

Department of Civil & Architectural Engineering

Department Executive Summary

This document reports about progress and activities of the Department of Civil & Architectural Engineering for the calendar year 2017. The Department runs its activities according to its vision to be recognized regionally and internationally as a leading department that provides high quality education, research and community service. The Department offers undergraduate program as well as postgraduate programs (for both MSc and PhD students) that cover all civil engineering specializations of structural Engineering, Construction management and safety, Geotechnical Engineering, Environmental Engineering, Pavement Engineering and Transportation Engineering.

One of the main highlights of the calendar year 2017 is the reaccreditation of the Civil Engineering undergraduate program by the Accreditation Board for Engineering and Technology (ABET). The Department students secured a number of awards in major national and international competitions. The Department successfully organized three competitions and four visits for high schools as a part of the outreach program. It actively participated in the Engineering week organized by the College of Engineering. The Department also organized a number of workshops such as the fourth Symposium and Workshop on Design for Fire Safety in Buildings and Built Infrastructure. Our faculty members have showed a high effective performance in academia and research for this year. Seven rewards received, seventy-nine papers were published, nine public lectures and seminars were delivered and eleven research projects were awarded for this year to our faculty. The department continued its collaboration with the industry and contributed to the development of a university MoU with Qatar Rail beside securing funding to conduct research in the area of railway engineering in collaboration with the Transportation and Traffic Safety Center. The collaboration with QD-SBG continued and the funded industrial chair was appointed and started. The main highlights related to faculty in the Department is promotion of one faculty to full professor, securing of university and international awards by a number of faculties, and the involvement of three faculties in university management positions.

Department Profile

Table 1: Executive Summary of Civil & Architectural Engineering Department

Description	
Academic and Support Staff	2017
Faculty	19
Teaching Assistant	7
Graduate Assistant	3
Technical and Administrative Staff	3
On-Study Leave	1

Total	33
Undergraduate Program	2017
Enrollment (Fall 2017)	351
Registered (Fall 2017)	321
Graduates (Spring 2017)	39
Graduate Program	2017
Enrollment (Fall 2017)	47
Registered (Fall 2017)	37
Graduates (Spring 2017)	6
Research Projects (Awarded in 2017)	2017
GSRA	1
NPRP	1
PDRA	1
UREP	4
Qatar University Grants	1
University Internal Students' Grants	1
Industrial Grants	1
GCC Co-Fund Program	1
Research Projects (Active in 2017 but awarded before 2017)	
GSRA	0
NPRP	16
PDRA	0
UREP	2
Qatar University Grants	0
University Internal Students' Grants	0
External Grants	0
GCC Co-Fund Program	0
Publications (Appendix A1)	2017
Refereed Journal Papers	49
Conference Papers	27
Technical Reports	1
Book Chapters	1
Books	0
Book Reviews	0
Editorials and Essays	0
Seminars – Public Lectures – Short Courses (Appendix A2)	2017
Seminars and Public Lectures Delivered by Departmental Faculty Members Inside Qatar University	9
Seminars and Public Lectures Delivered by Departmental Faculty Members Outside Qatar University	3
Short Course Delivered by Departmental Faculty Members	1

Seminars and Public Lectures Attended by Departmental Faculty Members	16
Seminars and Public Lectures Delivered by Visiting Academics and Professionals	1
Invited Public Lectures/ Keynote Speakers	1
Faculty Activities (Appendix A3)	2017
Consultancy	1
Community Service	3
Awards and Achievements	7
Conferences Attended	9
Workshops, Training and Visits Attended	2
Workshops, Training and Visits Delivered	2
Events Organized	1
Other Activities	3
Students' Activities (Appendix A4)	2017
Competitions	3
Awards	9
Seminars & Trainings	0
Field Trips, Social and Extra-Curricular Events	2

Academic Staff

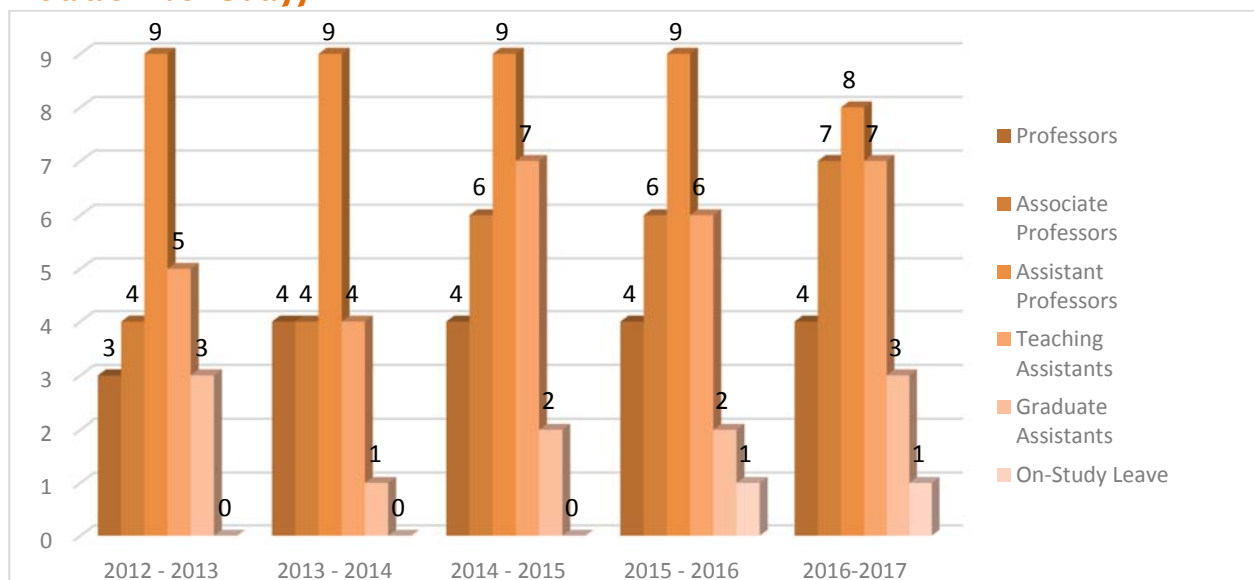


Figure 1: Academic Staff in CAE Department, 2012-2017.

Technical and Administrative Staff

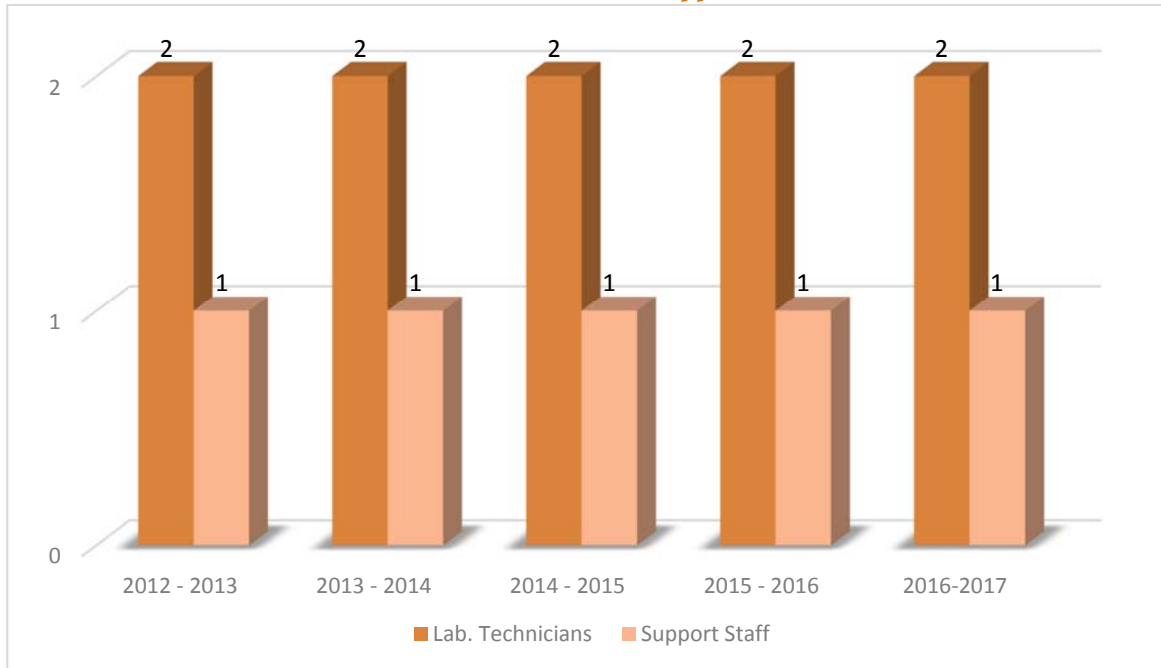


Figure 2: Non-Academic Staff in CAE Department, 2012-2017.

Department Standing Committees

The department has number of committees and coordination roles for 2017 as listed below:

- **Faculty**




- Departmental Board Committee: Dr. Mohammed Hussein (Chair)
- Undergraduate program coordinator: Prof. Usama Ebead
- Postgraduate program coordinator: Prof. Hisham Eid
- Curriculum and quality assurance Committee: Prof. Usama Ebead (Chair), Prof. Ramzi Taha (member), Dr. Mohsin Siddique (member), Dr. Riyadh Al-Raoush (member).
- Graduate Studies Committee: Chair: Prof. Hisham Eid
- Promotion: - Ad-Hoc Committee
- Recruitment: - Ad-Hoc Committee
- Scheduling coordinator and University Senate member: Dr. Wael Alnahhal
- Publicity and Marketing coordinator: Dr. Alaa Al-Hawari
- Coordinator of senior design project: Dr. Mohammed Elshafie
- Bridge competition and ASCE student chapter Academic liaison: Dr. Okan Sirin
- Summer training coordinator, Minutes recorder for Board meetings: Dr. Mohsin Siddique
- CRU course coordinator: Dr. Khaled Shaaban
- Industry champion: Prof. Murat Gunduz

- **Teaching Assistants**

- Assistant coordinator for Senior design projects: Eng. Muhammad Shekaib
- Assistant staff for Software affairs: Eng. Sikder M Selimuzzaman
- Assistant staff for outreach and events: Eng. Nasser Al-Nohmi
- Department representative for schools visits: Eng. Salem Alnaimi
- Assistant staff for Department Budget: Abdulrahman Abu Hijleh
- Assistant coordinator for Scheduling: Eng. Khaled Rabie
- Assistant staff for tendering and labs requirements: Eng. Abdelhamid Bin Salem
- Health and safety staff: Eng. Abdul Azeez Kilayil
- Lab technicians: Eng. Abdul Azeez Kilayil and Eng Valiya Siju

Faculty Profile

Table 2: CAE Faculty Profile 2017


Photo	Faculty Name	Rank/Position	Area of Specialization
Faculty Members with Administrative Roles			
	Mohammed Hussein	Head of the Department of Civil and Architectural Engineering	Railway Engineering, Ground-borne Vibration, Structural Dynamics, Structural-Health Monitoring, Soil-structure interaction, Human-structure interaction.
	Hassan Al-Derham	QU President	Procurement of construction projects, productivity of construction projects, housing projects, evaluation of consulting offices
	Omar Al-Ansari	Qatar University Vice-President for Academic Affairs	Geotechnical Engineering

	Nasser Alnuaimi	Director of the Center for Advanced Materials	Structural concrete properties and behavior, concrete materials engineering and the design of reinforced concrete structures, concrete durability and concrete repair
	Usama Ebead	Professor & Undergraduate Program Coordinator	Structural Engineering, Rehabilitation of reinforced concrete structures, Finite element modeling of reinforced concrete structures, Durability of FRP reinforcement in concrete
	Hisham Eid	Professor & Postgraduate Program Coordinator	Soil and rock mechanics, geo environmental engineering, soil structure interaction
	Mohammed Elshafie	Associate Professor & QD-SBG Chair	Acquiring and understanding in-depth new information about Civil Engineering infrastructure; using novel sensing techniques on real world assets combined with advanced modelling techniques, provides the missing feedback loop between design, construction and operation.
Full Professors			
	Ramzi Taha	Professor	Transportation Infrastructure, Sustainable Construction, Solid Waste and By-Product Materials Recycling, Soil Stabilization and Improvement
	Murat Gunduz	Professor	Construction engineering and management, construction productivity measurement and improvement, construction health and safety, data collection and analysis
Associate Professors			
	Mohammed Al-Ansari	Associate Professor	Reinforced concrete design; solid mechanics, Earthquake Engineering, Numerical Analysis

	Okan Sirin	Associate Professor	Pavement materials and design, Superpave technology, Accelerated pavement testing, Traffic engineering
	Alaa Al Hawari	Associate Professor	Water and waste water treatment (membrane rejection and fouling, bio sorption and selective adsorption), solid waste management and sustainability
	Khaled Shaaban	Associate Professor	Traffic Operations, Intelligent Transportation Systems, Traffic Simulation, Traffic Safety, Work Zones
	Riyadh Al-Raoush	Associate Professor	Fate and transport of contaminants in subsurface systems, Environmental fluid dynamics, Multiphase and multistate modeling of flow through porous media
Assistant Professors			
	Khalid Naji	Assistant Professor	Computer applications in construction engineering with emphasis on project management, cad and graphical simulation techniques, virtual environments
	Wael Ibrahim Anahhal	Assistant Professor	Structural Engineering, Application of advanced composite materials (FRP) in the infrastructure and in upgrading deteriorating structures, Computational mechanics, Finite Element Analysis, Floor vibrations serviceability, and Earthquake Engineering.

	Mohammad Ghanim	Assistant Professor	Traffic Operations and Optimization, Public Transportation, Transportation Network Modeling, Intelligent Transportation Systems, Transportation Planning, Sustainable Transportation Systems, Highway Safety.
	Mohsin Siddiqui	Assistant Professor	Construction Engineering and Management, IT applications in CEM, Construction Safety, Data Sensing and Analysis, Sensor Networks, Assessment and Accreditation, Engineering Education.
	Wael Alhajyaseen	Assistant Professor	Traffic safety (Human factors, crash data and causality, driving simulation), Urban traffic control & operation, Road user behavior analysis (including naturalistic driving), Non-motorized traffic especially pedestrians and bicycles (facilities design, control and operation), Intelligent transportation systems (ITS), Travel behavior and forecasting (Macroscopic level), Public transportation, Road geometric design.
Teaching Assistants			
	Abdelhamid Bin Salem	Teaching Assistant	Geometrics Engineering and science of Measurement
	Sikder M Selimuzzaman	Teaching Assistant	Environmental Engineering (Wastewater treatment)
	Abdulrahman Z. Abu-Hijleh	Teaching Assistant	Construction Management & Analysis and Design of Structures

	Nasser Al-Nohmi	Teaching Assistant	Analysis and Design of Structures, concrete durability, Structural concrete properties and behavior & Construction Management
	Khaled Rabie	Teaching Assistant	Geotechnical Focusing on Landslides ,slope stability and soil shear strength
	Muhammad Shekaib Afzal	Teaching Assistant	Experimental testing of Large scale reinforced strengthened beams using textile-reinforced mortars and Finite Element Modeling of reinforced concrete structures.
	Hamad Alnuaimi	Teaching Assistant	Analysis and Design of Structures <u>(On-Study Leave)</u>
	Eng. Salem Alnaimi	Teaching Assistant	Transportation Engineering
Lab Technicians			
	Abdul Azeez Kilayil	Senior Lab Technician	Land Surveying, Materials Testing & Concrete and Soil Mechanics

	Joseph Valiya Parambil Siju	Lab Technician	Traffic, Transportation & Pavement and Material Testing
Administrative Assistants			
	Aisha Al- Kuwaiti	Administrative Coordinator	

Department/Program FTE

Table 3: CAE Faculty Teaching Load for the academic year 2016 – 2017.

Professorial Faculty Name	Title/ Position	Fall 2016 ICH	Spring 2017 ICH	Total	Approved ICH	Difference
Dr. Alaa Al-Hawari	Associate Professor	9.5	12	21.5	18	3.50
Prof. Hisham Eid	Professor	7	7	14	12	2.00
Dr. Khaled Shaaban	Associate Professor	10.8	8.2	19	18	1.00
Dr. Mohammed Al-Ansari	Associate Professor	8	8.33	16.33	15	1.33
Dr. Mohammed Ghanim	Assistant Professor	4.5	12	16.5	15	1.50
Dr. Mohammed Hussain	Associate Professor	10.5	5	15.5	12	3.50
Dr. Mohsin Siddiqui	Assistant Professor	8.7	12.5	21.2	18	3.20
Prof. Murat Gunduz	Professor	9.7	12.84	22.54	18	4.54
Dr. Nasser Al-Nuaimi	Assistant Professor	3.8	0.75	4.55	3	1.55
Dr. Okan Sirin	Associate Professor	10.1	7.75	17.85	18	-0.15
Dr. Omar M. Alansari	Assistant Professor	0.00	6	6.00	6	0.00
Prof. Ramzi Taha	Professor	3.6	6.58	10.18	12	-1.82
Dr. Riyadh Al-Raoush	Associate Professor	7.8	10	17.8	18	-0.20
Prof. Samir Hamoush	Professor	0	7	7	9	-2.00
Prof. Usama Ebead	Professor	4.3	8.84	13.14	12	1.14
Dr. Wael Alnahhal	Assistant Professor	11.7	9.67	21.37	9.67	11.70
Dr. Wael Alhajyaseen	Assistant Professor	3	2.16	8.16	6	8.16
Total					219.67	38.95
					FTE	2

Table 4: CAE Faculty Teaching Load for the calendar year 2017.

Professorial Faculty Name	Title/ Position	Fall 2017 ICH	Spring 2017 ICH	Total
Dr. Alaa Al-Hawari	Associate Professor	8.33	12	20.33
Prof. Hisham Eid	Professor	10.13	7	17.13
Dr. Khaled Shaaban	Associate Professor	11.00	8.2	19.20
Dr. Khalid Naji	Assistant Professor	3.40	0	3.40
Dr. Mohammed Al-Ansari	Associate Professor	7.67	8.33	16.00
Dr. Mohammed Elshafie	Associate Professor	7.63	0	7.63
Dr. Mohammed Ghanim	Assistant Professor	6.50	12	18.50
Dr. Mohammed Hussain	Associate Professor	5.96	5	10.96
Dr. Mohsin Siddiqui	Assistant Professor	6.70	12.5	19.20
Prof. Murat Gunduz	Professor	9.00	12.84	21.84
Dr. Nasser Al-Nuaimi	Assistant Professor	0.50	0.75	1.25
Dr. Okan Sirin	Associate Professor	12.00	7.75	19.75
Dr. Omar M. Alansari	Assistant Professor	0.00	6	6.00
Prof. Ramzi Taha	Professor	10.00	6.58	16.58
Dr. Riyadh Al-Raoush	Associate Professor	7.83	10	17.83
Dr. Samir Hamoush	Professor	0	7	7
Prof. Usama Ebead	Professor	8.20	8.84	17.04
Dr. Wael Alnahhal	Assistant Professor	10.92	9.67	20.59
Dr. Wael Alhajyaseen	Assistant Professor	4.00	2.16	6.16

Undergraduate Majors and Minors

Bachelor of Science in Civil Engineering

The Department of Civil and Architectural Engineering at Qatar University awards the Bachelor of Science (B.Sc.), Master of Science and Doctoral degrees in Civil Engineering. The Architectural Engineering Program was “frozen” in 2009. Civil Engineering is the broadest and oldest of the engineering disciplines, spanning across many technical specialties which are not independent, but rather interact with each other. Civil engineers plan, design, construct and maintain the physical and naturally built environment including buildings; roads; bridges; airports; railways; ports; water distribution and wastewater collection systems; waste disposal facilities; tunnels; stadiums; offshore structures; dams; and other infrastructure projects. As civil engineers develop their skills, they can advance into the area of engineering management, overseeing the completion of the whole project.

Our Civil Engineering Program’s intake has increased from a low of 136 students in 2010 to a high of 351 students in 2017. A total of 39 students graduated in 2017. The civil engineering graduates secure full employment within three months of their graduation. Our students find jobs in the private and public sectors including Ashghal, Qatar Petroleum, Parsons International, Al-Jaber Trading Company and many others.

Our students have to complete a total of 131 credit hours in order to graduate with the B.Sc., degree. Our curriculum ensures an excellent coverage of mathematics and basic sciences; general education; communication skills development; engineering fundamentals; core and upper level civil engineering courses’ requirements; and design experience. Additional opportunities to enhance professional development include industrial training; field visits; presentations by practicing engineers; involvement in research projects and competitions; participation in the ASCE Student Chapter; and participation in students’ exchange through the International Association for the Exchange of Students for Technical Expertise (IAESTE) Program.

The department has 19 faculty members, 7 full-time teaching assistants, 3 engineering technicians, and one secretary. Three of those faculty members are fully engaged in upper administration duties. All faculty members have PhDs from various reputable institutions in three countries (USA, UK and Canada). The faculty members’ specialties cover various areas of Civil Engineering including structures; transportation; geotechnical and materials; water resources; environmental engineering; and construction management and engineering. Eight faculty members are also holders of the professional engineering license from the USA, Canada and Jordan. Our faculty members are also active in research and other scholarly work, professional service, and community engagement.

We are proud of our students, faculty, teaching assistants, and other supporting staff. We are also proud that the Civil Engineering Program is accredited by the Engineering Accreditation Commission of ABET. Accreditation ensures that the students, parents, employers, and the society we serve can be confident that a program meets the quality standards that produce graduates prepared to enter a global workforce.

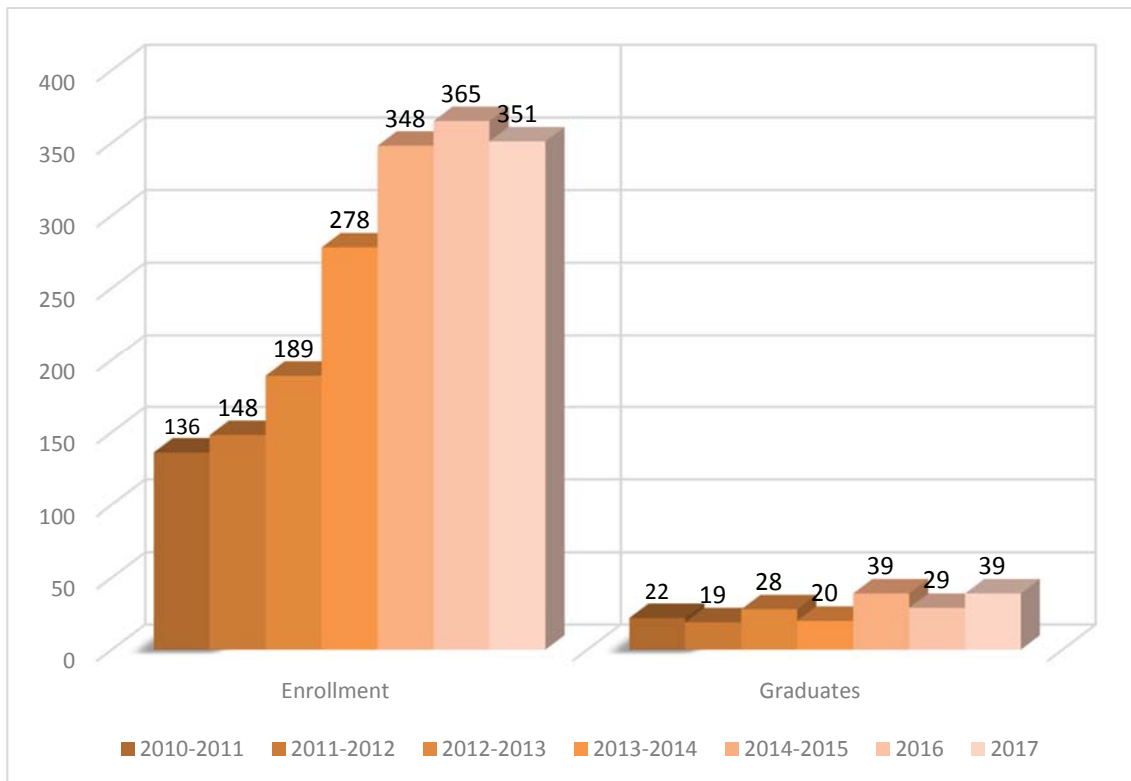


Figure 3: Number of enrolled and graduating students in cae department, 2010–2017

Post Graduate Programs

The Department of Civil and Architectural Engineering started its graduate programs in 2010 as part of the graduate program of the College of Engineering, CENG. It participates in two interdisciplinary master’s programs: the Engineering Management and the Environmental Engineering Programs, offered under the umbrella of the College of Engineering. In addition, the department has started to offer master’s and Ph.D. degrees in other Civil Engineering disciplines.

The details of the department’s graduate degrees can be summarized as follows:

1. **Master of Science in Engineering:** The Department of Civil and Architectural Engineering participates in two CENG Master of Science degrees in Engineering:
 - a) Engineering Management (Construction Track), in collaboration with the Department of Mechanical and Industrial Engineering: This track was supposed to offer courses starting Fall 2011, but there was only one student registered in the track so it was put off until Fall 2012. Now the department has about 8 students who already started the track in Fall 2012.
 - b) Environmental Engineering, in collaboration with the Chemical, Department of Mechanical and Industrial Engineering: This program started offering courses in Fall 2011.
2. **Master of Science in Civil Engineering:** A new program that was initiated in Fall 2011. It includes specialization in structures, geotechnical, transportation, and hydraulics and water resources. This program started enrolling students in Fall 2012.

3. **Ph.D. in Civil Engineering:** This program was set up in 2010 and accepted two students in the area of structures/materials in Fall 2011. Qatar University signed an MOU with the University College of London, UCL that will help complement this program and provide needed expertise.

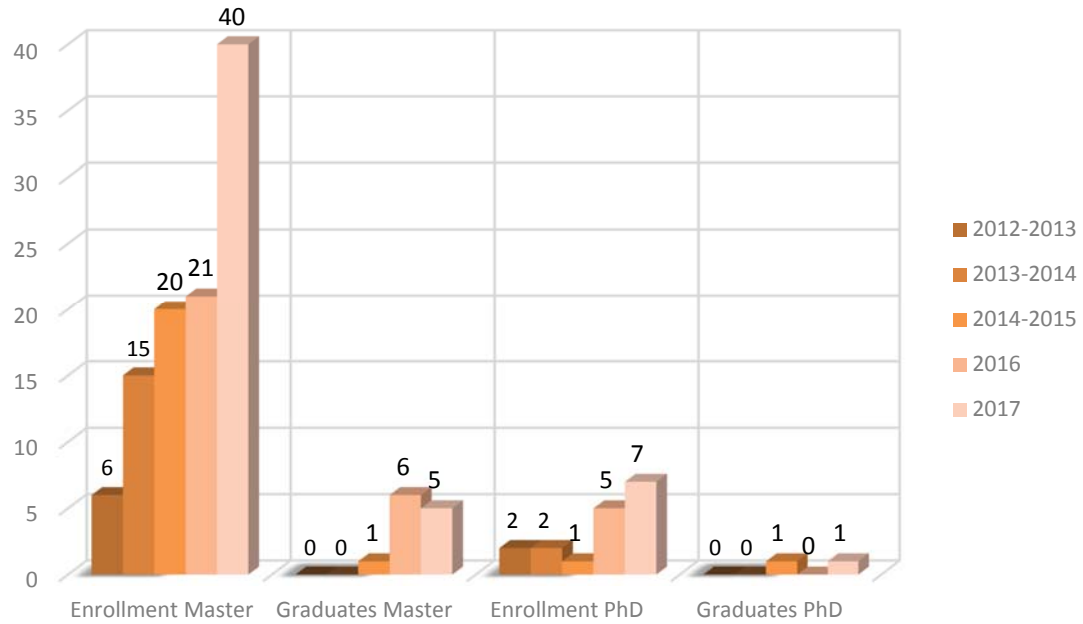


Figure 4: Number of enrolled and graduating students in cae department, 2012–2017

Internal, External Grants and Research

The following table illustrates the awarded research projects in the Department of CAE 2017

Table 5: Awarded Research Projects and Grants in the Department of CAE in 2017

Project Number	Project Title	Co-LPI/LPI
QUEX-CENG-Rail 17/18	Framework for Railway Research (Funding from Qatar Rail)	Dr.Mohammed Hussein
GCC-2017-008	Performance of Basalt Fiber Reinforced Polymer “BFRP” Reinforcing Bars under the GCC Harsh Environment	Dr.Wael Alnahhal Dr. Nasser Alnuaimi
NPRP10-0117-170176	Forward Osmosis Seawater Pretreatment for High Performance Thermal Desalination Plants	Dr.Alaa Al Hawari
PDRA3-0402-17003	Towards a Flexi-Concrete: CNTs' Reinforcement Alternative.	Prof. Ramzi Taha M. Mohsen
GSRA4-2-0402-17013	Engineering a Fertilizing Draw Solution for Irrigation Water Supply	Dr. Alaa Al Hawari Mhd Ammar Nabil Hafiz
UREP19-042-2-016	Characterization of soil profile and properties by Spectral Analysis of Surface Waves	Dr.Mohammed Hussein Osama Abdeljaber
UREP21-089-2-039	Shear Behavior of Fiber Reinforced Concrete Beams with Basalt FRP Reinforcing	Dr.Wael Alnahhal Abathar Alhamarani
UREP20-043-2-010	Effective Treatment of Dewatered Construction Water Using Waste Steel Slag.	Dr. A. Hawari Prof.Ramzi Taha
UREP20-065-2-013	An integrated solution for the treatment of produced water: electrocoagulation and forward osmosis	Dr.Alaa Al Hawari Dr. Mohamed Ayari
QUUG-CENG-CAE-17\18-2	Investigating the effects of soil inhomogeneity and tunnel cross-sections on vibration from underground railways	Dr.Mohammed Hussein
QUST-CENG-SPR\2017-29	Effective Treatment of Dewatered Construction Water Using Forward Osmosis	Dr.Alaa Al Hawari

Table 6: Active Research Projects and Grants in the Department of CAE in 2017 but awarded before 2017

Project Number	Project Title	Co-LPI/LPI
NPRP8-594-2-244	Gas Production form hydrate bearing sediments	Dr. Riyadh Al-Raoush
NPRP9-093-1-02	Groundwater Pollution by Petroleum-Derived Contaminants in Coastal (Semi)-Arid Environment	Dr. Riyadh Al-Raoush
NPRP9-390-1-088	Simulation of microscale biogeochemical processes in porous media using advanced computer vision methodologies	Dr. Riyadh Al-Raoush
NPRP 7 - 089 - 2 – 044	Recovery and Reuse of Municipal and Industrial Wastewater: Development of a novel fouling suppression system in submerged membrane bioreactors using dielectrophoretic forces	LPI: Dr. Alaa Al Hawari
NPRP 6 - 357 - 2 – 150	Non-destructive Evaluation Based Tools for Managing Waste Water Networks (WWN) in Qatar.	Co-LPI: Dr. Alaa Al Hawari
NPRP-8-1568-2-666	Spectral Band-structure Identification of Amplitude-dependent Viscoelastic Mechanical Metamaterials	LPI: Dr.Wael Alnahhal
NPRP 9 – 110 – 2 - 052	Sustainable concrete using seawater, recycled aggregates, and non-corrosive reinforcement:	LPI: Prof. Usama Ebead
NPRP 7 - 1720 - 2 - 641	Strengthening of corrosion-damaged reinforced concrete structures with textile-reinforced mortars (TRM)	LPI: Prof. Usama Ebead
NPRP8-836-2-353	A Unified Approach to Vibration Serviceability Assessment of Floors	Dr. Onur Avci Dr. Mohammed Hussein
NPRP 6-666-2-278	Rehabilitation of Deteriorated Concrete Infrastructure in Qatar using Shape Memory Alloys for Active Confinement.	LPI: Dr. Mohammed Al-Ansari
NPRP04-1142-2-440	Mimicking Self-Healing Mechanism of Living Organism in Reinforced Concrete Structures	Co-LPI: Dr. Mohammed Al-Ansari

NPRP 6-773-2-320	Comprehensive Evaluation of Aging of Asphalt Mixtures in Qatar	LPI: Dr. Okan Sirin
NPRP 7-110-2-056	Toward Designing Quieter Pavements	LPI: Dr.Okan Sirin
NPRP7-795-2-296	Innovative Use of Recycled Materials in Construction-Implementation	PI: Prof. Ramzi Taha.
NPRP 5-488-2-194	Pipe-fine-grained soil interface shear strength for stability analysis of near-shore-energy infrastructure	LPI: Prof. Hisham Eid
NPRP6-526-2-218	A Monitoring Framework Development for the Next Generation Stadia to be showcased during Qatar 2022 World Cup	LPI: Dr. Onur Avci
UREP19-042-2-016	Characterization of soil profile and properties by Spectral Analysis of Surface Waves	Dr.Mohammed Hussein Osama Abdeljaber
UREP18-144-2-058	Lateral Design Assessment of Low and Mid-Rise Reinforced Concrete Structures in Doha	Dr. Onur Avci Dr.Mohammed Hussein

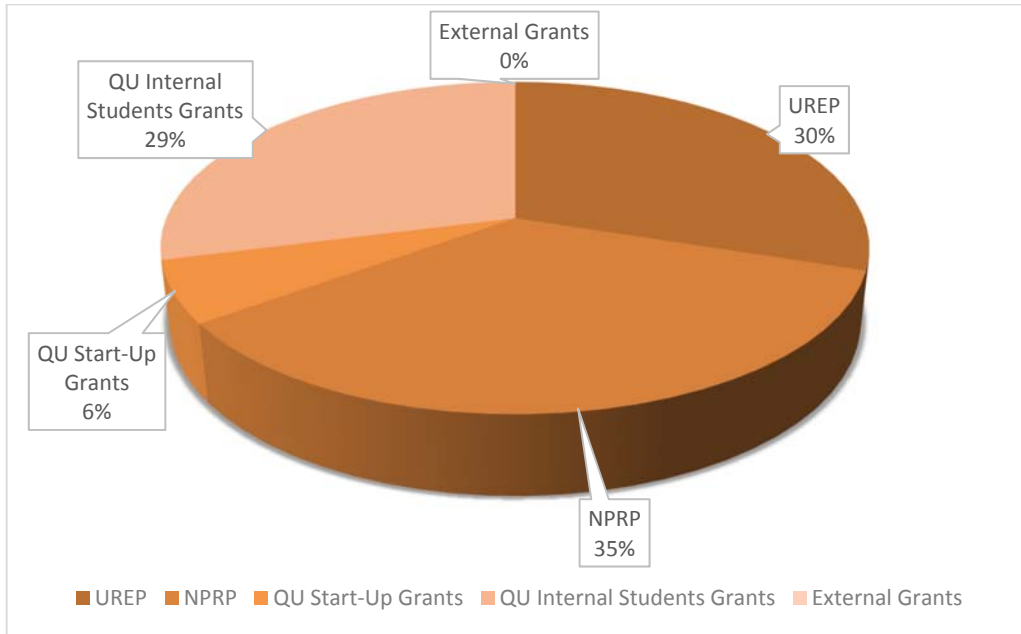


Figure 5: Research Projects Awarded in 2012-2013.

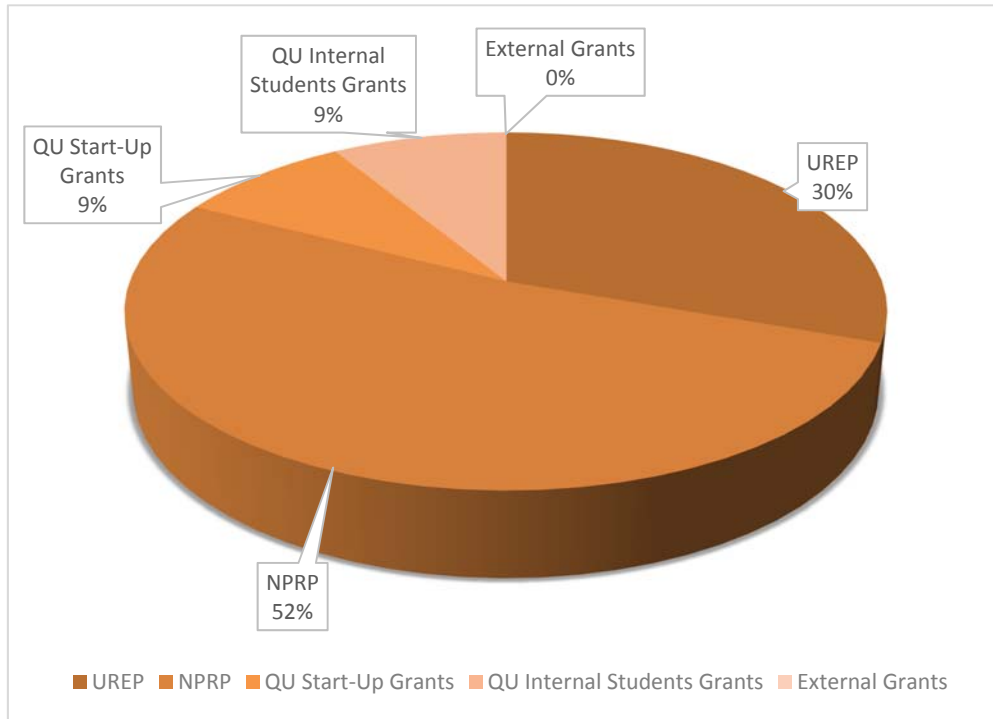


Figure 6: Research Projects Awarded in 2013-2014.

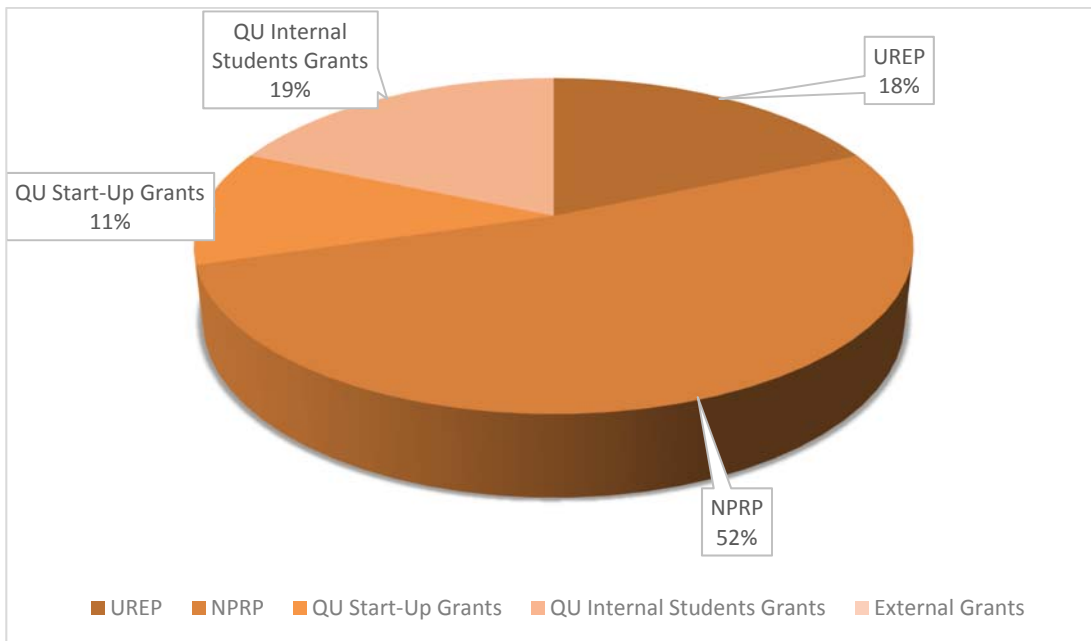


Figure 7: Research Projects Awarded in 2014-2015.

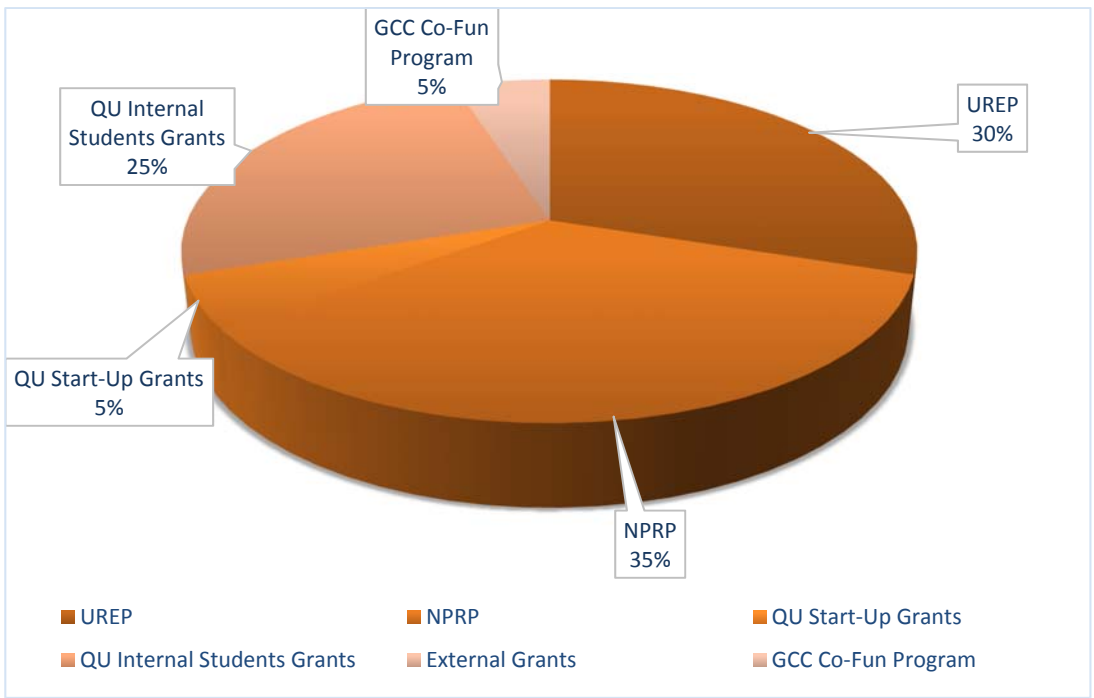


Figure 8: Research Projects Awarded in 2016.

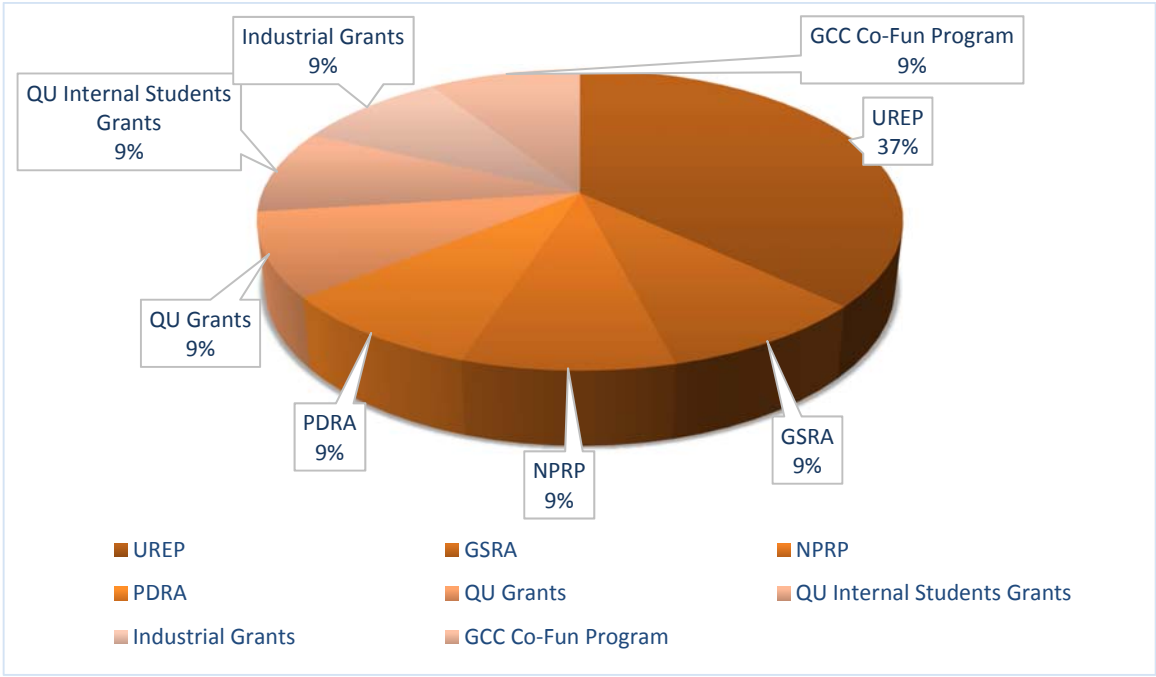


Figure 9: Research Projects Awarded in 2017.

Publications

The Figures below illustrate the publications in the Department of CAE 2013 -2017. List of publications in 2017 are indicated with details in appendix A1.

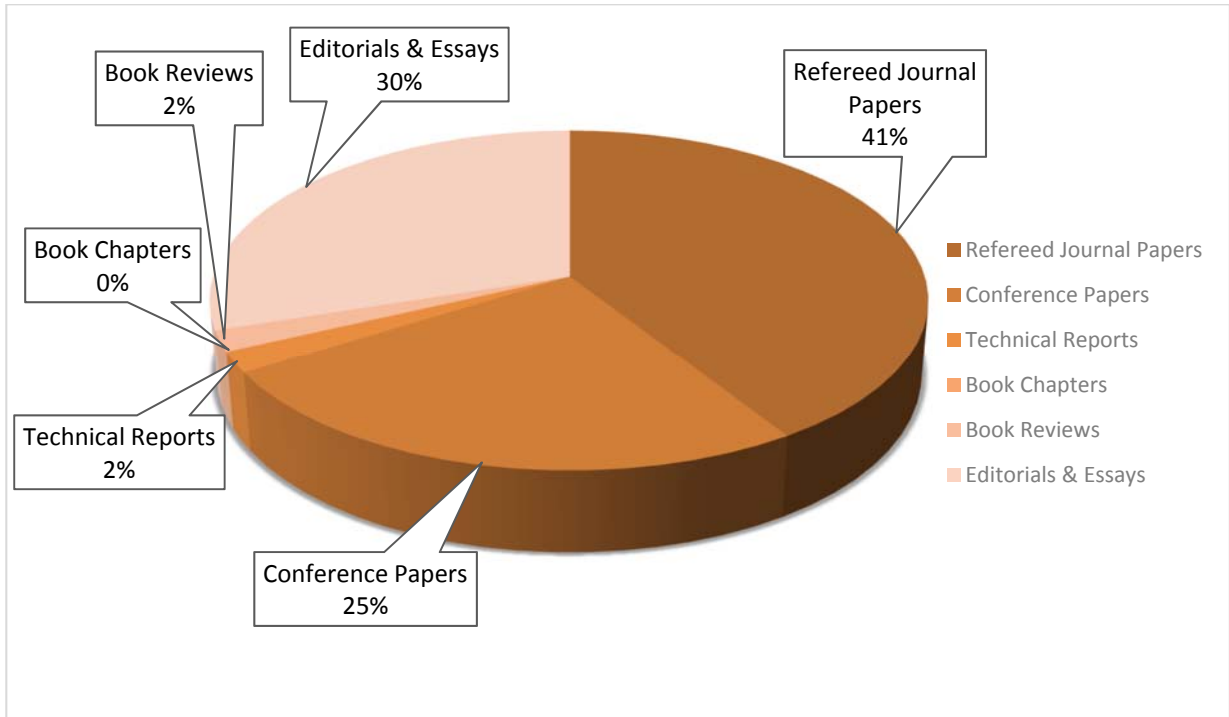


Figure 10: Publications by Faculty in 2012-2013

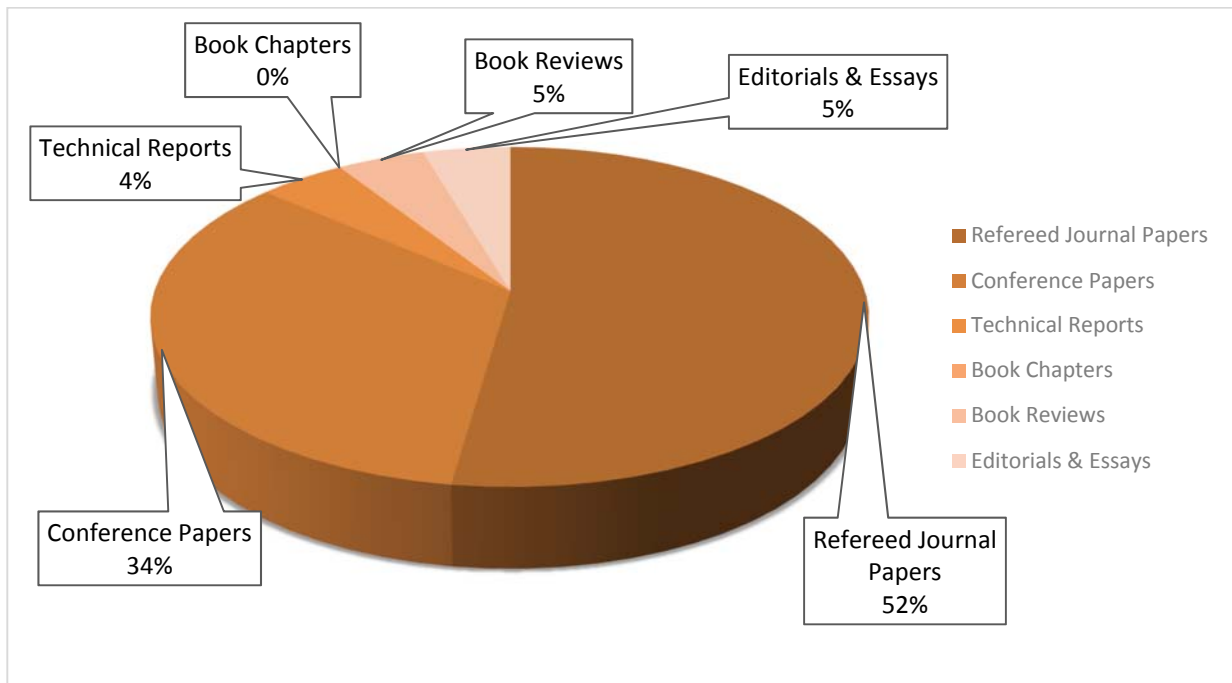


Figure 11: Publications by Faculty in 2013-2014.

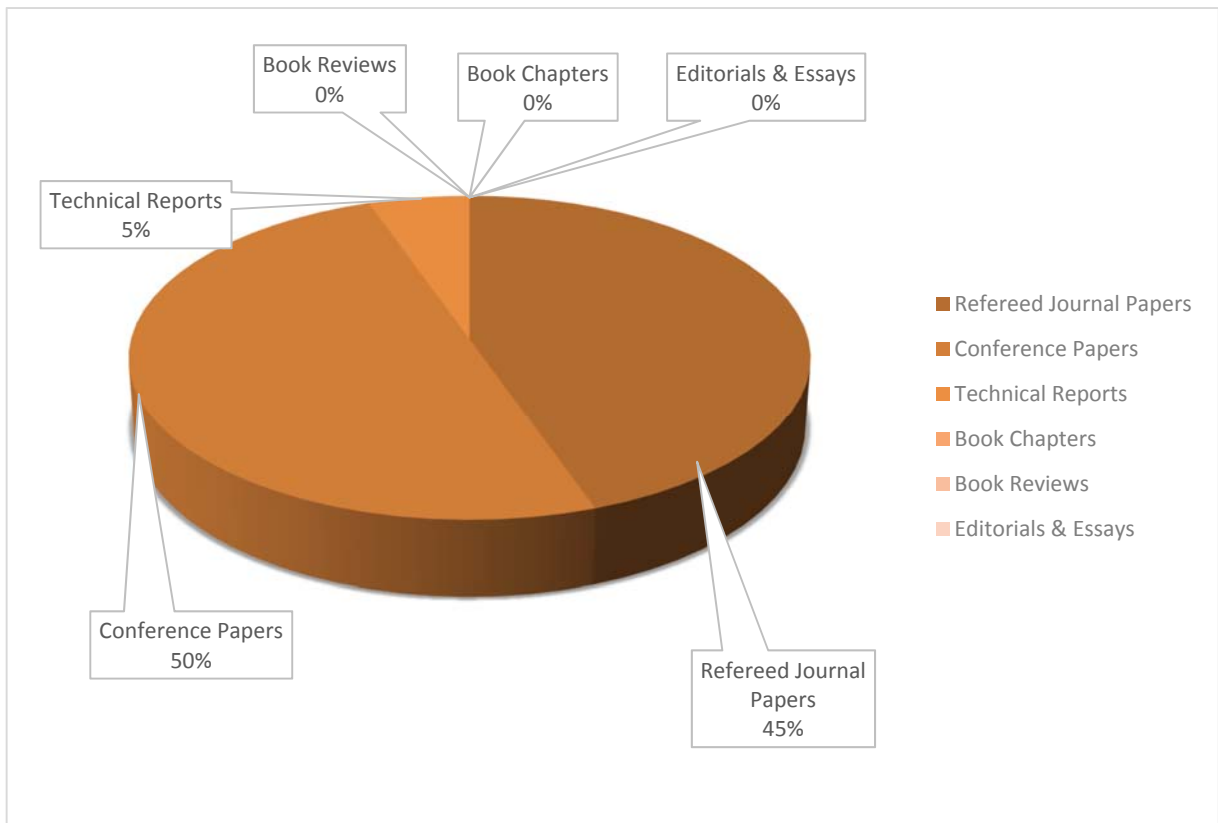


Figure 12: Publications by Faculty in 2014-2015.

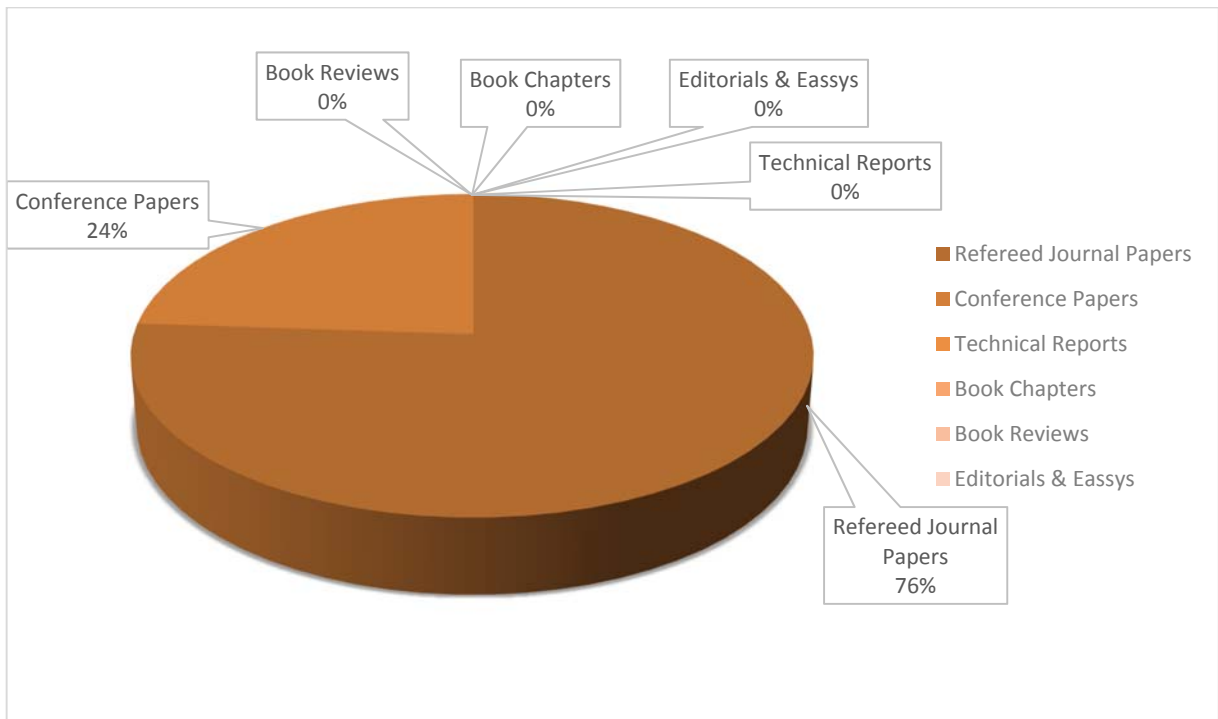


Figure 13: Publications by Faculty in 2016.

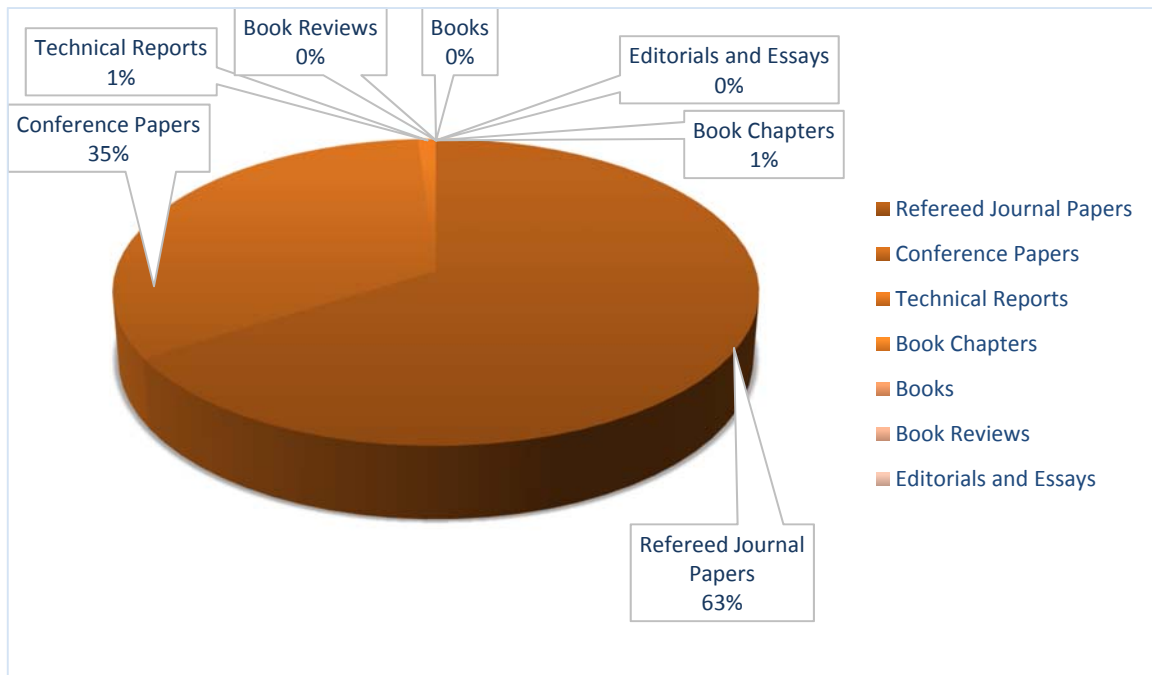


Figure 14: Publications by Faculty in 2017.

Seminars, Public Lectures

The Department of Civil and Architectural Engineering held many seminars for the calendar year 2017. Department seminars were organized with the objective of sharing scientific researches and academic experiences. Appendix A2 lists detailed data for seminars and public lectures.

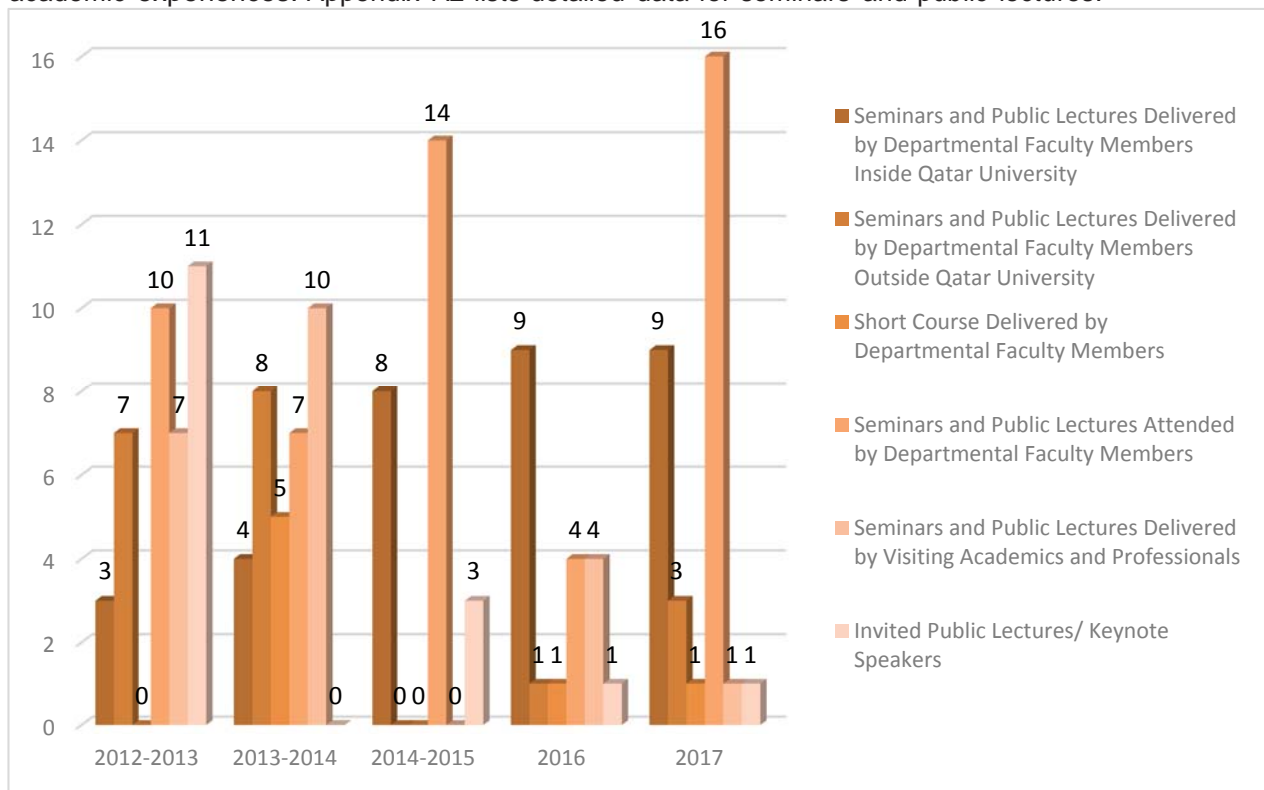


Figure 15: Seminars & Public Lectures in 2012-2017.

Professional Developments

A list of attended events namely conferences attended, workshops attended, and workshops given, and organized events is available in Appendix A3.

Service to Community and Outreach Programs

Appendix A3 lists detailed data for Service to Community and Outreach Programs.

Consultancies

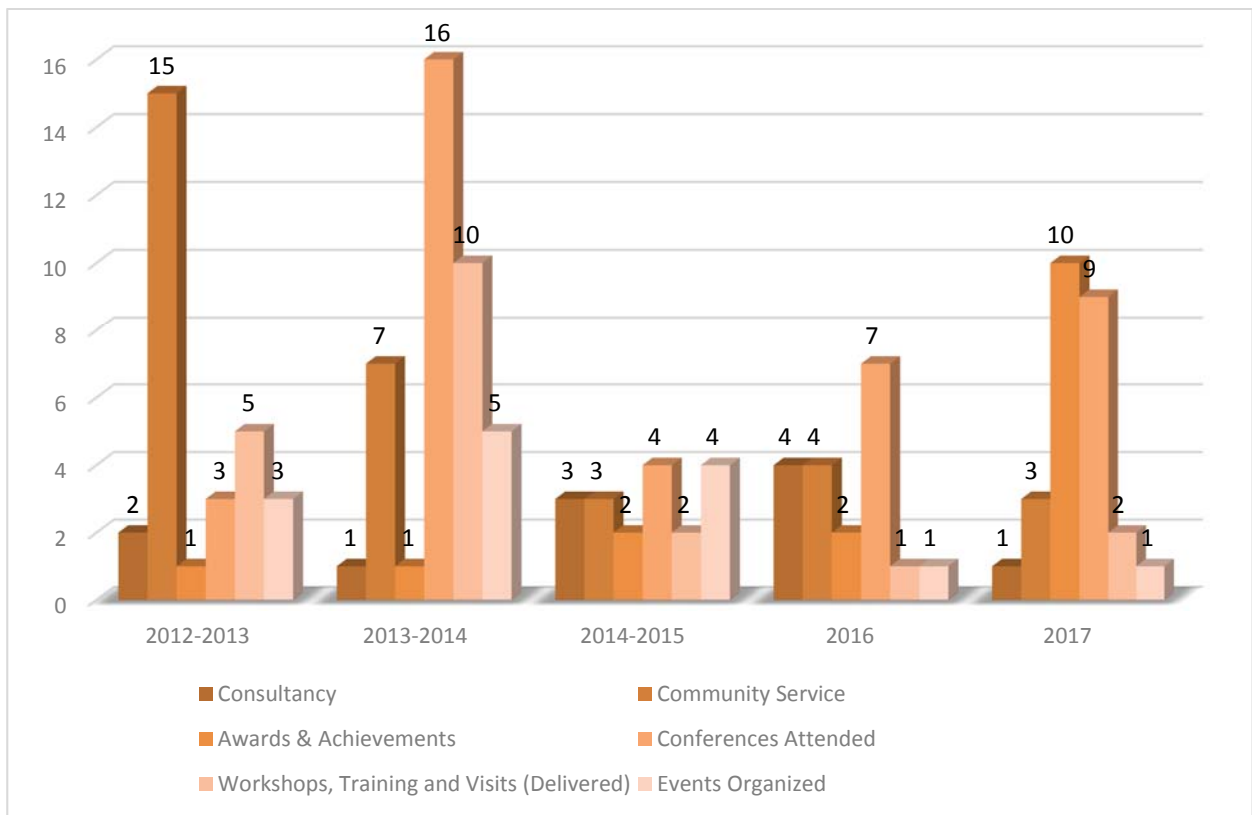


Figure 16: Faculty Activities in 2012-2017.

Appendix A1: List of Publications

Journal Papers

- 1- **Al-Ansari, M.**, Abu-Taqa, A.G., Hassan, M.M., Senouci, A., Milla, J. (2017), Performance of modified self-healing concrete with calcium nitrate microencapsulation, *Construction and Building Materials*, 149, pp. 525-534. DOI: 10.1016/j.conbuildmat.2017.05.152
- 2- **Ansari, M.** (2017) Structural Behavior of Tall Building Raft Foundations in Earthquake Zones. *Open Journal of Earthquake Research*, 6, 180-190. DOI: 10.4236/ojer.2017.64011.
- 3- **Al-Ansari, M. S.**, Ala G. Abu-Taqa, Ahmed Senouci et al. (2017). "Proposed Formulas for Estimating Splitting Tensile, Shear and Flexural Strengths, and Long Term Deflection Assessment of Self-Compacting Concrete Elements", *Science of Advanced Materials, ASP*, 9, pp.1-11.
- 4- Haque, A.B.M.T., Ghachi, R.F., **Alnahhal, W.I.**, Aref, A., Shim, J. (2017), Generalized spatial aliasing solution for the dispersion analysis of infinitely periodic multilayered composites using the finite element method, *Journal of Vibration and Acoustics, Transactions of the ASME*, 139 (5), art. no. 051010. DOI: 10.1115/1.4036469
- 5- Taqa, A.G.A., Al-Rub, R.K.A., Senouci, A., Popelka, A., **Al-Nuaimi, N.**, Bani-Hani, K.A. (2017), Experimental prediction of the elastic properties of nanocomposite cementitious materials based on nanoindentation measurements, *Science of Advanced Materials*, 9 (5), pp. 830-846. DOI: 10.1166/sam.2017.3028
- 6- Mohsen, M.O., Taha, R., Abu Taqa, A., **Al-Nuaimi, N.**, Abu Al-Rub, R., Bani-Hani, K.A. (2017), Effect of Nanotube Geometry on the Strength and Dispersion of CNT-Cement Composites, *Journal of Nanomaterials*, 2017, art. no. 6927416. DOI: 10.1155/2017/6927416
- 7- **Al-Raoush, R.I.**, Madhoun, I.T. (2017), TORT3D: A MATLAB code to compute geometric tortuosity from 3D images of unconsolidated porous media, *Powder Technology*, 320, pp. 99-107. DOI: 10.1016/j.powtec.2017.06.066
- 8- Alshibli, K.A., Jarrar, M.F., Druckrey, A.M., **Al-Raoush, R.I.** (2017), Influence of particle morphology on 3D kinematic behavior and strain localization of sheared sand, *Journal of Geotechnical and Geoenvironmental Engineering*, 143 (2), art. no. 04016097, . DOI: 10.1061/(ASCE)GT.1943-5606.0001601
- 9- **Avci, O.**, Barsottelli, M. (2017), Nonexplosive Deconstruction of Steel Girder Highway Bridges, *Journal of Performance of Constructed Facilities*, 31 (2), art. no. 04016087. DOI: 10.1061/(ASCE)CF.1943-5509.0000929
- 10- Younis, A., **Avci, O.**, **Hussein, M.**, Davis, B., Reynolds, P. (2017), Dynamic Forces Induced by a Single Pedestrian: A Literature Review, *Applied Mechanics Reviews*, 69 (2), art. no. 020802. DOI: 10.1115/1.4036327
- 11- Abdeljaber, O., **Avci, O.**, Kiranyaz, S., Gabbouj, M., Inman, D.J. (2017), Real-time vibration-based structural damage detection using one-dimensional convolutional neural networks, *Journal of Sound and Vibration*, 388, pp. 154-170. DOI: 10.1016/j.jsv.2016.10.043

- 12- Abdeljaber, O., **Avci, O.**, Kiranyaz, S., Inman, D.J. (2017), Optimization of linear zigzag insert metastructures for low-frequency vibration attenuation using genetic algorithms, *Mechanical Systems and Signal Processing*, 84, pp. 625-641.
- 13- Elghazy, M., El Refai, A., **Ebead, U.A.**, Nanni, A. (2017), Effect of corrosion damage on the flexural performance of RC beams strengthened with FRCM composites, *Composite Structures*, 180, pp. 994-1006. DOI:10.1016/j.compstruct.2017.08.069
- 14- Younis, A., **Ebead, U.A.**, Shrestha, K.C.(2017), Different FRCM systems for shear-strengthening of reinforced concrete beams, *Construction and Building Materials*, 153, pp. 514-526. DOI: 10.1016/j.conbuildmat.2017.07.132
- 15- **Ebead, U.A.**, Saeed, H. (2017), FRP/stirrups interaction of shear-strengthened beams, *Materials and Structures/Materiaux et Constructions*, 50 (2), art. no. 103. DOI: 10.1617/s11527-016-0973-7
- 16- **Ebead, U.A.**, Shrestha, K.C., Afzal, M.S., El Refai, A., Nanni, A.(2017), Effectiveness of Fabric-Reinforced Cementitious Matrix in Strengthening Reinforced Concrete Beams, *Journal of Composites for Construction*, 21 (2), art. no. 04016084. DOI: 10.1061/(ASCE)CC.1943-5614.0000741
- 17- **Ebead, U.A.**, Saeed, H. (2017), Modeling of inexpensive strengthening technique for reinforced concrete beams, *ACI Materials Journal*, 114 (2), pp. 451-462. DOI: 10.14359/51689444
- 18- Pino, V., Akbari Hadad, H., De Caso Y Basalo, F., Nanni, A., **Ebead, U.A.**, El Refai, A. (2017), Performance of FRCM-Strengthened RC Beams Subject to Fatigue, *Journal of Bridge Engineering*, 22 (10), art. no. 04017079. DOI: 10.1061/(ASCE)BE.1943-5592.0001107
- 19- **Eid, H.T.**, **Rabie, K.H.** (2017), fully softened shear strength for soil slope stability analyses, *ASCE International Journal of Geomechanics*, 17 (1), pp. 1-10. DOI: 10.1061/(ASCE)GM.1943-5622.0000651
- 20- **Gunduz, M.**, Karacan, H.V. (2017), Assessment of abnormally low tenders: a multinomial logistic regression approach, *Technological and Economic Development of Economy*, 23 (6), pp. 848-859. DOI: 10.3846/20294913.2015.1071294
- 21- Senouci, A., Alsarraj, A., **Gunduz, M.**, Eldin, N. (2017), Analysis of change orders in Qatari construction projects, *International Journal of Construction Management*, 17 (4), pp. 280-292. DOI: 10.1080/15623599.2016.1211973
- 22- **Gunduz, M.**, AbuHassan, M.H.A. (2017), Mapping the Industrial Perception of Delay Data Through Importance Rating, *Arabian Journal for Science and Engineering*, 42 (9), pp. 3799-3808. DOI: 10.1007/s13369-017-2477-3
- 23- **Gunduz, M.**, Laitinen, H. (2017), A 10-step safety management framework for construction small and medium-sized enterprises, *International Journal of Occupational Safety and Ergonomics*, 23 (3), pp. 353-359. DOI: 10.1080/10803548.2016.1200258
- 24- **Gunduz, M.**, Birgonul, M.T., Ozdemir, M. (2017), Fuzzy Structural Equation Model to Assess Construction Site Safety Performance, *Journal of Construction Engineering and Management*, 143 (4), art. no. 04016112. DOI: 10.1061/(ASCE)CO.1943-7862.0001259
- 25- **Hawari, A.H.**, Elamin, M., Benamor, A., Hasan, S.W., Ayari, M.A., Electrowicz, M. (2017), Fuzzy Logic-Based Model to Predict the Impact of Flow Rate and Turbidity on the Performance of

Multimedia Filters, Journal of Environmental Engineering (United States), 143 (9), art. no. 04017065. DOI: 10.1061/(ASCE)EE.1943-7870.0001262

- 26- Teli, S.B., Benamor, A., Nasser, M., **Hawari, A.**, Zaidi, S.J., Ba-abbad, M., Mohammad, A.W. (2017), Effects of amphiphilic pluronic F127 on the performance of PS/SPEEK blend ultrafiltration membrane: Characterization and antifouling study, Journal of Water Process Engineering, 18, pp. 176-184. DOI: 10.1016/j.jwpe.2017.06.013
- 27- **Hawari, A.**, Alkadour, F., Elmasry, M., Zayed, T. (2017), Simulation-Based Condition Assessment Model for Sewer Pipelines, Journal of Performance of Constructed Facilities, 31 (1), art. no. 04016066. DOI: 10.1061/(ASCE)CF.1943-5509.0000914
- 28- Elmasry, M., **Hawari, A.**, Zayed, T. (2017), Defect based deterioration model for sewer pipelines using bayesian belief networks, Canadian Journal of Civil Engineering, 44 (9), pp. 675-690. DOI: 10.1139/cjce-2016-0592
- 29- Larbi, B., **Hawari, A.H.**, Du, F., Baune, M., Thöming, J. (2017), Impact of the pulsed voltage input and the electrode spacing on the enhancement of the permeate flux in a dielectrophoresis based anti-fouling system for a submerged membrane bioreactor, Separation and Purification Technology, 187, pp. 102-109. . DOI: 10.1016/j.seppur.2017.06.045
- 30- **Hawari, A.**, Khader, M., Hirzallah, W., Zayed, T., & Moselhi, O. (2017). Integrated sensing technologies for detection and location of leaks in water distribution networks. Water Science and Technology: Water Supply, ws2017044. DOI: 10.2166/ws.2017.044
- 31- B Larbi, **A. Hawari**, F Du, M Baune, J Thöming. (2017), Numerical simulation of the electric field gradient squared in a new electrode configuration for fouling suppression in submerged membrane bioreactors, ESTEEM Academic Journal 14, 18-29.
- 32- B. Larbi, A. Ltaief, **A. Hawari**, F. Du, M. Boune, J. Thoming (2017) Assessment of the Effect of Dielectrophoresis (DEP) on the Viability of Activated Sludge Biomass, International Journal of Environmental Science and Development, 8 (10), 715-718.
- 33- Verachtert, R., Hunt, H.E.M., **Hussein, M.F.M.**, Degrande, G. (2017), Changes of perceived unevenness caused by in-track vibration countermeasures in slab track, European Journal of Mechanics, A/Solids, 65, pp. 40-58. DOI: 10.1016/j.euromechsol.2017.02.003
- 34- Ntotsios, E., Thompson, D., **Hussein, M.** (2017), The effect of track load correlation on ground-borne vibration from railways, Journal of Sound and Vibration, 402, pp. 142-163. DOI: 10.1016/j.jsv.2017.05.006
- 35- Kostovasilis, D., Thompson, D.J., **Hussein, M.F.M.** (2017), A semi-analytical beam model for the vibration of railway tracks, Journal of Sound and Vibration, 393, pp. 321-337. DOI: 10.1016/j.jsv.2016.12.033
- 36- **Hussein, M.F.M.**, A. Costa, P. (2017), The effect of end bearings on the dynamic behaviour of floating-slab tracks with discrete slab units, International Journal of Rail Transportation, 5 (1), pp. 38-46. DOI: 10.1080/23248378.2016.1203736
- 37- Koroma, S.G., Thompson, D.J., **Hussein, M.F.M.**, Ntotsios, E. (2017), A mixed space-time and wavenumber-frequency domain procedure for modelling ground vibration from surface railway tracks, Journal of Sound and Vibration, 400, pp. 508-532. DOI: 10.1016/j.jsv.2017.04.015

- 38- Abdelatif, A.O., Owen, J.S., **Hussein, M.F.M.** (2017), Modeling and Parametric Study of the Reanchorage of Ruptured Tendons in Bonded Posttensioned Concrete, *Journal of Structural Engineering (United States)*, 143 (12), art. no. 04017162. DOI: 10.1061/(ASCE)ST.1943-541X.0001898
- 39- Rodriguez-Trejo, S., Ahmad, A. M., Hafeez, M. A., Dawood, H., Vukovic, I., Kassem, M., **Naji, K. K.**, Dawood, N., (2017) Hierarchy based information requirements for sustainable operations of buildings in Qatar, *Sustainable cities and society* 32, 435-448. DOI: 10.1016/j.scs.2017.03.005
- 40- **Shaaban, K.**, Hassan, H.M. (2017), Underage driving and seat-belt use of high school teenagers in Qatar, *Journal of Transportation Safety and Security*, 9, pp. 115-129. DOI: 10.1080/19439962.2016.1212445
- 41- **Shaaban, K.** (2017), Assessment of drivers' perceptions of various police enforcement strategies and associated penalties and rewards, *Journal of Advanced Transportation*, 2017, art. no. c. DOI: 10.1155/2017/5169176
- 42- **Shaaban, K.**, Muley, D., Elnashar, D. (2017), Temporal variation in walking behavior: An empirical study, *Case Studies on Transport Policy*. DOI: 10.1016/j.cstp.2017.07.001
- 43- Tageldin, A., Sayed, T., **Shaaban, K.** (2017), Comparison of time-proximity and evasive action conflict measures case studies from five cities, *Transportation Research Record*, 2661, pp. 19-29. DOI: 10.3141/2661-03
- 44- **K Shaaban**, JS Wood, VV Gayah. (2017), Investigating driver behavior at minor-street stop-controlled intersections in Qatar, *Transportation Research Record: Journal of the Transportation Research Board* 2017 2663: 109-116. DOI: <https://doi.org/10.3141/2663-14>
- 45- **K Shaaban**, D Muley, D Elnashar. (2017), Evaluating the effect of seasonal variations on walking behaviour in a hot weather country using logistic regression, *International Journal of Urban Sciences*, 1-10. DOI: <https://doi.org/10.1080/12265934.2017.1403363>
- 46- **Sirin, O.**, Paul, D.K., Kassem, E., Ohiduzzaman, M. (2017), Effect of ageing on asphalt binders in the State of Qatar: a case study, *Road Materials and Pavement Design*, pp. 1-20. DOI: 10.1080/14680629.2017.1389094
- 47- Menapace, I., Nogueira d'Eurydice, M., Galvosas, P., Hunter, M.W., **Sirin, O.**, Masad, E. (2017), Aging evaluation of asphalt samples with Low Field Nuclear Magnetic Resonance, *Materials Characterization*, 128, pp. 165-175. DOI: 10.1016/j.matchar.2017.01.029
- 48- Mohsen, M.O., **Taha, R.**, Abu Taqa, A., Shaat, A. (2017), Optimum carbon nanotubes' content for improving flexural and compressive strength of cement paste, *Construction and Building Materials*, 150, pp. 395-403. DOI: 10.1016/j.conbuildmat.2017.06.020
- 49- Mohsen, M.O., **Taha, R.**, Abu Taqa, A., **Al-Nuaimi, N.**, Abu Al-Rub, R., Bani-Hani, K.A. (2017), Effect of Nanotube Geometry on the Strength and Dispersion of CNT-Cement Composites, *Journal of Nanomaterials*, 2017, art. no. 6927416. DOI: 10.1155/2017/6927416

Conference Papers

- 1- **Al-Ansari, M. S. H.** (2017). "Behavior of Retrofitted Concrete Members Using Iron-Based Shape Memory Alloys", SMAR 2017 - Fourth Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, Zürich, Switzerland, 13 – 15 September 2017.

- 2- **Alnahhal, W.** (2017), "Behaviour of fibre reinforced concrete using steel slag coarse aggregate produced in Qatar", MATEC Web of Conferences, 120, art. no. 04004. Sharjah; United Arab Emirates; 18 – 20 April 2017, DOI: 10.1051/mateconf/201712004004
- 3- Al-Hamrani, A., **Alnahhal, W., Alnuaimi, N.**, (2017), "Shear Behavior of Fiber Reinforced Concrete Beams Reinforced with Basalt FRP Bars", Sixth International Conference on Advances in Civil, Structural and Environmental Engineering - ACSEE 2017, Rome, Italy, 09-10 December 2017.
- 4- Taha, A., Rihan, Y., **Alnahhal, W.**, (2017), "Influence of FRP Reinforcement Ratio on Flexural Behavior of Concrete One-Way Slabs", Sixth International Conference on Advances in Civil, Structural and Environmental Engineering - ACSEE 2017, Rome, Italy, 09-10 December 2017.
- 5- Aljidda, O., **Alnahhal, W.**, (2017), "Influence of Replacement Ratio of Recycled Concrete Aggregates on Flexural Behavior of Concrete Beams", Sixth International Conference on Advances in Civil, Structural and Environmental Engineering - ACSEE 2017, Rome, Italy, 09-10 December 2017.
- 6- Younis, A., **Ebead, U. A.**, Nanni, A., (2017), "A perspective on seawater/FRP reinforcement in concrete structures", ISEC 2017 - 9th International Structural Engineering and Construction Conference: Resilient Structures and Sustainable Construction, Valencia; Spain; 24 – 29 July 2017.
- 7- Younis, A., **Ebead, U. A.**, Shrestha, K. C., (2017), "FRCM shear strengthening for concrete beams", ISEC 2017 - 9th International Structural Engineering and Construction Conference: Resilient Structures and Sustainable Construction, Valencia; Spain; 24 – 29 July 2017.
- 8- Shrestha, K.C., **Ebead, U. A.**, Younis, A., (2017), "Effect of surface roughening on concrete/TRM bond", ISEC 2017 - 9th International Structural Engineering and Construction Conference: Resilient Structures and Sustainable Construction, Valencia; Spain; 24 – 29 July 2017.
- 9- Younis, A., **Ebead, U. A.**, Shrestha, K., (2017), "Tensile characterization of textile reinforced mortar", ISEC 2017 - 9th International Structural Engineering and Construction Conference: Resilient Structures and Sustainable Construction, Valencia; Spain; 24 – 29 July 2017.
- 10- **Ebead, U. A.**, Younis, A.*, El Refai, A., and Nanni, A., (2017), "Tensile and pull-off characterization for TRM rehabilitation systems", The Fifth International Conference on Durability of Fiber Reinforced Polymer (FRP) Composites for Construction and Rehabilitation of Structures (CDCC 2017), Sherbrooke, Quebec, 19-21 July 2017.
- 11- Elghazy, M., El Refai, A., **Ebead, U.A.**, and Nanni, A., (2017), "Corrosion-damaged beams repaired with carbon-fabric-reinforced cementitious matrix", The Fifth International Conference on Durability of Fiber Reinforced Polymer (FRP) Composites for Construction and Rehabilitation of Structures (CDCC 2017), Sherbrooke, Quebec, 19-21 July 2017.
- 12- Gue, C., Alhaddad, M., Wilcock, M., **Elshafie, M.** and Mair, R., (2017), The 8th international conference on **Structural Health Monitoring of Intelligent Infrastructure**, Brisbane, Australia, 5-8 December, 2017.
- 13- Da Silva, T. S., **Elshafie, M. Z. E. B.**, Madabhushi, G. S.P., (2017), Estimation of the coefficient of lateral stress used in the calculation of loads on buried structures. Geotechnical Special Publication (GSP 277 ed., pp. 233-242). https://api.elsevier.com/content/abstract/scopus_id/85018769576

- 14- **Gündüz M.**, and Maki, O.L., (2017), "Causes of Cost Overrun in Construction Industry", ICCEMS 2017: Second International Conference on Civil Engineering and Materials Science, Seoul, South Korea, 26 – 28 May 2017.
- 15- Elmasry, M., **Hawari, A.**, Zayed, T. (2017), Cost benefit analysis for failure of sewer pipelines MATEC Web of Conferences, 120, art. no. 08006. Sharjah; United Arab Emirates; 18 – 20 April 2017.
- 16- B. Larbi, A. Ltaief, **A. Hawari**, F. Du, M. Baune and J. Thöming (2017) Assessment of the Effect of Dielectrophoresis (DEP) on the Viability of Activated Sludge Biomass, 9th International Conference on Chemical, Biological and Environmental Engineering (ICBEE 2017), Athens, Greece, 25 – 27 September 2017.
- 17- Pinto, A., Costa, P.A., Colaço, A., and **Hussein, M. F. M.**, (2017), Ground-borne vibrations due to railway traffic in urbanized areas: A numerical study about Traffic in Trench cross-sections, 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2017), Athens, Greece, 15 – 17 June 2017.
- 18- Ntotsios, E., Thompson, D., **Hussein, M. F. M.**, (2017), The effect of track unevenness correlation on railway induced ground vibration, In the 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2017), Athens, Greece, 15 – 17 June 2017.
- 19- **Hussein, M. F. M.**, (2017), Improving the student learning experience by using mobile and computer technology in delivering multiple-choice questions, 8th International Forum on Engineering Education (IFEE2017), University of Sharjah, United Arab Emirates, 18-20 April 2017.
- 20- Hunt, H. E.M., **Hussein, M. F. M.**, Hamad, W. I. (2017). The Pip model and progress in ground vibration from railways, Acoustics, 19 – 22 November 2017.
- 21- **Shaaban, K.**, Abdel-Warith, K. (2017), Agent-based Modeling of Pedestrian Behavior at an Unmarked Midblock Crossing, Procedia Computer Science, 109, pp. 26-33. 8th International Conference on Ambient Systems, Networks and Technologies, ANT 2017 and 7th International Conference on Sustainable Energy Information Technology, SEIT 2017; Madeira; Portugal; DOI: 10.1016/j.procs.2017.05.291, 16 – 19 May 2017.
- 22- **Shaaban, K.**, Wood, J. S., Gayah, (2017), Investigating the Driver Behavior at Minor-street Stop Sign Intersections in Qatar, Transportation Research Board 96th Annual Meeting. Washington DC; United States; 8 - 12 January 2017
- 23- **K Shaaban**, A Siam, A Badran, M Shamayah. (2017), A Simple Method to Assess Walkability Around Metro Stations, Transportation Research Board 96th Annual Meeting. Washington DC; United States; 8 - 12 January 2017
- 24- Ohiduzzaman, M., **Sirin, O.**, Kassem, E., (2017), "Evaluation of Dynamic Modulus of Asphalt Concrete Field Cores", 6th International Conference on Advances in Civil, Structural and Environmental Engineering, Rome, Italy, 9-10 December 2017.
- 25- Ohiduzzaman, M., **Sirin, O.**, Kassem, E., (2017), "Assessment of tire-pavement noise by using on-board sound intensity (OBSI) method in the State of Qatar", 10th International Conference on the Bearing Capacity of Roads, Railways and Airfields (BCRRA 2017), Athens, Greece, 28-30 June 2017.

- 26- Menapace, I., Masad, E., D'Eurydice, M.N., Galvosas, P., Hunter, M.W., **Sirin, O.**, "Study on the use of low field Nuclear Magnetic Resonance for detecting asphalt aging", 10th International Conference on the Bearing Capacity of Roads, Railways and Airfields (BCRRA 2017), Athens, Greece, 28-30 June 2017.
- 27- Sadeq, A. M., Masad, E., Al-Khalid. H., **Sirin, O.**, Menapace, I., D'Eurydice, M. N., "New Protocol Utilising the Accelerated Weathering Tester to Age Fine Asphalt Mixtures with Warm Mix Asphalt Additives", 7th International EATA (European Asphalt Technology Association) Conference, Dubendorf, Switzerland, 12-14 June 2017.

Book chapters

- 1- **Taha, R.**, Hassan, H. F., Al-Awaid, A., Al-Shahri, M., Laboratory evaluation of road bases made of cement by-pass dust stabilized aggregate systems, Performance of Bituminous and Hydraulic Materials in Pavements, Routledge, 187-194, 2017.

Patents

Nil

Technical Reports

1. **Ebead, U.A.** (2017). STUDIES ON THE STRENGTHENING OF REINFORCED CONCRETE STRUCTURES USING FRCM.

Editorials and Essays

Nil

Appendix A2- Seminars – Public Lectures – Short Courses

Seminars and Public Lectures Delivered by Departmental Faculty Members Inside Qatar University

1. **Dr. Khaled Shaaban**, Associate Professor, Department of Civil and Architectural Engineering Qatar University, presented at the Qatar Foundation a seminar on April 20, 2017 entitled "Road Safety Research Outcomes Seminar & Roundtable".
2. **Dr. Mohammed Elshafie**, Associate Professor, Department of Civil and Architectural Engineering Qatar University presented a seminar on October 29, 2017 entitled "Tunnels and tunneling: the basics".
3. **Dr. Mohammed Elshafie**, Associate Professor, Department of Civil and Architectural Engineering Qatar University presented a seminar on November 20, 2017 entitled "Smart infrastructure: talking tunnels, self-sensing bridges, simulation and artificial intelligence".
4. **Dr. Mohammed Hussein**, Head of Department & Associate Professor, Department of Civil and Architectural Engineering Qatar University, presented a seminar for CRU workshop, College of Engineering on August 02, 2017 entitled "Student perception on the use of flipped classrooms for a numerical course".
5. **Dr. Mohsin Siddiqui**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a workshop at OFID on October 23, 2017 entitled "Managing references using Endnote Software".
6. **Dr. Mohsin Siddiqui**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a workshop at OFID on November 8, 2017 entitled "Instructional technologies for Higher Education Teaching".
7. **Dr. Mohsin Siddiqui**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a workshop at OFID on November 15, 2017 entitled "Cognitive Psychology and Higher Education Teaching".
8. **Dr. Wael Anahhal**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a seminar on December 4, 2017 entitled "Overview on the Department of Civil Engineering".
9. **Dr. Wael Anahhal**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a seminar on October 25, 2017 entitled "Reuse of Materials, By-products, and FRP Composites in Construction at Qatar".

Seminars and Public Lectures Delivered by Departmental Faculty Members Outside Qatar University

1. **Dr. Khaled Shaaban**, Associate Professor, Department of Civil and Architectural Engineering Qatar University presented at the TEDxAIDafnaED conference on November 2017. The conference focused on education and its reflection on the community.
2. **Dr. Mohammed Elshafie**, Associate Professor, Department of Civil and Architectural Engineering Qatar University presented a seminar at Qatar Rail Headquarters Building on November 13, 2017 entitled "Smart infrastructure in practice".
3. **Dr. Wael Anahhal**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a seminar on May 16, 2017 entitled "Behavior of Fiber Reinforced Concrete Beams with Recycled Concrete Coarse Aggregates Produced in Qatar" at Grand Hyatt Doha Hotel, Qatar.

Short Course Delivered by Departmental Faculty Members

1. **Dr. Mohsin Siddiqui**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a workshop on Primavera for Civil Engineering Senior Students, May 13, 2017.
2. **Dr. Mohsin Siddiqui**, Assistant Professor, Department of Civil and Architectural Engineering Qatar University presented a workshop entitled "Fundamentals of Project Planning and Scheduling", December 28-28, 2017.

Seminars and Public Lectures Attended by Departmental Faculty Members

Dr. Mohammed Elshafie

- Distinguished lecture series – Eng. Saad Sherida Al-Kaabi – 27th September, 2017, Qatar University, Ibn Khaldoun Hall
- Distinguished lecture series - H.E. Abdullah Bin Hamad Al-Attiyah – 22nd November, 2017, Qatar University, Ibn Khaldoun Hall

Dr. Mohsin Siddiqui

- Appointment Manager, January 17, 2017 – OFID
- Banner and QU Procedures, January 18, 2017, OFID
- Survey-based Experiments Workshop, April 16 – 20, 2017, SESRI, Qatar University
- Using iThenticate to Prevent Plagiarism, April 18, 2017, OFID
- Promoting Student Centered Learning, November 5, 2017, OFID
- Cognitive Aspects of Learning (I), November 6, 2017, OFID
- Cognitive Aspects of Learning (II), November 13, 2017, OFID
- Blackboard Academic Adoption Day, November 27, 2017, Qatar University ABET Program

Evaluator Training (online) for Engineering Accreditation Commission, EAC, March 2017 – Was inducted as a PEV without onsite training that was scheduled for May/June 2017 in USA.

Prof. Murat Gunduz

- Construction Week Qatar: Health & Safety Breakfast Briefing, 22/03/2017
- The Smart MEP Summit 2017, Intercontinental Hotel, Doha, 2-3/5/2017
- Workshop on Road Freight Transport and Safety, 9/5/2017
- Seminar: Learner-Centered Teaching (PBL in particular), 13/11/2017 2nd Inaugural talk: DR. Mohammed Elshafie/ Smart Infrastructure: Talking Tunnels, Self-Sensing Bridges, Simulation and Artificial Intelligence, 20/11/2017

Prof. Ramzi Taha

- Approaches to Developing and Implementing Learning-Centered Pedagogy. October 14, 2017, College of Engineering, QU.
- CENG Readiness for the 4th Industrial Revolution: The Way Forward-Reshaping Teaching and Learning Initiative. December 6, 2017, College of Engineering, QU.

Seminars and Public Lectures Delivered by Visiting Academics and Professionals

1. **Dr. Venkatesh Kodur**, Professor and Chairperson of the Department of Civil and Environmental Engineering at Michigan State University (USA), **Dr. Jamal Abdalla**, Professor of Civil Engineering at American University of Sharjah (UAE) and **Dr. Rami Hawileh**, Professor of Civil Engineering at American University of Sharjah (UAE) presented a workshop on March 7-8, 2017. The workshop entitled “Fourth Symposium and Workshop on Design for Fire Safety in Buildings and Built Infrastructure”.

Invited Public Lectures/Keynote Speakers

1. **Prof. Murat Gunduz**, The Smart MEP Summit 2017, Intercontinental Hotel, Doha, Qatar.

Appendix-A3-Faculty-Activities

(Note: In this appendix, "Professional Development" includes 'conference attended', 'workshops attended', 'workshops given', and 'organized events'.)

Consultancy

Prof. Ramzi Taha

- Concrete cracking problem, China Harbor, May-September 2017

Community Service:

Dr. Mohsin Siddiqui

- Reviewed papers for Renewable Energy, Construction Management and Economics Journals.
- ABET Program Evaluator Volunteer for the Applied Science Accreditation Commission, Conducted visit in 2016-17 cycle.

Prof. Ramzi Taha

- Expert Panel Member, Court Lawsuit, 2015-2017

Prof. Usama Ebead

- Became a member of the editorial board of Structures and Buildings Journal

Awards and Achievements

Prof. Usama Ebead

- Promoted to Full Professor in Civil Engineering.

Dr. Alaa Al Hawari

- Excellence award from the College of Engineering in recognition for Excellence in Academic/ Research.

Prof. Hisham Eid

- Nominated for the most prestigious ASCE Award in Geotechnical Engineering the Thomas Middlebrooks Award, 2017. Result will appear by the end of December 2017. There are three nominees for such an award.

Dr. Khaled Shaaban

- Received the best paper award at the 8th International Conference on Ambient Systems, Networks and Technologies held in Portugal.

Eng. Nasser Al-Nohmi

- Civil and Architectural Engineering Department's Award for Services for 2017.

Dr. Mohammed Elshafie

- Voted in to join the Leadership Council for the International Society for Structural Health Monitoring and Intelligent Infrastructure (ISHMII)
- Appointed the Chair for the new Young Members' Committee within ISHMII

Dr. Riyadh Al-Raoush

- Appointed as an Adjunct Professor at the Department of Earth and Environmental Sciences at the University of Waterloo, Canada.

Dr. Wael Anahhal

- Best Undergraduate Student Research Poster Award in Science and Engineering at the Annual Research Forum 2017-Qatar University.
- First prize in the ninth UREP Poster Competition.
- Dean's Award for Services for 2017.

Conferences Attended

Dr. Alaa Al Hawari

- "The 9th International Conference on Chemical, Biological and Environmental Engineering (ICBEE 2017)", September 25-27, 2017. Athens, Greece. Presenting a paper.

Dr. Khaled Shaaban

- "The 8th International Conference on Ambient Systems, Networks and Technologies", May 16-19, 2017, Maderia, Portugal. Presenting a paper.

Dr. Mohammed Elshafie

- "Structural Health Monitoring of Intelligent Infrastructure conference" December 5-8, 2017, Brisbane, Australia. Presenting a paper. Chairing the inaugural meeting of the Young Members Committee. Attending the Council Meeting for the International Society for Structural Health Monitoring and Intelligent Infrastructure.

Prof. Murat Gunduz

- "ICCEMS 2017: Second International Conference on Civil Engineering and Materials Science: Causes of Cost Overrun in Construction Industry", May 26-28, 2017, Seoul, South Korea. Presenting a paper.

Prof. Usama Ebead

- "9th International Structural Engineering and Construction Conference: Resilient Structures and Sustainable Construction- ISEC 2017", 24 July 2017 through 29 July 2017, Valencia; Spain.
- "The Fifth International Conference on Durability of Fiber Reinforced Polymer (FRP) Composites for Construction and Rehabilitation of Structures (CDCC 2017)", July 19-21, 2017, Sherbrooke, Quebec.

Dr. Wael Anahhal

- "International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17)", April 18-20, 2017. University of Sharjah, UAE. Presenting a paper.
- "Sixth International Conference on Advances in Civil, Structural and Environmental

Engineering - ACSEE 2017”, December 09-10, 2017.Rome, Italy. Presenting a paper.

- “Future Concrete Conference”, May 16, 2017, Doha, Qatar. Presenting a paper.

Workshop, Training, and Visits Attended

Prof.Murat Gunduz

- Academic Advising Training, 17-18/1/2017
- OFID Training Advising-Scholarships, 27/4/2017

Prof. Usama Ebead

- Visit, NPRP Progress University of Laval 22-29 January 2017

Workshop, Training, and Visits Delivered

Dr. Mohammed Hussein

- Visit to the Mock-up tracks at MPLA west site of Qatar Rail for the course CVEN460, 27/11/2017

Dr.Wael Anahhal

- Site visits will be conducted by the end of December for CVEN 420 and CVEN 320.

Events Organized

Dr. Okan Sirin

- 5TH High School Wooden Bridge Competition, Organizer, December 12 , 2017

Dr.Wael Anahhal

- 4TH High School Wooden Bridge Competition, Organizer, April 06, 2017

Other Activities

Prof. Murat Gunduz

- Attended ASCE Journal of Management Editorial Board Meeting, September 22, 2017, Washington DC, USA

Prof. Ramzi Taha

- Institutional Audit Panel Member, A'Sharqiya University in Oman, May 2017.
- ABET Program Evaluator, Civil Engineering Program, Holy Spirit University of Kaslik, Lebanon, September 2017.

Outreach Programs

- Faculty members from the Civil and Architectural Engineering Department visited four high schools in 2017 as a part of the outreach program. The high schools are Al-Wakrah, Omar Bin Al-Khatib, Musaab Bin Omair and Tariq Bin Zeyad. The main objective of the visits was to provide the students with detailed information about the Civil Engineering Programs at Qatar

University as well as to highlight the importance and roles of Civil Engineers to high school students in Qatar.

Engineering Week

- Engineering week was held from the 17th to the 20th of April 2017 in the Library Building at Qatar University. The event aimed to introduce high school students as well as first year students about the principles and fundamentals of engineering. Each department from CENG had its own booth with different models and activities.

Several models were presented in the Civil Engineering Booth which attracted a lot of students. A model was presented to highlight the effect of vibration coming from ground rail on bridges as well on the surrounding structures. Another model showed the effect of different frequencies on a plate surface. The booth was very successful and students were interested to learn more about civil engineering topics.



Figure 17: The participation of CAE Department in the Engineering Week for the calendar year of 2017.

Appendix-A4-Students Activities

Competitions & Awards

- **4th & 5th High School Wooden Bridge Competition 2017**

This competition was organized for the fourth time on 6th April, 2017 and for the fifth time on the same year on 12nd December, 2017. Its purpose is to promote “Engineering” in general, and “Civil Engineering”, in particular, among the high school students in Qatar. Small-scale wooden bridges were designed by the students of high schools and were tested on the day of the competition. Fifteen and sixteen Independent High Schools participated in the fourth and fifth High school Wooden Bridge competition respectively.



Figure 18: 4th Wooden Bridge Competition.



Figure 19: 5th Wooden Bridge Competition.

Table 7: 4th Wooden Bridge Competition winners.

School Name	Load Capacity (kg)	Position
Banking Studies and Business Administration	85	1st Place
Smaisma Independent Secondary School	67	2nd Place
Hamad Bin Abdullah Bin Jassim	43.5	3rd Place

Table 8: 5th Wooden Bridge Competition winners.

School Name	Load Capacity (kg)	Position
Tariq Bin Zeyad Secondary School	70	1st Place
Jasem Bin Hamad Secondary School	51	2nd Place
Al Shahanyih Secondary School	38.5	3rd Place

- **2017 ACI CONCRETE CYLINDER COMPETITION IN QATAR**

The Department of Civil and Architectural Engineering at Qatar University collaborated with Advanced Construction Technology Services (ACTS) Doha in running a student competition as part of the Future Concrete Conference which was held in Doha on 16/5/2017. The conference and the competition was supported by a number of organizations including ACI (American Concrete Institute) Qatar Chapter. The competition was carried out for the Civil Engineering students taking CVEN 320 course "Design of Reinforced concrete members and it involved twenty students of ten groups.

The aim of the competition was to produce concrete cylinders with an average compressive strength of 7000 psi (48.3 MPa) and a saturated surface-dry density of 150 *lbft*³(2.39*kg/l*) with the highest cementitious efficiency and the lowest cost.

The competition was supervised by the course instructor Prof. Usama Ebead with support from the teaching assistant Eng. Nasser Alnohmi and with help of our technicians Engs Abdul Azeez Kilayli and Siju Joseph. ACTs had a representative during the test of concrete samples. The conference was held at the Grand Hyatt Doha Hotel. At the conference, the award was announced and it went to group 09: Rabeh Almashhadani and Mohammed Abdesalam. The students won a fully-paid trip to The USA, California Anaheim to attend the ACI Concrete Convention and Exposition during the period 15-19 October 2017.



Figure 20: Our Students Rabeih Almashhadani and Mohammed Abdesalam receiving the award of ACI Concrete Cylinder Competition In Qatar.

- **Qatar University Innovation & Entrepreneurship Competition (2017)**

Three of our civil engineering students won Qatar University Innovation & Entrepreneurship Competition, which was organized by the College of Engineering and College of Business under the Center of Entrepreneurship. The students are Jamal Hannun, Jameel Hannun and Yousef AlNuaimi.



Qatar University Innovation & Entrepreneurship Competition.

- **CENG Football Cup 2017**

A team of faculty members, staff, and students from the department participated in the College of Engineering Football Tournament on April 05, 2017. The departmental team came in the Second Place in the football competition and in the First Place in departmental participation.



Figure 22: CENG Football Cup- 2017.

- **4th International Competition for Universities Debate in Arabic Language**

Our student Baraa Al Ahmar won the 1st award in the 4th International Competition for Universities Debate in Arabic Language.



Figure 23: Baraa Al Ahmar receiving the 1st award in the 4th International Competition for Universities Debate in Arabic Language

- **Enterprise Qatar Challenge 2017.**

Our student Mohammed Hassan Rabie and his team won the 3rd place in the Enterprise Qatar Challenge 2017.



Figure 24: Mohammed Hassan Rabie and his team during their presentation in the Enterprise Qatar Challenge 2017.

- **Student Activities Recognition Ceremony (Takreem 2017)**

Our student Mohammed Hassan Rabie was selected to be honored at the Student Activities Recognition Ceremony (Takreem 2017) for his outstanding efforts and achievements during the calendar year 2017.



Figure 25: Mohammed Hassan Rabie receiving his award from QU president Dr. Hassan Al-Derham

- **Qatar National Research Fund's (QNRF) 9th Annual Undergraduate Research Experience Program (UREP) Poster Competition**

Our Undergraduate team consisting of six members won the First Place in Qatar National Research Fund's (QNRF) 9th Annual Undergraduate Research Experience Program (UREP) **Poster Competition** for the poster entitled "***Flexural Behavior of Fiber Reinforced Concrete Beams with Basalt FRP Reinforcing Bars***". The same team was also honored during the annual research forum at Qatar University. This project was supervised by our faculty member Dr. Wael Al Nahhal.



Figure 26: Our Undergraduate team receiving the First Place Award in Qatar National Research Fund's (QNRF) 9th Annual Undergraduate Research Experience Program (UREP) Poster Competition

- **Oryx GTL's Best Honor Student Thesis Award**

Our student Mohamed Amin Ibrahim won the Oryx GTL's Best Honor Student Thesis Award.

- **The Best Project Competition Award in Honor's Program**

Our student Mohamed Amin Ibrahim got 2nd Place for "The Best Project Competition Award in Honor's Program".

- **Dubai International Open Men for Rugby Sevens**

Our student Ahmed Maher Elmasry participated in Dubai International Open Men for Rugby Sevens tournament and won the tournament. This tournament was considered as one of the biggest Rugby Seven competitions worldwide.



Figure 27: Our student Ahmed Elmasry and his team in Dubai International Open Men for Rugby Sevens tournament.

Seminars & Trainings

Nil

Field Trips, Social and Extra-Curricular Events

- **Qatar National Cement Company**

Civil and Architectural Engineering students visited the manufacturing unit of Qatar National Cement Company located in Al-Bidaa on April 8th, 2017. Qatar National Cement Company is a major producer of Ordinary Portland Cement, Sulphate Resistant Cement, Hydrated Lime, Calcined lime and Washed Sand in State of Qatar. The students had the opportunity to see the manufacturing process and the different types of the materials used in that process. This visit was organized by the ASCE Student Chapter at Qatar University.



Figure 28: Civil and Architectural Engineering students at Qatar National Cement Company

- **Qatar Rail Mock-up tracks at MPLA West site**

The Civil Engineering students visited the mock-up railway tracks of Qatar Rail of the MPLA west site on November the 27th 2017. The students had the opportunity to see the manufacturing process of the tracks and the tunnel segments of Doha metro. They also had the opportunity to see the main types of railway tracks, i.e. the direct fixation system, and the floating-slab track system with continuous

bearings.
organized
Student
college of



Figure 29: Civil and Architectural Engineering students at MPLA West site.

and discrete slab
This visit was co-
by the ASCE
Chapter and the
engineering student
representative.