

# UNESCO Chair on Engineering Education (UCEE) 4 years Activities Report

26 April 2017-26 April 2021

# A. Introduction:

- Title of the Chair: UNESCO Chair on Engineering Education, UCEE (www.ucee.ut.ac.ir)
- Host Institution: University of Tehran, Iran, (<u>www.ut.ac.ir</u>)
- Date of establishment of the Chair: April 26, 2014
- Period of activity under report: 26 April 2017- 26 April 2021
- **Report composed by:** *Hossein Memarian,* UNESCO Chair holder for Engineering Education, and Professor of Geo-engineering, University of Tehran, (<u>https://profile.ut.ac.ir/en/~memarian</u>)

# A. Executive Summary

The primary initiative in launching UNESCO Chair on Engineering Education (UCEE) was started in 2010. This Chair was founded officially on April 26, 2014, in a ceremony in the presence of Ms. Irina Bokova (UNESCO Director-General at the time), as well as the president of the University of Tehran. The first annual report of the chair was presented in May 2015. This report covers the activity of the chair from the period of April 2017 to April 2021. All the documents presented here are in Persian, except where noted. Due to the specific circumstances during the Covid-19 crisis, which have led to the cessation of most face-to-face activities and meetings, UCEE has tried its best to focus on improving virtual educational activities from the early months of 2020 till now. The main activities and research projects performed in the last 4-year period can be summarized as follows:

- **Educational design:** Designing new *Master of Engineering Education* program and two graduate courses for engineering education.
- Educational Training: Implementing two graduate courses and holding diverse educational workshops for the professional development of faculty members and teaching assistants (TAs).
- Lecture: Oral and virtual presentations in various areas of engineering at universities and professional

centers.

- **Research:** Conducting diverse research projects on different areas of engineering education.
- **Publications:** Publishing 3 new books and over 10 research articles in engineering education.
- **Contribution:** Active member of:
  - The board of directors, Iran Society of Engineering Education (ISEE)
  - The board of directors, Iran Accreditation Institute for Engineering Education (IAIEE)
  - Center for the Quality Assessment of College of Engineering of University of Tehran
  - Associate Member, The Engineering Branch of Academy of Sciences of Iran
  - Head of Society of Engineering Education branch in University of Tehran
- **Cooperation<sup>1</sup>:** National and international relations with signing memorandum of understandings (MOU's) for joint cooperation with universities, societies and related organizations and associations.
- Presenting educational and research advice and services to universities, organizations and industry

# **B.** UCEE Activities:

The purpose of UCEE is to promote an integrated system of research, training, information and documentation in the field of engineering education. The specific objectives of this chair are to:

- 1. Carry out research, jointly with partners on the quality, relevance and inclusiveness of engineering education in the country, identifying concerns and propose remedial actions.
- 2. Foster research and graduate studies in engineering education.
- 3. Collect and nationally disseminate data and information on new international development on engineering education.
- 4. Help strengthen links and cooperation between higher education institutions and industry.
- 5. Contribute to the design of a national accreditation system for engineering education in cooperation with partners.
- 6. Cooperate closely with UNESCO on relevant programs and activities.

In order to achieve the above objectives, UCEE has focused its activities mainly in three areas of futuresstudy, assessment, and national and international cooperation.

# UCEE last four years' activities has covered all the above Objectives. These activities are all in line with United Nation Sustainable Development Goal No.4 (SDG4).

<sup>&</sup>lt;sup>1</sup> <u>http://ucee.ut.ac.ir/cms/42337</u>

# **B1. Education/Training/Research**

# **B1-1. Education (leading to certificate)**

#### New graduate program

- Designing the graduate program "*Master of Engineering Education*", an initiative by the University of Tehran, for the first time in Iran (2018).
- Implementing the graduate program "*Master of Engineering Education*", for the first in Iran. The first group of engineering students registered in the Faculty of Engineering of University of Tehran in September 2019.
- The chair holder was assigned as the executive director of this program (2019- present)

#### **New Graduate Course**

- A new postgraduate course entitled "Teaching & Learning", designed and instructed by the chair holder in the first semester of Master of Engineering Education Program, annually (September 2019-present)
- A new postgraduate course entitled "Engineering Education" designed and presented by the chair holder. This graduate course was offered for the first time in September 2018.

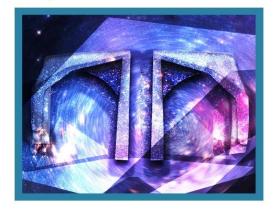


#### Introduction

During recent decades, there have been many developments in higher education and the teaching-learning process worldwide. These developments necessitated research and planning in engineering education. Thus, to meet this need, "Engineering Education" courses have been designed and implemented. Today, many of the world's top universities offer Master's and Ph.D. programs in engineering education. In line with this trend, UNESCO Chair on Engineering Education (UCEE) designed the "Master of Engineering Education" in cooperation with the University of Tehran. This program will be offered for international applicants in September 2021.

## **Admission requirements**

- Bachelor's degree or higher in engineering
- Be a faculty member of engineering
- Passing the online entrance exam
- Relevant fees



#### Learning Outcomes

The graduates of this program will have the following abilities:

- · Engineering education planning in universities and industry
- Organizing, managing and monitoring the proper implementation of educational programs
- Documenting and managing engineering education information
- · Quality management of engineering education programs
- · Taking part in the leadership of the evaluation of engineering education programs
- Detecting the needs of engineering faculty members for planning and monitoring the implementation of professional development programs
- Organizing, managing and monitoring the proper implementation of in-service training programs in the industry
- Assisting engineering students in improving the quality of learning
- Research on the challenges of engineering education

http://ucce.ut.ac.ir/cms/112892 ucce@ut.ac.ir +982188992215

# **B1-2.** Training (short term)

### **Short Courses**

• Three 4-day educational short course on "professional development", for faculty members of the Colleges of Engineering in University of Tehran and faculty members of several other universities (September 14-17, 2019), (June 23-26, 2018), (October 11,12, 18 & 19, 2017).

## Workshops

• Designed and implemented over 20 workshops for professional development of faculty members and teaching-learning skills of teaching assistants (TAs) pertaining to the following purposes. At the end of each workshop/short course, a bilingual certificate is granted to the participants.

## A) Being prepared for teaching

- 1. Engineering education
- 2. Learning objectives
- 3. Course design

## B) Teaching and learning

- 4. Learning mechanism
- 5. Active learning
- 6. Principles of good practice
- 7. Teaching experiences
- 8. Educational innovations
- 9. TA training

#### C) Educational assessment

- 10. Learning assessment
- 11. Learning assessment by rubric
- 12. Program accreditation
- 13. Curriculum mapping
- 14. Internal assessment of educational programs
- 15. External assessment of educational programs (for assessors)

## D) Organizing engineering education

- 16. Engineering ethics
- 17. Quality management of engineering education
- 18. Student counseling (for supervisors)
- 19. Promoting motivation for learning
- 20. Challenges of engineering education in Iran

## E) Engineering training planning

- 21. Teaching engineering design
- 22. Online engineering education
- 23. Preparing educational resources

UNESCO Chair on Engineering Education / 6



Four-day faculty development educational course, September 2019

 Eight workshops on "TA training" (or successful teaching assistantship), for teaching assistants of the Colleges of Engineering, University of Tehran; (February 27, April 24, October 21 & 23, 2019), (March 6, October 25 2018), (April 22, November 7 2017).



TA training workshop, October 2019

 Workshop on "How to enroll and manage the workshop for TA training (or successful teaching assistantship)", for faculty members who were interested in and were members of Iranian Society of Engineering Education (ISEE), University of Tehran (24 April, 2019).



Workshop on "How to develop and present a workshop for TA training", April 2019

- Workshop on "Program accreditation, based on ABET standards", for faculty members of Iran University of Science and Technology (10 July, 2019).



Workshop on "Program accreditation, based on ABET standards", 10 July 2019

- Workshop on "Mechanism of internal assessment of engineering programs", for representatives of seven universities, applying for accreditation, Iran Accreditation Institute for Engineering Education, IAIEE (19 December, 2019).



Workshop on "Mechanism of internal assessment of engineering education programs", December 2019

- Workshops on "Being prepared for an external assessment", for the members of Internal Assessment Groups, in KNTU University (November 17, 2018).
- An Educational Course on "How to conduct a workshop on developing the skills of teacher assistants (TAs)", for volunteers from faculty members of several Iranian universities at University of Tehran (April 24, 2019)
- Workshops on "The role of supervisors in Engineering Education" (November 5, 2017)

## **B1-3.** Research

Several research projects were carried out by the chair during the report period. Most of these research projects were implemented at the College of Engineering of the University of Tehran and were also posted on the UCEE website to be used by other universities. Research projects carried out by the chair during the report period were:

• *"Feasibility study for launching an engineering education program in Iran"*. The proposed graduate

program was approved by the Ministry of Science, Research and Technology of Iran and implemented for the first time at the College of Engineering of University of Tehran in September 2018.

- *"Faculty professional development"*. The outcome of this research was a text book, entitled *Innovation in Engineering Education"*, which composed by the chair holder and published by the University of Tehran press.
- "A decade of engineering education in Iran". Three research projects on the occasion of the 10<sup>th</sup> anniversary of the establishment of the Iranian Society of Engineering Education (ISEE) 2018:
  - *"Ten outstanding innovations in engineering education"*; by Dr. Abbas Bazargan, member of the steering committee of UCEE.
  - "An Investigation on the barriers of quality assessment in engineering education"; by Dr. Abbas Bazargan, member of the steering committee of UCEE
  - *"Ten outstanding actions done in the last decade to promote engineering education in Iran"*; by Dr. Hossein Memarian, the UCEE Chair holder
- Preparing a document for "Promoting international cooperation in engineering education" as part of Iran Education 2030 document, according to the UNESCO Education 2030 Incheon Declaration. This document was published by IRUNESCO.
- The title of some other research projects carried out by the chair during the report period are:
  - History of accreditation of engineering education programs in Iran.
  - Investigating the causes of engineering students' lack of motivation.
  - Challenges of evaluating the performance of engineering faculty members.
  - Establishment of the office of ombudsman in Iran's higher education centers.
  - Challenges of industry-university collaboration in Iran.
  - Managing flipped learning classroom.

#### **Research Based Educational Suggestions**

- The titles of some smaller research projects, presented as "Educational Suggestions", carried out in the report period are:
  - Supplementary paper-based student's survey
  - Promoting the motivation of engineering students
  - Preparing course outline
  - Multiple intelligence and learning
  - Achieving further skills during BSc capstone course
  - Challenges of online education in engineering

- Master of engineering education
- New graduate course on engineering education
- Educational course for professional development of teaching-learning skills for faculty members
- Challenges of online engineering education
- Mechanism of teaching and learning
- Flipped learning
- Innovation station
- Literacy: past, present and future
- Introducing "Regional Information Center for Science and Technology (RICeST)"
- Top web learning tools
- Self-assessment of faculty members
- Introducing Islamic Educational Scientific and Cultural Organization (ISESCO)
- UNESCO resources on COVID 19 and education
- What is PhD?
- Why? How? And what?

A collection of educational suggestions was published in a book, entitled *"Teaching and learning; 50 ways to improve the quality of engineering education"*. This book is written by the chair holder and published by the University of Tehran press (2019).

## **B2.** Conference/Meeting/lectures

#### B2-1. Conferences/organizational activities undertaken by the Chair

- Participation in the assessment committee of the "4th online post-tomorrow ideas in civil engineering competition", University of Tehran (2 December, 2020).
- Participation of the Chair holder in the online gathering of UNESCO chairs of University of Tehran, presenting the UCEEs plans and activities. (13 January, 2021).
- Webinar: online lecture by the chair holder on "Status of engineering education in Iran" (16 September, 2020).



Lecture: Status of engineering education in Iran" (16 September, 2020)

- Webinar: The chair holder gave an online lecture for Society of Mining Engineering on "challenges of engineering students for online learning" (19 December, 2020).
- Seminar: Two advisory board seminars were held with participation of members of the board and partner centers (18 November 2020 and 20 December 2017)



Annual advisory board meeting (18 November 2020)

- Collaboration: Conducting several educational activities planned by the Iranian Society of Engineering Education (ISEE) on the occasion of 10<sup>th</sup> ISEE anniversary (started: 15 May, 2019).
- Establishment: Founding the branch of Iranian Society of Engineering Education (ISEE) in University of Tehran (30 June, 2019). The chair holder was elected as the head of this branch.
- Promote activities: Presenting the UCEE activities in the 27<sup>th</sup> International Conference of the Iranian Society of Mechanical Engineering, and the 7<sup>th</sup> Conference of the Thermal Power Plant Industry (30 April, 2019).



Annual International Conference of the Iranian Society of Mechanical Engineering, 27th April 2019

- **Meeting:** Participating in the virtual joint meeting of UNESCO Chairs of the University of Tehran (12 May, 2020).



The joint meeting of UNESCO Chairs of the University of Tehran, May 2020.

- Lecture: Giving a talk in the round table "Innovation in engineering education: challenges and prospects" held in the 6<sup>th</sup> International Conference on Engineering Education in Iran (20 December, 2919).
- Competition: Call for sharing teaching-learning experiences in engineering education, special for engineering faculty members; (November, 2019). The best experiences were promoted and encouraged.
- Award: Awarding a prize to the winner of the 3<sup>rd</sup> competition of Post-Tomorrow Ideas in Civil Engineering competition 17 November, 2019)



Third competition of Post-Tomorrow Ideas in Civil Engineering, 17 November, 2019

- **Seminar**: Annual advisory board seminar on "revival of engineering education" (December 20, 2017). The seminar was attended by members of the advisory board of UCEE and partner centers.



Annual advisory board seminar, December 20, 2017

 Monthly meeting: UCEE steering committee meetings were held regularly during the report period (32 meetings), (http://www.ucee.ut.ac.ir/cms/32219).



 Webinar: "The mechanism of higher education graduates survey, with emphasis on engineering education", by Ms. Gharoun, Executive Vice President of Higher Education Research and Planning Institute. (14, April 2021)

# **B2-2.** A selection of international conference presentations by UCEE members:

 Participation of UNESCO chair on Engineering Education in the joint scientific webinar of Iran and Russia: "Universities in the context of COVID-19: the experience of Iran and Russia"; (26 April, 2021).



- A representative of UNESCO Chair on Engineering Education participated in the "The second Malaysia-UNESCO Cooperation Program (MUCP) expert synthesis meeting", Malaysia (23-24 September, 2019)



The second Malaysia-UNESCO Cooperation Program (MUCP) expert synthesis meeting

23-24 September, 2019

- A representative of UNESCO Chair on Engineering Education participated in the conference of UNESCO science chairs held in **Geneva** from 5 to 7 July 2017.



UNESCO Science Chairs, Geneva, 5 to 7 July 2017

- A representative of UNESCO Chair on Engineering Education participated in the regional meeting of UNESCO in **Malaysia** from 29-30 November 2017



UNESCO regional meeting, Malaysia, 29-30 November 2017

- A representative of UNESCO Chair on Engineering Education participated in the regional meeting of UNESCO in **Indonesia**, from 21-22 December 2017.



21-22 December 2017 regional meeting, Indonesia

# **B2-3.** Interuniversity Exchange/Partnerships

 Workshop: Online Workshops on "Reviewing and improving the quality of engineering education programs through internal assessment", prompted by the Iran Accreditation Institute for Engineering Education (IAIEE) for Department of Aerospace Engineering, Sharif University of Technology (January 26, 2021).

- Lecture: The Chair Holder was invited to give a lecture entitled "An introduction to student-based teaching" at the online ceremony for launching the ISEEs branch at Shahid Chamran University, Ahvaz. (January 19, 20).
- Lecture: Chair: The chair holder was invited to give a lecture on "Principles of good practice in undergraduate education" at the opening of the ISEEs branch at Shahid Beheshti University. (August 10, 2020).



Online lecture on the opening of ISEE branch in Shahid Chamran University, Ahvaz, January 19, 2021



Online lecture on the opening of ISEE branch in Shahid Beheshti University, Tehran, August 10, 2020

 Lecture: The Chair holder gave an online lecture at "The second meeting of the Coordination Council of International Organizations and Forums", with the presence of Iran's Minister of Science, Research and Technology (5 January, 2021).



 Workshop: UCEE chair holder and Dr. Ramtin Khosravi, member of the steering committee of UCEE, presented the first TA training workshop for teaching assistants of the Colleges of Engineering, Sharif University of Technology. More than 600 TAs and several faculty members participated in the one day workshops (2 October, 2019).





TA training Workshop, Sharif University of Technology (2 October, 2019)

- Lecture: The chair holder gave a lecture on "The role of supervisors in engineering education", in the assembly of Sharif University of Technology engineering supervisors (9 October, 2019)
- Consulting: The chair holder participated in the assembly of engineering faculty members of KNT University of Technology. The presenters shared their innovative educational experiences for improving the quality of education (7 May, 2019).
- Lecture: The Chair holder gave a lecture on challenges of engineering education, in the assembly of faculty members of Amirkabir University of Technology (9 January, 2018).



Chair holder lecture on Amirkabir University of Technology, 9 January, 2018

 Lecture: The Chair holder was invited as guest speaker to the meeting "Education, planning and assessment", at Iran University of Science and Technology (15 January 2018).



Lecture at Iran University of Science and Technology, 15 January, 2018

 Signing a memorandum of understanding (MOU) with Iran University of Science and Technology (15 January 2018).



Signing MOU with Iran University of Science and Technology, 15 January, 2018



Lecture: As a keynote Speaker, the chair holder gave a lecture on "Challenges of industry-university collaborations", in the 3<sup>rd</sup> National Conference on Petroleum Geo-mechanics (22 January, 2019).

Lecture at the 3<sup>rd</sup> National Conference on Petroleum Geo-mechanics 22 January, 2019

 Roundtable: The Chair holder was invited as guest speaker to a roundtable on "Lessons learned from the experiences of engineering education accreditation", by Iran Accreditation Institute for Engineering Education (IAIEE), in the 1<sup>st</sup> International Conference and 12<sup>th</sup> National Conference of Quality Assessment in University Systems (22 January, 2019).



Workshop in the 1<sup>st</sup> International Conference and 12<sup>th</sup> National Conference of Quality Assessment in University Systems (22 January, 2019).

- Lecture: The Chair holder gave a lecture on "Innovation in teaching-learning processes: experiences of engineering education in Iran", in the 3<sup>rd</sup> National Conference on Higher Education in Iran (13 May, 2018).
- Workshop: The Chair holder gave a lecture on "Engineering in the 1<sup>st</sup> International Conference and 12<sup>th</sup> National Conference of Quality Assessment in University Systems (22 January, 2019).
- Round Table: Engineering Education: today and tomorrow", in Sharif University of Technology, Tehran, Iran (5 May, 2018).



Engineering Education; Today and Tomorrow, Sharif University of Technology, (5 May, 2018 meeting)

 Lecture: The Chair holder was invited as guest speaker to the roundtable on "Necessity and methodology of program curriculum development in undergraduate chemical engineering", in Amir-Kabir University, Tehran, Iran (21 January, 2019).



Necessity and methodology of chemical engineering program curriculum development, Amirkabir University, 21 January 2019.

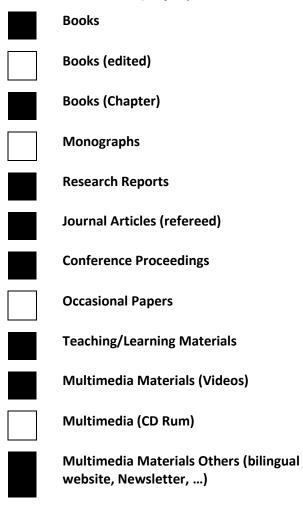
 Lectures presented at the roundtable held in the 6<sup>th</sup> International Conference on Engineering Education in Iran by Dr. Hossein Memarian, the chair-holder and Dr. Abbas Bazargan, member of the steering committee of UCEE. (20 December, 2019).



The roundtable held in the 6<sup>th</sup> International Conference on Engineering Education (Dec 2019)

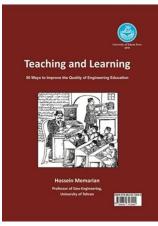
# **B2-4** Publications

Publications/Multimedia Materials (major publications and teaching/learning materials)



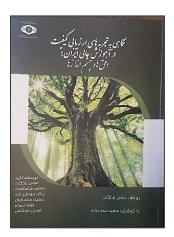
# B2-4 -1-Books





Memarian H. 2020. **Status Report of: Engineering Education in Iran**, Iranian Society of Engineering Education No 104. 214 pp. (<u>http://ucee.ut.ac.ir/cms/112912</u>) (*in Persian*)

Memarian H. 2019. **Teaching and Learning: 50 Ways to Improve the Quality of Engineering Education**, University of Tehran Press, 313 pp. (<u>http://ucee.ut.ac.ir/cms/112914</u>) (*in Persian*)



Bazargan A., Farasatkhah M., Mehralizadeh Y., Memarian H., Mahram B., Noorshahi N. 2017. **Quality assessment in higher education of Iran: horizons and prospects**, Institute for research and planning in higher education, Ministry of Science, Research and Technology of Iran, 108 pp. *(in Persian)* 

## **B2-4 -2- Journal Articles (refereed)**

- Memarian H., Memarian A., Mohasel Afshar E. 2020. Investigation the reasons behind unmotivated engineering students. Iranian Journal of Engineering Education, The Academy of Science of Iran Vol. 22, No. 86, Summer 2020, Pages 21-37 <u>Download</u>
- Memarian H. 2020. Designing and implementing of a Master's degree program in engineering education. Iranian Journal of Engineering Education, Academy of Science of Iran, No. 85. Pp1-21.
  <u>Download</u>
- Memarian H. 2019. Online engineering education. Iranian Journal of Engineering Education, The Academy of Science of Iran, Vol. 21, No. 82, Summer 2019, pp. 15-29 <u>Download</u>
- Memarian H. 2019. Analysis of Iran's first experience in distance education, Free University of Iran. Iranian Journal of Engineering Education, The Academy of Science of Iran, Vol. 21, No. 81, Spring 2019, pp. 99-127 <u>Download</u>
- Memarian H. 2017. Faculty development for Iranian engineering education programs. Iranian Journal of Engineering Education, The Academy of Science of Iran, Vol. 19, No. 75, Autumn 2017, pp.55-73 <u>Download</u>
- Jalaly S, Mojarad M, Memarian H, Shahabadi M. 2017. The eligibility of scientific evaluation based on the criterion of "published paper" in engineering education of Iran. Iranian Journal of Engineering Education, The Academy of Science of Iran, Vol. 19, No. 75, Autumn 2017, pp. 75-101 <u>Download</u>.

#### **Conferences Papers**

- Memarian H. 2019. Establishment of ombudsman office in university centers: a step towards improving the quality of higher education in Iran. 2<sup>nd</sup> International and 13<sup>th</sup> National Conference of Quality Assessment in University Systems. Shiraz University, 12-13 June 2019, Pp 88-102. Download
- Memarian H. 2019. Ten future-making abilities for engineering students. 6<sup>th</sup> International Engineering Education Conference, Iranian Society of Engineering Education, Ferdowsi University Mashhad, 19-21 November 2019, 15 pages. <u>Download</u>
- Memarian H. 2019. A review of the challenges of university-industry relationship in Iran. 3rd Iranian Petroleum Geo-mechanics Conference, National Iranian Oil Company Exploration Management, 22-23 J 14 pages (keynote speaker) <u>Download</u>
- Memarian H. 2018. Structuring for quality assessment in Iranian engineering education. The 1st International conference and the 20th National Conference on Quality Assessment in University Systems, 2-3 May 2018, Al-Zahra University, Tehran. <u>Download</u>

# B2-4 -3- Multimedia Materials (Video):

#### **UCEE Website**

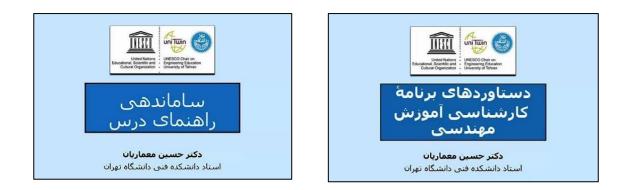
- Updated and maintained and upgrade the bilingual website of the UNESCO Chair on Engineering Education (ucee.ut.ac.ir)

#### **UCEE Newsletter**

 Promoted UCEE activities through publishing electronic newsletters (<u>http://ucee.ut.ac.ir/cms/42334</u>)

## **UCEE Videos**

- Short course video "How to prepare course outline", presented by the chair holder.
- Short course video "Preparing program outcomes", presented by the chair holder.



## **Video Lectures**

- Lectures presented at the 2<sup>nd</sup> Seminar of Advisory Board of UCEE (20 Dec, 2017)

Professor Nasser Soltani, Dean Faculty of Engineering, University of Tehran

"What is good education"

Dr. Sadollah Nasiri Gheydari, UNESCO National Commission Secretary General

"Teaching and learning, UNESCO perspective"





Professor Saeed Sohrabpoor, Head of the Engineering Group, Academy of Science of Iran

"Challenges of engineering education"

Professor Jalal Hejazi, Head of the Mining and Metallurgy Engineering Group, Academy of Science of Iran

"Current challenges of higher education"

Dr Maghsoud Farasatkhah, Faculty Member, Institute for Research and Planning in Higher Education

"Proposing the HE Directory for Faculty members assessment"

Mr. Ebrahim Abtahi, Faculty Member, School of Computer Engineering, Sharif University of Technology

"Challenges of promoting research in engineering education"

Professor Hossein Memarian, UNESCO Chair holder for Engineering Education.

"UNESCO chair on engineering education annual report"

## **B2-4** -**3**- Cooperation with UNESCO Headquarters, Field Offices

- Active participation in the "The Second Malaysia-UNESCO Cooperation Program (MUCP) Expert Synthesis Meeting", Malaysia, 23-24 September, 2019
- Active participation in the joint meeting of UNESCO chairs of the University of Tehran, 12 May, 2020
- Active participation in the conference of UNESCO science chairs, held in Geneva from 5 to 7 July, 2017
- Active participation in the regional meeting of UNESCO, held in **Malaysia** from 29-30 November, 2017
- Active participation in the regional meeting of UNESCO, held in Indonesia, from 21-22 December, 2017
- Active collaboration and participating in meetings and activities of UNESCO National Commission.











# **C. Future Plans and Development Prospects**

- 1. Cooperation with universities and related centers to expand the process of accreditation of engineering education in Iran
- 2. Supporting research projects on challenges of engineering education
- 3. Defining prizes for the best research projects on engineering education
- 4. Holding training courses and workshops for professional development of faculty members and teaching assistants (TA)
- 5. Promoting the process of retraining engineers employed in industry and seeking industry collaboration to promote the professional engineer (PE) program in the country
- 6. Designing and implementing new educational courses and workshops
- 7. Presenting educational and research advice and services to universities, organizations and industry
- 8. Expanding the activities of the chair to the neighboring countries and others in the region, with the aim of establishing the "Regional Center for Engineering Education"
- 9. Establishing links with related international centers and other UNESCO Chairs, in order to exchange the findings
- 10. Planning to join the world conventions in the area of engineering education (e.g. Washington Accord).
- 11. Implementing "Regional and International Master of Engineering Education" program for international applicants (Joint with Faculty of Engineering, University of Tehran)
- 12. Continuing to issue the annual report on monitoring the status of engineering education in Iran

## Appendix

#### 1. Human Resources:

The Chair structure consists of the steering committee, board of advisors and the office of the chair.

 Steering Committee: The role of strategic council is to propose the general guidelines and monitor the macro policy of the Chair. The 25 members of this council (including 12 full professors) represent different fields of engineering at the College of Engineering, University of Tehran. <u>http://ucee.ut.ac.ir/cms/42311</u>



- Advisory Board: The purpose of advisory board is to provide consultation in the area of macro engineering education and to establish links between UNESCO Chair on Engineering Education and other related centers at national, regional and international levels. The members of the advisory board are pioneer engineering professors of Iran in the fields of engineering and pedagogy and experts from industry. (http://www.ucee.ut.ac.ir/cms/42311)
- Chair Office:

International Affairs, Dr. Cyrus Zamani: (c.zamani@ut.ac.ir)

Technical staff and secretary: Three full time personnel

- ✓ Leila Shirban, Master of Business Administration (MBA), University of Tehran, (UCCEE Executive Manager)
- ✓ Hanie Khanali, Master of World Studies, University of Tehran (UCEE Public Relation)
- ✓ Azadeh Memarian: Master of Arts & Master of Philosophy (Web & Graphic design)
- ✓ and variable number of part-time personnel (Faculty and Graduate Students)



#### Space

- A two bedroom, 120 square meter, office
- All the other necessary services, such as conference hall, are provided by the University of Tehran.

## UCEE 2017-2019 Report / 27



Office of UNESCO Chair on Engineering Education

#### Address:

Office of UNESCO Chair on Engineering Education, Unit 1, First Floor, No. 429, Between Vesal and Qods Streets, Taleghani Avenue, Tehran, Iran Tel. 88992215 Fax. 88953188 E-mail: <u>ucee@ut.ac.ir</u> Website: <u>ucee.ut.ac.ir</u>

# 2 Financial Resources (for the report period)

Source	Amount US \$
Host Institution (University of Tehran)	140000
Partner Institution	2000
Government Body	
Other Public Institutions/ Body	1000
UNESCO	
IGO	
NGO- Faculty of Engineering (Fanni) Foundation	15000
Industry	
Other Private	
 Total	158000

Sincerely Hossein Memarian

H.Mu

Professor of Geo-Engineering, UNESCO Chair holder for Engineering Education Associate Member, Academy of Science of Iran, Address: University College of Engineering, University of Tehran, North Kargar St., Tehran, Iran. Office: +9821 82084230 Cellphone: 09122969734 Email: memarian@ut.ac.ir

# UCEE 4-Years Progress report (26 April 2017-26 April 2021)

To be returned by electronic mail to both: <u>unitwin@unesco.org</u> and <u>i.nichanian@unesco.org</u> Or by mail to UNESCO, Division for Teacher Development and Higher Education, Section for Higher Education 7, place Fontenoy – 75352 Paris 07 SP, France Fax: 33 (0)1 45 68 56 26/27/28