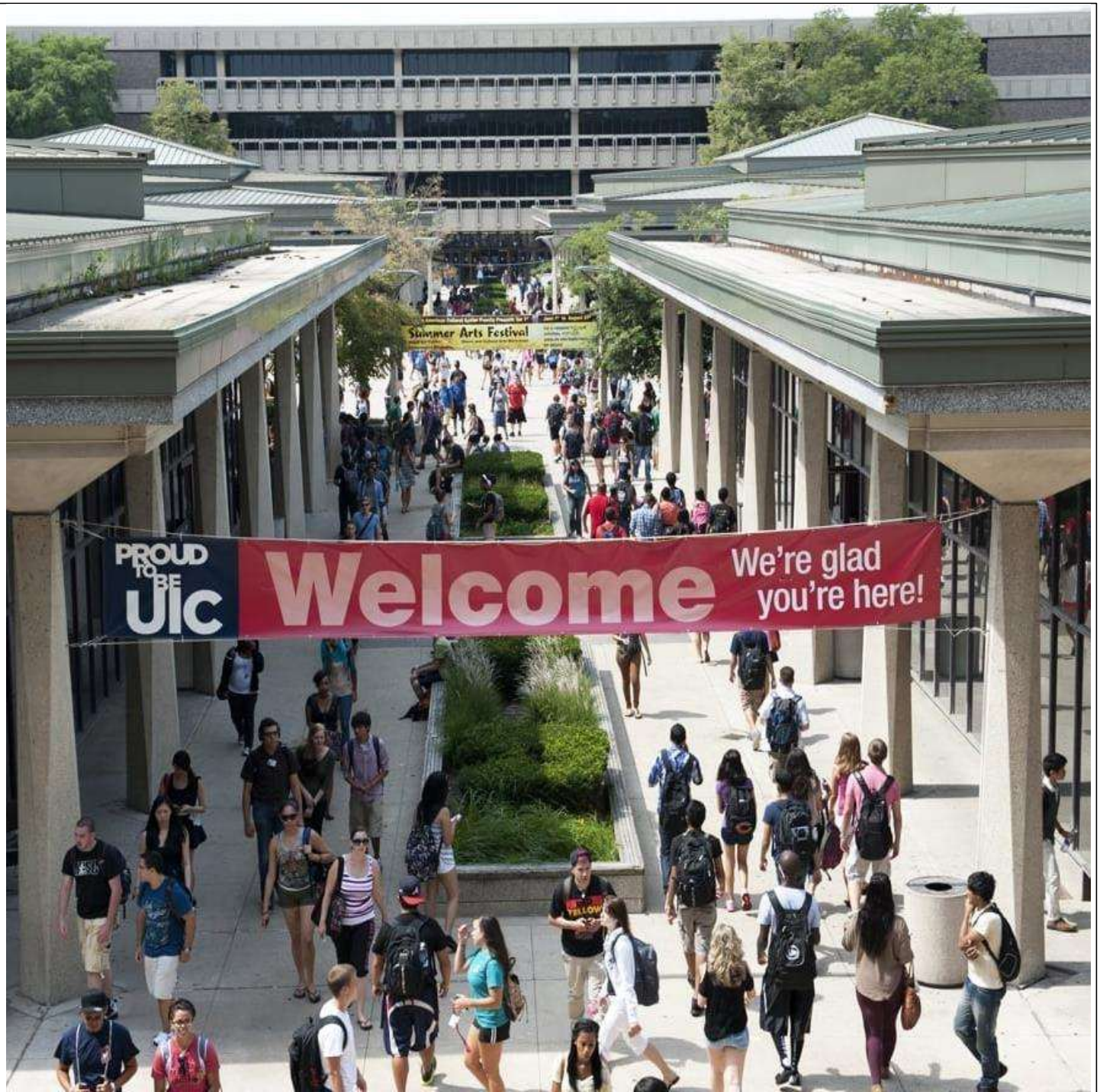




ANNUAL REPORT 2019

ITE Student Chapter at the University of Illinois at Chicago

Institute of Transportation Engineers
ANNUAL REPORT OF STUDENT CHAPTER ACTIVITIES
From February 16, 2019 to February 14, 2020
STUDENT CHAPTER AT *THE UNIVERSITY OF ILLINOIS AT CHICAGO*

1. STUDENT CHAPTER OFFICERS

President: Ali Shamshiripour

Vice President: Ehsan Rahimi

Treasurer: Amir Bahador Parsa

Secretary: Sudheer Ballare

2. STUDENT CHAPTER MEMBERSHIP

Number of Student Chapter members: 20

Number of Student members of the Institute: 10

Number of Students eligible to be a Student member of the Institute: approx. 100

Number of faculty members who are current ITE members: 1

3. INFORMATION ON TRANSPORTATION ENGINEERING ENROLLMENT

Number of undergraduate students (Sophomore - Senior years) in your academic department.

Full time: approx. 70 Part time: Nil

Does your curriculum allow an undergraduate student to major or minor in Transportation? **No**

Number of graduate students in Transportation.

Full time: approx. 15 Part time: Nil

4. SUMMARY OF STUDENT CHAPTER ACTIVITIES

Please see attached supplemental report.

5. ROSTER OF STUDENT CHAPTER MEMBERS

Please see attached member roster.

Report submitted by:



Name: Ali Shamshiripour
ITE Student Chapter at UIC
President
ashams5@uic.edu
February 14, 2020

Contents approved by:



Name: Dr. Bo Zou
ITE Student Chapter at UIC
Faculty Advisor
bzou@uic.edu
February 14, 2020

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President's Message

Greetings friends and supporters of ITE! I have been blessed with the opportunity of serving the ITE Student Chapter at the University of IL at Chicago (UIC) for two years. As an international association of more than 15,000 transportation professionals working in 90 countries, ITE provides unique and excellent opportunities for students of Transportation engineering and planning. Our mission at the UIC chapter is to enhance both the educational and professional experience of members through connections with ITE, providing them access to a vast network of fellow peers, renowned scholars, and the world-wide industry.

Throughout 2019, we experienced a flourishing year with the dedicated support of our faculty advisor, Dr. Bo Zou, as well as the CME department head, Dr. Kouros Mohammadian. And of course—we owe our achievements to our student body and collective teamwork in conducting efficient brainstorming sessions throughout our board meetings.

In addition to the general body meeting, we also organized various seminars that hosted outstanding scholars from a number of different schools. Our student members have also shown their active presence at prominent conferences such as TRB and INFORMS, many of whom presented their recent research findings. Our board and student members have won several scholarships and awards for their research throughout the year.

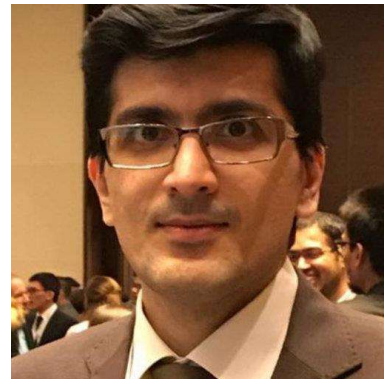
Without further ado, I kindly invite you to please read through the rest of our achievements as outlined in this report.

Ali Shamschiripour

Ali Shamschiripour

President, ITE Student Chapter at UIC

2019-20



2019 Lookback

Sr. No.	Activity	Date
	Technical Activities	
1	Seminar - Infrastructure for the Circular Economy (Dr. Weslynn Ashton)	11/22/2019
2	Seminar - Overview of Seismic Bridge Design Philosophy in Illinois (Dr. Daniel H. Tobias)	11/15/2019
3	Seminar - Durable and Sustainable Pavements (Dr. Imad L. Al-Qadi)	09/27/2019
4	Seminar - Data-Centric Methods for Resilient Urban Systems (Dr. Roshi Nateghi)	04/12/2019
	General Body Meeting	
	Meeting 1	10/16/2019
	Executive Board Meetings	
	Meeting 1	08/30/2019
	Meeting 2	11/08/2019
	Conferences	
	Transportation Research Board (TRB) 99th Annual Meeting 2020	01/12/2020
	11 th International Conference on City Logistics	06/12/2019
	INFORMS 2019	10/23/2019
	3 rd International Symposium on Multimodal Transportation (ISMT)	12/06/2019
	Involvement with ITE	
	IL ITE Student Day 2019	11/08/2019

Organization: About the ITE Student Chapter at UIC

ITE Student Chapter at UIC is a group of students interested in entering the field of transportation planning and engineering. The chapter is organized and operated by students under the supervision of the faculty at the Department of Civil and Materials Engineering (CME) at the University of Illinois at Chicago. The Chapter introduces students to the transportation profession and promotes the advancement of the profession by fostering close association of students with practicing engineers, educators and researchers from other institutions, and local and national chapters of ITE. The Chapter also aims to develop professional spirit, acquaint students with topics of interest in transportation, and promote common interests among students. The ITE Student Chapter at UIC belongs to the Illinois Section Institute of Transportation Engineers. All full-time UIC students in good academic standing are welcome to become members of the ITE Student Chapter at UIC. Membership in the ITE Student Chapter at UIC is free.

Figure 1. illustrates the current organization structure of the ITE Student Chapter at UIC.

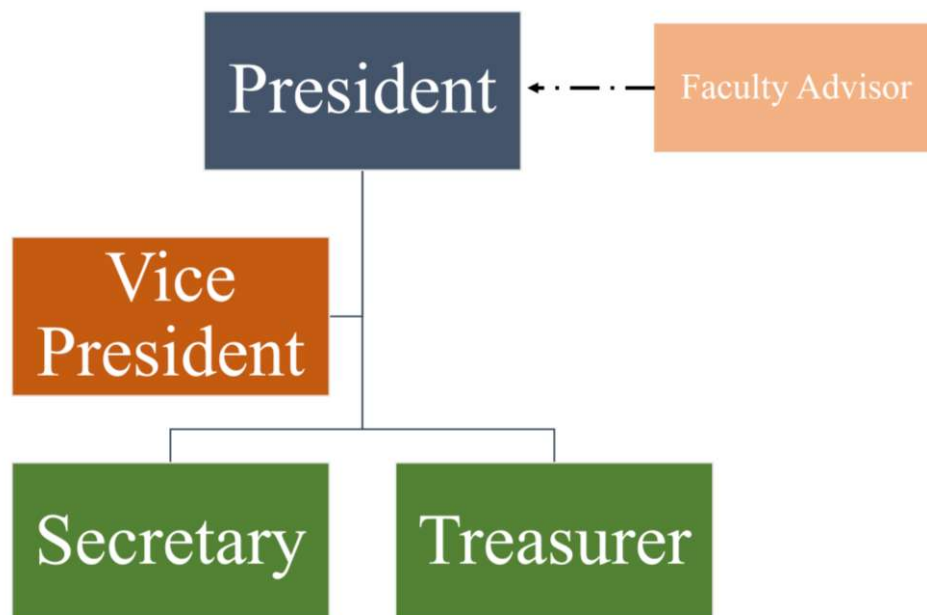


Fig 1: ITE Student Chapter at UIC Executive Board structure

Organization: Meet the Executive Board

Faculty Advisor – Dr. Bo Zou

Dr. Zou is an Assistant Professor in the Department of Civil and Materials Engineering at University of Illinois at Chicago (UIC). Dr. Zou is affiliated with the Center for Supply Chain Management and Logistics, UIC Urban Transportation Center, the National University Rail Center, the Center of Excellence for Airport Technology.



President – Ali Shamshiripour

Ali Shamshiripour is a PhD graduate student in the Department of Civil and Materials Engineering at University of Illinois at Chicago (UIC). His research interests include (a) Application of advanced artificial intelligence techniques to transportation engineering, (b) Transportation demand modeling, and (c) Transportation multi-agent computer simulations.



Vice President - Ehsan Rahimi

Ehsan Rahimi is a PhD graduate student in the Department of Civil and Materials Engineering at University of Illinois at Chicago (UIC). His research interests include (a) Transportation resilience, (b) Transportation demand modeling and (c) Machine Learning and Big Data Analytics.



Treasurer - Amir Bahador Parsa

Amir Bahador Parsa is a PhD graduate student in the Department of Civil and Materials Engineering at University of Illinois at Chicago (UIC). His research interests include (a) Transportation Demand Modeling and Forecasting Travel Behavior (b) Machine Learning and Big Data in Transportation (c) Traffic Simulation and Modeling Environmental Impacts.

**Secretary – Sudheer Ballare**

Sudheer Ballare is a PhD graduate student in the Department of Civil and Materials Engineering at University of Illinois at Chicago (UIC). His research interests include (a) Urban Logistics, (b) Operations research and (c) Intelligent and sustainable transportation systems.



Technical Activities: Conferences

Transportation Research Board (TRB)

The Transportation Research Board (TRB) 99th Annual Meeting was held January 12–16, 2020, in Washington, D.C. More than 13,000 transportation professionals from around the world attended the conference. The conference program covered all transportation modes, with more than 5,000 presentations, addressing topics of interest to policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions.



Fig 2: ITE Student Chapter at UIC members in action at TRB 2019

11th International Conference on City Logistics

The Eleventh International Conference on City Logistics took place at Dubrovnik, Croatia on 12th – 14th June 2019, where more than eighty researchers and practitioners presented recent advances in modelling, planning, implementing, and evaluating City Logistics schemes from 20 countries.



Fig 3: International Conference on City Logistics

INFORMS

The INFORMS 2019 Annual Meeting took place in Seattle, Washington, October 20-23, 2019. The INFORMS Annual Meeting, with more than 1,000 sessions and over 5,000 papers, covered the broad landscape of Operations Research and advanced Analytics research and practice.



Fig 4: INFORMS 2019

3rd International Symposium on Multimodal Transportation (ISMT)

The 3rd International Symposium on Multimodal Transportation (ISMT) took place in Singapore, Dec 6-7, 2019. The goal of the conference is to provide a unique opportunity for participants from universities and industries to share knowledge and exchange ideas on state-of-the-art topics in transportation.



Fig 5: 15th International Conference on Travel Behavior Research

Technical Activities: Seminars

Seminar - Infrastructure for the Circular Economy (Dr. Weslynn Ashton)



Dr. Weslynn Ashton is an Associate Professor of Environmental Management and Sustainability at the Illinois Institute of Technology Stuart School of Business. Dr. Ashton's research focuses on industrial ecology and the circular economy, or how to optimize energy, water, and material resource flows as well as human benefits in socio-ecological systems. The circular economy and its focus on the cycling and regeneration of resources demands reconfiguring existing and building new infrastructures to facilitate these flows. Working at the intersection of sustainability science, industrial ecology and design, Dr. Ashton has developed frameworks, models, and tools to create a new approach for considering a variety of resources that diverse human agents utilize when creating value for themselves, society and the planet. She utilized the concept of capital as resources capable of producing other resources and delineated eight types currently used in modern socio-ecological-technical systems (SETS): natural, financial, manufactured, digital, human, social, political, and cultural. She used participatory action research and prototyping methods to integrate knowledge distributed across multiple levels in these systems, then applied and tested our approach with individual firms (micro level), among a group of firms (meso level), and across a region (macro level). In her talk, she highlights three of the cases – single facility (loop closing), group of firms (industrial symbiosis), region (brownfields as assets), and demonstrate how they contributed to the development of the frameworks.

Seminar - Overview of Seismic Bridge Design Philosophy in Illinois (Dr. Daniel H. Tobias, Ph.D., P.E., S.E.)



Dr. Tobias received his Bachelor of Science Degree in Civil Engineering from Virginia Tech in 1988, and his Masters and Ph.D. in Structural Engineering in 1990 and 1994 from the University of Illinois at Urbana Champaign. At the Illinois Department of Transportation (IDOT), Dan currently manages the following programs: cast-in-place, precast and prestressed concrete; roadway geotechnical; metals and miscellaneous; bridge investigations; experimental features; and materials testing laboratory certification. In the years around 2002 to 2003, IDOT refined its own seismic design methodologies primarily because a significant increase in codified accelerations would require greater levels of sophistication and expertise in seismic bridge design in Illinois (especially in the southern half of the state). IDOT developed its own Earthquake Resisting System (ERS) strategy that is tailored to bridge types constructed in Illinois. As part of the national efforts, Illinois was able to codify a key concept in its ERS that had not existed before in AASHTO specifications, sacrificial fusing of bridge bearings and their connections during a design event earthquake. The lecture focused on the history described above along with the initial (and still ongoing) refinement of Illinois' ERS strategy.

Seminar - Durable and Sustainable Pavements (Dr. Imad L. Al-Qadi)

Professor Al-Qadi, Bliss Professor of Engineering at the University of Illinois at Urbana-Champaign, is the Director of the Advanced Transportation Research and Engineering Laboratory (ATREL), the founding Director of the Illinois Center for Transportation (ICT) and founding Director of the Smart Transportation Infrastructure Initiative. Prior to that, he was the Charles E. Via, Jr. Professor at Virginia Tech. A registered professional engineer, Al-Qadi has authored/coauthored approximately 700 publications and has delivered more than 700 presentations including numerous keynote and distinguished lectures. The future of pavement engineering and sustainability must be holistic. Thus, the pursuit of a sustainable pavement system requires a life-cycle approach, where each life-cycle stage can be defined, evaluated, and optimized with respect to its engineering durability and environmental impacts. In this presentation, the life-cycle stages of pavement systems with emphasis on durability was discussed, including the environmental impacts of using innovative techniques and more efficient processes at each stage to quantify and identify sustainable strategies. The pavement use stage is the most complex of the life-cycle stages and includes the relationship between tire characteristics, vehicle, and pavement. Building long-lasting pavement, its performance, and rolling resistance are directly related to fuel consumptions and resulted emission. The future of pavement engineering was also be discussed.

Seminar - Data-Centric Methods for Resilient Urban Systems (Dr. Roshi Nateghi)

Dr. Roshi Nateghi is an assistant professor of Industrial Engineering, with a joint appointment in Environmental and Ecological Engineering at Purdue University; and the director of the Laboratory for Advancing Sustainable Critical Infrastructure (LASCI). Her research is highly interdisciplinary and focuses on advancing the theory and practice of community-centric resilience through developing advanced analytics to facilitate better anticipation and mitigation of both rapid and slow-onset hazards. Her research program has been primarily funded by the NSF CBET and CMMI divisions.

Reliable provision of critical services such as energy and water, supplied through civil infrastructure systems, is essential for ensuring the national security, economic productivity and social well-being of every modern society. The critical infrastructure in the U.S. is increasingly prone to climatic risks that cause widespread disruptions; negatively affecting many communities and causing billions of dollars in losses. In this talk, she discussed her research on leveraging statistical learning theory and simulation to develop, validate, and operationalize accurate predictive risk models to inform resilience investment decisions. To demonstrate the applicability of her approach for modeling infrastructure risk and resilience, she presented various case studies focused on the energy sector in the U.S.

Technical Activities: Webinars

List of webinars attended by ITE Student Chapter at UIC members:

- 1) TRB Webinar: Evaluating load testing for bridges – February 11, 2020
- 2) TRB Webinar: Innovative Alternative Intersection and Corridor Studies using the HCM6 – December 5, 2019
- 3) TRB Webinar: Road Safety in Low- and Middle-Income Countries – November 25, 2019
- 4) TRB Webinar: Legal Issues Regarding NEPA Assignment for Federal Transportation Programs– October 9, 2019
- 5) TRB Webinar: Implications of Technologies for Visually Impaired Pedestrians– September 17, 2019 Not Your Average Analysis – Introducing Travel Time Reliability in the HCM
- 6) TRB Webinar: Not Your Average Analysis – Introducing Travel Time Reliability in the HCM - August 22, 2019

Technical Activities: Site Visit

ITE Student Chapter at UIC member, Sudheer Ballare had an opportunity to visit the U.S. Environmental Protection Agency's National Vehicle and Fuel Emissions Laboratory (NVFEL), located in Ann Arbor, Michigan. NVFEL is a state-of-the-art facility that provides emission testing services for motor vehicle, heavy-duty engine, and nonroad engine programs in support of rulemakings, enforcement actions, and test procedures development.



Fig 6: Highlights from the NVFEL site visit

Technical Activities: Poster competition



Fig 7: The ITE Student Chapter at UIC members displaying their posters during the annual Christopher Burke and Susan S. Burke Civil Engineering Poster Competition held at UIC

Liaison: ITE Illinois Section, On campus

IL ITE Student Day 2019 (November 8, 2019)

The ITE Student Chapter at UIC successfully hosted the annual Student Day Career Fair + Luncheon for The Illinois Section of ITE (ILITE) on Thursday, November 8, 2019. Student Day is a career fair and networking event targeted at Illinois transportation students and companies. The morning career fair session was attended by students from several Illinois universities, as well as representatives from seven companies. The event was followed by company visits to AECOM, Civil Tech Engineering and TranSystems.



Fig 8: Highlights from the IL ITE Student Day 2019

Financial Report

Opening Balance (03/01/2019)		\$1,031.86
Income	IL section ITE	\$500.00
	IL section ITE	\$200.00
	<i>TOTAL Income</i>	<i>\$700.00</i>
Expense	General Body Meeting	\$368.94
	Travel	\$0.00
	<i>TOTAL Expense</i>	<i>\$368.94</i>
Closing Balance (02/11/2020)		\$1,362.92

Recognition



Fig 9: ITE Student Chapter at UIC member, Amir Bahador, won the IAPA Scholarship and David Boyce Award for 2019



Fig 10: ITE Student Chapter at UIC member, Ehsan Rahimi, won the George Krambles Award and David Boyce Award for 2019



Fig 11: ITE Student Chapter at UIC member, Sudheer Ballare, won the ITE Graduate Student Scholarship 2019 and the Outstanding paper award at the City Logistics Conference

Member Roster

Sr. No.	Last Name	First Name	Degree	Expected Graduation	
				Month	Year
1	Shamshiripour	Ali ¹	PhD. in Civil Engineering	May	2020
2	Rahimi	Ehsan ²	PhD. in Civil Engineering	May	2021
3	Parsa	Amir Bahador ³	PhD. in Civil Engineering	May	2021
4	Ballare	Sudheer ⁴	PhD. in Civil Engineering	May	2020
5	Ahamad	Tanvir	PhD. in Civil Engineering	May	2021
6	Briones	Diana	Masters in Civil Engineering	May	2020
7	Shen	Hui	PhD. in Civil Engineering	May	2020
8	Choobchian	Pooria	PhD. in Civil Engineering	May	2022
9	Taghipour	Homa	PhD. in Civil Engineering	May	2021
10	Aladdin	Ismail	Masters in Civil Engineering	May	2020
11	Shaw	Jovaun	Masters in Civil Engineering	May	2020
12	Zeng	Bolun	Masters in Civil Engineering	May	2020
13	Wu	Shanli	Masters in Civil Engineering	May	2020
14	Al Fadhili	Saud	Masters in Civil Engineering	May	2021
15	Seyrfar	Abolfazl	Masters in Civil Engineering	May	2022
16	Choobchian	Pooria	PhD. in Civil Engineering	May	2023
17	Yakes	Jeremy	Bachelors in Civil Engineering	May	2023
18	Allahyari	Afshin	Masters in Civil Engineering	May	2022
19	Davari	Ali	Masters in Civil Engineering	May	2021
20	Karp	Ben	Bachelors in Civil Engineering	May	2023

¹ indicates that the student is the President of the Student Chapter.

² indicates that the student is the Vice-President of the Student Chapter.

³ indicates that the student is the Treasurer of the Student Chapter.

⁴ indicates that the student is the Secretary of the Student Chapter.