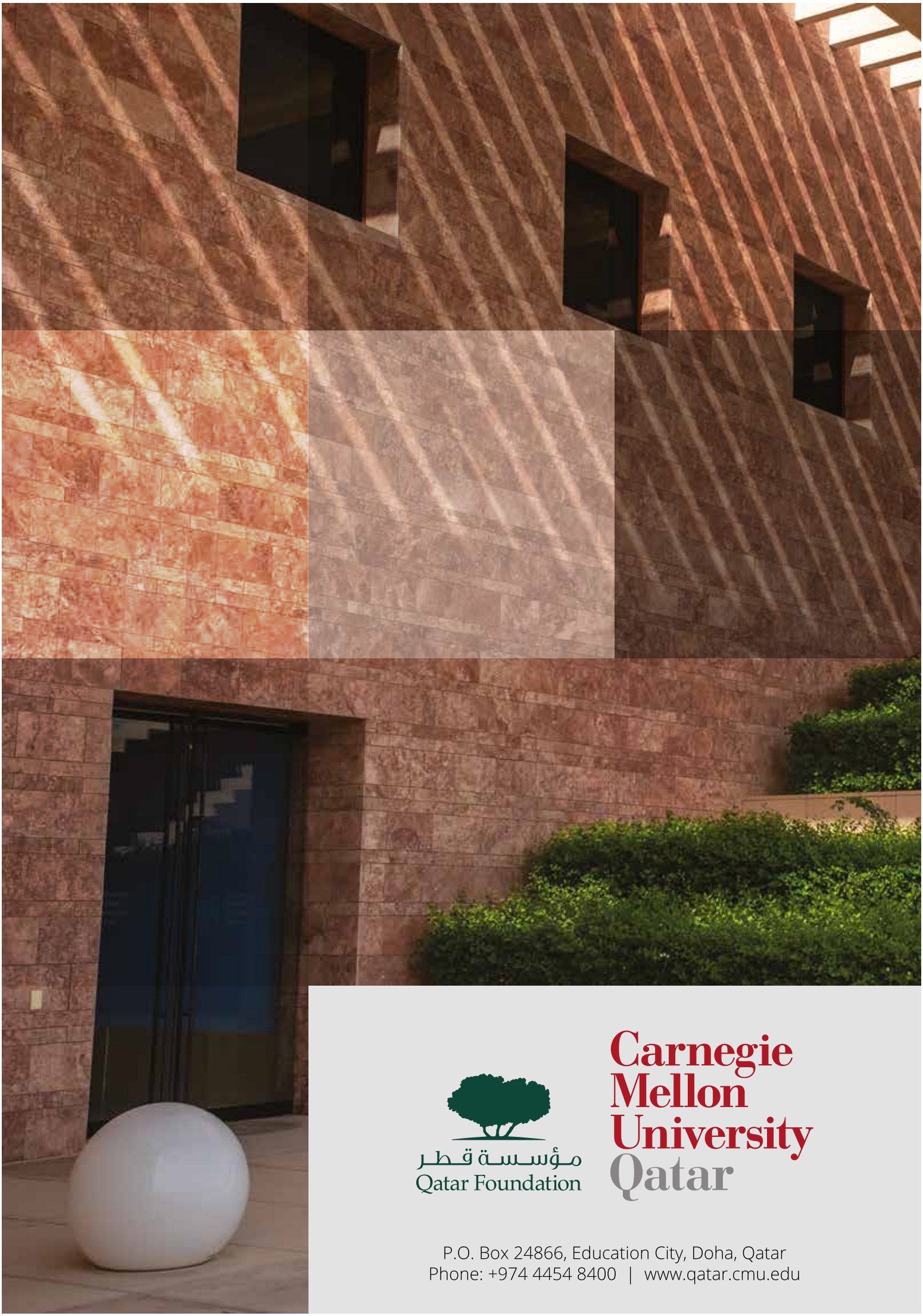
Graduates from CMU-Q are pursuing their careers in top organizations within Qatar and around the world, and many have started their own entrepreneurial ventures. With 12 graduating classes, the total number of alumni is more than 800.

To learn more, visit www.qatar.cmu.edu

Michael Trick, Dean
Selma Limam Mansar, Senior Associate Dean, Education
John O'Brien, Senior Associate Dean, Faculty and Outreach
Kemal Oflazer, Associate Dean, Research

Contacts:
Dean's Office: deans-office@qatar.cmu.edu
Research Office: cmuq-research@qatar.cmu.edu
Admission Office: ug-admission@qatar.cmu.edu
Media Inquiries: mpr@qatar.cmu.edu





مؤسسة قطر
Qatar Foundation

Carnegie Mellon University Qatar

P.O. Box 24866, Education City, Doha, Qatar
Phone: +974 4454 8400 | www.qatar.cmu.edu