Council Meeting Agenda

Thursday, November 16, 2017 – 09:00—13:30

Real Academia de Ingeniería
Calle Don Pedro, 10, 28005 Madrid, España

09:00 Meeting Begins

1. Welcome and Introductions
    a. Remembrance: William J. Salmon
2. Approval of Agenda
3. Approval of Council Minutes of 15 September 2016
4. Report of the 13 November 2017 Meeting of the Board of Directors
    a. 2016 Audit Committee Report
    b. 2018 Operating Budget
    c. Rotation Schedule
    d. CAETS/WFEO Cooperation
    e. InterAcademy Partnership
    f. CAETS Theme and Discussion Topics Going Forward
5. Administrative Actions
    a. Election of Board Members for 2018
    b. Approval of 2019 Dues
    c. Future CAETS Meeting Schedule
        i. 2018 Annual Meeting: ANIU, Uruguay – September 10-14, 2018
        ii. 2019 Annual Meeting: IVA, Sweden – June 24-28, 2019
        iii. 2020 Annual Meeting: NAEK, South Korea
6. Report of CAETS Committee on Energy
7. Progress Report on New Zealand Application for CAETS Membership
8. CAETS 2018 Update: ANIU, Uruguay
9. CAETS 2019 Update: IVA, Sweden
10. New Business

10:45 Coffee Break

11:15 Reconvene in Closed Session

11. Change to Bylaws
12. Membership Application Pending: Pakistan

11:45 Reconvene in Open Session

13. Broadening the Vision II
    a. Ethics in Engineering
    b. Diversity in Engineering
14. Presentation of Certificates in Recognition of CAETS Service

13:30 End of the Convocation

DRAFT: 30 October 2017

- Bill was instrumental in establishing CAETS as a Nonprofit Corporation in 2000, and a member of the original Board of Directors at that time.
- He served CAETS as Secretary/Treasurer with both passion and commitment for many years.
- Although he had hoped to remain in that position through 2017, his declining health required him to step down prematurely.

WILLIAM "Bill" SALMON

WILLIAM COOPER SALMON "Bill"

Passed away on July 27, 2017, in Williamsburg, Virginia, at age 81 of heart disease.

He leaves his partner of four years Ann Boehm, his brother Bardwell Salmon; his son Bill Salmon Jr.; his daughter Mary (Didi) Salmon; his daughter Paulette Salmon; and five grandchildren, Cooper Salmon, Cole Salmon, Chase Salmon, Lily Rayhart, and Reid Rayhart. Bill's wife, Josephine Stone Salmon, preceded him in death on November 1, 2007.

Bill was born in New York City on September 3, 1935 to the late Chenery and Mary Salmon. He lived most of his early years in Hingham, Massachusetts where he attended Hingham High School and then Thayer Academy. Bill went to MIT for college where he earned a Bachelor of Science in Mechanical Engineering in 1957 and a Master of Science in Mechanical Engineering in 1958.

In 1961 Bill moved to Washington, DC and joined the State Department as an Assistant Science Advisor. He met his wife, Josephine Salmon, through a mutual friend in 1965, and they were married in 1967 in New York City. They settled in Arlington, VA, though Bill later returned to MIT in 1969 to earn a Master of Science in Management Science. Bill retired from the State Department in 1986 to take on the position of Executive Officer of the National Academy of Engineering, where he stayed until his retirement in 2000. After "retiring", Bill spent time working with the International Council of Academies of Engineering and Technological Sciences (CAETS) as secretary/treasurer.

During his retirement years Bill built a lake house just outside Fredericksburg, Virginia, where he loved to gather his family for golf and waterskiing. Serendipitously, Bill met Ann Boehm in 2013, and spent the rest of his time traveling and enjoying life with her.

A memorial service will be held at the Williamsburg Landing Anderson Auditorium, 5700 Williamsburg Landing Drive, Williamsburg, VA on August 10, 2017, at 1 p.m. with a reception immediately to follow.

CAETS International Council of Academies of Engineering and Technological Sciences, Inc.

Council Meeting
1000 - 1600 Thursday, September 15, 2016
Riverside Room, The Institution of Engineering and Technology, Savoy Place, London
Summary Minutes

1. The President welcomed all and invited self introductions of those present.

2. The draft agenda was approved.

3. The Summary Minutes of the Council Meeting of October 16, 2015 were approved. The Secretary noted that the Summary Minutes of Board of Directors Meeting of October 12, 2015 and of Executive Committee Meeting of March 15, 2016 were approved by the respective bodies.

4. The Secretary reported that at its meeting on 12 September 2016 the Board of Directors:
   a. Received the Report of the Audit Committee concerning FY 2015;
   b. Approved the proposed FY 2017 Budget.
   c. Recommended that the Council approve continuing the current dues structure for FY 2018.
   d. Discussions on other topics will be noted when those topics are discussed by the Council.

5. Board of Directors
   a. The Council elected the following to the 2017 CAETS Board of Directors:

President-elect	Lucio Caceres	ANIU, Uruguay
Member[1]	Vladimir Andročec	HATZ,Croatia
Member[1]	Frank Behrendt	acatech, Germany
Member[1]	Trueman Goba	SAAE, South Africa
Member[1]	Ulrich (Ueli) W. Suter	SATW, Switzerland

[1] Term is 2017 and 2018

   b. As recommended by the Board, the Council approved continuation of the current dues structure for FY2018. [The current dues structure is: $1,000: ANI, Argentina; HATZ, Croatia; EA CR, Czech Republic; MMA, Hungary; IAS, Slovenia; SAAE, South Africa. $2,000: BACAS, Belgium; AcTI.nl, Netherlands; ANIU, Uruguay. $3,000: CAE, Canada; ATV, Denmark; TAF, Finland; NATF, France; acatech, Germany; NAEK, Korea; AI, Mexico; NTVA, Norway; RAI, Spain; IVA, Sweden; SATW, Switzerland. $6,000: ATSE, Australia; CAE, China; INAE, India; EAJ, Japan; RAEng, United Kingdom; NAE, United States.

[*For the record, from the Council meeting of July 14, 2005, "…and noting that certain reservations had been expressed after the dues structure had been agreed. The reservations included: those academies paying the lowest level of dues should do so on a well justified basis and endeavor to strengthen their financial base and increase their dues payment to the middle level in the near term; decisions by the Board on these matters should be transparent and without the potential for conflict-of-interest*.]

The Council agreed that the dues for FY2019 would be increased by 3%.

c. Future CAETS Meetings

2017 Annual Meeting

The President-elect reported that the RAIng is proposing that, under the broad theme of "Engineering a Better World," the theme of the 2017 meeting will be "Challenges of the Bio-Economy." The meeting is scheduled for November 13 -16 the Academy building in Madrid. The subject areas of focus will include future food security, the blue bio-economy, and bioenergy. RAIng has discussed proposed speakers with appropriate member academies and very much welcomes their assistance in securing their commitment in the near future. An international steering committee will be formed including interested individuals from member academies.

2018 Annual Meeting

Lucio Caceres, ANIU President, reviewed the proposed program on Sustainable Development of Agroforestry Systems for the 2018 meeting, to be held in Montevideo, September 10 – 14. He welcomed member academies to identify a member to serve on a Program Committee. Slides provided further detail (attached). Other Latin American academies, not members of CAETS, will be invited.

2019 Annual Meeting

Bjorn Nilsson, President of IVA, presented his academy's current approach to the 2019 meeting, probably held during June in Stockholm. 2019 is the 100th anniversary of IVA. One proposal is to focus on the highlights the contributions of engineering to address global challenges. Another is to launch an annual event (engineering forum) which would bring leaders of industry and government together with engineers. The discussion noted that there is an annual event involving science and engineering held in Kyoto. General support was expressed for the overall title of "Engineering A Better World."

6. CAETS Going Forward The work of the Strategic Review Committee was described by the committee chair, Elias Fereres. The report summary was available to the participants (also attached). Discussion encouraged continuing to include young engineers in the annual CAETS meetings, supported on a project basis rather than rely on the CAETS Reserve Fund. The member academies, particularly the smaller academies, welcomed the emphasis on networking among member academies. A few member academies with common interest in a specific project are encouraged to proceed using resources they assemble for their project.

Regarding the requirement that academies of engineering aspiring to become members of CAETS must have been operating successfully for a minimum period of 5-years, the Council discussion showed preference for at least 3 years with flexibility for up to 5 years where warranted. Academies seeking membership in CAETS need to demonstrate that they are the main Academy focus for engineering in their country; their main program focus is engineering-related; and that their members are responsible for all affairs of their academy. New Zealand's application for membership will be welcomed.

Regarding the term of CAETS President, the Council discussion supported retaining the current one-year term.

7. Knowledge Sharing Platform Committee Report
   Jincheng Kang (CAE) briefly reviewed the report (attached). The discussion noted the need for the new Secretary of CAETS to be identified and then identify specific tasks. Meanwhile, the Expert Group will continue to exist.

8. Council Discussion, "Diversity"
   Comments from 8 member academies in response to questions posed about diversity action in their own geographic spheres served as the basis for Council discussion. A summary of responses was included in the papers for this meeting (attached). After a brief introduction of the summary, the Council discussion included comments by the representatives of INAE and the Nigerian academy, of WFEO and ATSE, as well as the Council's wish to further discuss this subject at future Council meetings.

9. Euro-CASE Science Advice Mechanism
   Euro-CASE has joined via an MOU with other Euro-based special field academies to provide science/technology advice to EU. The Commission has provided support for studies without constraints.

10. CAETS Committee on Energy Baldev Raj gave a brief review of the recent report prepared by the Committee and its proposed future study. Brief summaries of three options are being prepared for Committee discussion.

11. Discussion topics for 2017 Council meeting
    Engineering ethics, diversity, and big data were mentioned as possible topics.

    Convocation Statement
    The current draft of the statement was circulated and received several constructive comments. RAEng will provide a press release for the public. RAEng will prepare a statement of the meeting and circulate it for comment.

    Cooperation with WFEO (World Federation of Engineering Organizations)
    Marlene Kanga, President-elect of WFEO, expressed interest in reviving the CAETS-WFEO MOU. WFEO is welcome to propose a project-specific amendment that would be considered at the Spring 2017 CAETS Executive Committee meeting.

Cooperation with IAP
The President noted that CAETS had nominated a CAETS academy member to serve on an IAP study group and that nomination was accepted by IAP. This project-by-project cooperation with IAP is in line with CAETS' current views on such organization-organization collaboration

12. Presentation of Certificates
The President presented CAETS Certificates of Appreciation to: Bob Evans, CAE, Canada; Karl Almas, NTVA, Norway for their service on the CAETS Board of Directors during 2015-2016; and to Baldev Raj, INAE, India, for his service as CAETS President-elect for 2014, President for 2015, and Past President for 2016.

13. The President adjourned the meeting at 16:00.

CAETS

International Council of Academies of Engineering and Technological Sciences, Inc.

President
Elias Fereres, RAI, Spain
UK

President-elect
Lucio Caceres, ANIU, Uruguay

Past President
Ann Dowling, RAEng,

CAETS Records
National Academy of Engineering, Room 302A
2101 Constitution Ave. N.W.
Washington, D.C. 20418 USA

Secretary and Treasurer
William C. Salmon
3004 The Mall, Williamsburg, VA 23185, USA
Tel+1-703-527-5782 caets@nae.edu www.caets.org

April 12, 2017

Dr. Elias Fereres Castiel, President
Fundación Pro Rebus Academiae de la Real Academia de Ingenieria (RAI)
Don Pedro, 10
28005 Madrid
SPAIN

Dear President Fereres,

We have been nominated to the CAETS Audit Committee by our respective academies, the Canadian Academy of Engineering (CAE) and the National Academy of Engineering (NAE) of the United States, and appointed by the CAETS President on December 13, 2015.

The CAETS Secretary, Treasurer prepared and dated 17 March 2017, the enclosed two-page statement, CAETS Financial Summary FY 2016, covering the period 1/1/2016 to 12/31/2016. We have reviewed the relevant supporting account statements and vouchers and believe this enclosed statement accurately reflects the state of CAETS financial affairs as of December 31, 2016.

Respectively submitted,

Robert L. Evans
CAE Canada

Alton Romig
NAE

Joan Zaorski
NAE

Enclosure: a/s

CAETS FINANCIAL SUMMARY

Fiscal Year 2016 1/1/2016 - 12/31/2016

OPERATIONS

	FY 2014	FY 2015	FY 2016	FY2016	FY 2016
Receipts	actual	actual	actual	budget[1]	budget[2]
Dues	$79,656.65	$77,286.97	$79,975.20	$79,000.00	$81,000.00
Expenses					
Communications	$1,611.67	$1,538.20	$531.36	$2,000.00	$2,000.00
Equipment	$68.43	$342.13	$1,230.78	$2,000.00	$2,000.00
Legal - Prof. Fees				$100.00	$100.00
Management Fee	$44,000.00	$44,000.00	$44,000.00	$44,000.00	$44,000.00
Meetings		$101.21		$600.00	$600.00
Postage, Delivery	$347.25	$635.78	$21.24	$2,000.00	$2,000.00
Printing	$550.00		$600.00	$2,000.00	$2,000.00
Supplies	$399.85	$170.63	$147.40	$300.00	$300.00
Travel	$30,616.39	$8,587.68	$17,382.37	$25,000.00	$25,000.00
Strategy Implementation	$918.10			$1,000.00	$3,000.00
Total Expenses	$78,511.69	$55,375.63	$63,913.15	$79,000.00	$81,000.00

[1] Approved by Board on 6/4/15; dues based on 8 at $1K, 2 at 2$K, 11 at $3K, and 6 at $6K.
[2] Approved by Board on 9/12/16; dues based on 8 at $1K, 3 at $2K, 11 at $3K, and 6 at $6K.

ACTIVITIES AND CHANGES IN RESERVE FUND

Balance 12/31/2015		$238,139.37
Revenue		
Dues received	$79,975.20	
USAA Account: Interest Income	$275.07	
Reserve Fund Contribution	$0.00	
	$80,250.27	
Expenses		
Operating Expenses	$63,913.15	
Reserve Fund Expenses	$6,000.00	
	$69,913.15	
		$10,337.12
Balance 12/31/2016		$248,476.49

USAA Account Number RNQ066190 Reconciliation

Ledger balance on December 31, 2015	$256,075.47
Net To (From) the USAA Account	$4,043.86
Balance per Bank Stmt on December 31, 2016	260.119.33
Ledger Balance on 12/31/2016	$260,119.33

STATEMENT OF FINANCIAL POSITION
12/31/2016

ASSETS

USAA Account Ledger Balance		$260,119.33
Total Assets		$260,119.33

LIABILITIES AND NET ASSETS

Deferred Revenue from Prepaid Dues received	$3,000.00	
Due Secretary, Treasurer	$8,082.37	
On Account for Members	$560.47	
Total Liabilities		$11,642.84
Net Assets		$248,476.49
Total Liabilities and Net Assets		$260,119.33

WCS 17Mar2017

October 31, 2017

Council Agenda Item 5.a
2018 Board Nominees

CAETS Council Meeting
Madrid
November 16, 2017

Election of Board Members for 2018

COUNCIL ACTION: The following persons have been nominated by their respective member academies for the positions noted. Brief bios follow. The Council is asked to elect these persons to their respective positions.

President-Elect	Tuula Teeri	IVA, Sweden
Member	Roger L. McCarthy	NAE, United States
Member	Lucas P. J. J. Noldus	AcTI.nl, Netherlands
Member	Stane Pejovnik	IAS, Slovenia
Member	István Králik	Hungary, HAE
Secretary/Treasurer	Ruth A. David	NAE, United States

Assuming the above individuals are elected, the Board membership for the period January 1, 2018 through December 31, 2018 will be:

President	Lucio Cáceres	ANIU, Uruguay
President-Elect	Tuula Teeri	IVA, Sweden
Past President	Elías Fereres	RAI, Spain
Secretary/Treasurer	Ruth A. David	NAE, United States
Member[1]	Vladimir Androcec	HATZ, Croatia
Member[1]	Frank Behrendt	acatech, Germany
Member[1]	Trueman Goba	SAAE, South Africa
Member[1]	Ulrich (Ueli) W. Suter	SATW, Switzerland
Member[2]	Roger McCarthy	NAE, United States
Member[2]	Lucas P. J. J. Noldus	AcTI.nl, Netherlands
Member[2]	Stane Pejovnik	IAS, Slovenia
Member[2]	István Králik	Hungary, HAE

[1]Term is 2017 and 2018
[2]Term is 2018 and 2019

October 31, 2017

Council Agenda Item 5.a
2018 Board Nominees

Professor Tuula Teeri, Ph.D.
President elect, The Royal Academy of Engineering Sciences (IVA)

Tuula Teeri has held a number of research and leadership positions at the VTT Technical Research Centre of Finland (1988-1998) and the KTH Royal Institute of Technology in Sweden (1996-2009), where she was appointed Deputy President in 2008. She was visiting scientist at Genentech Inc in San Francisco in 1993. During 2009-2017 she led Aalto University in Finland as its first President. In 2017 she was elected President of the Royal Swedish Academy of Engineering Sciences in Stockholm as of November 2017.

During her scientific career Tuula Teeri was a pioneer of forest industrial biotechnology and biomimetic materials with about 200 publications in her name. She has been Board member of a number of research organizations such as the Institute of Surface Chemistry and Institute of Future Studies in Stockholm, the Academic Advisory Panel of the Government of Singapore and the Academic Research Council of Singapore. Tuula Teeri is a member of the Royal Swedish Academy of Sciences, the Royal Swedish Academy of Engineering Sciences, Technology Academy Finland, and the Swedish Academy of Technology in Finland. She is a cofounder of SweTree Technologies. During 2010 – 2017 Tuula Teeri led the merger of the Helsinki School of Economics, the Helsinki University of Technology and the University of Arts and Design Helsinki into Aalto University. Under her leadership the international recognition of Aalto University has risen quickly: the unique profile at the intersection of art, science, business and technology, as well as student driven entrepreneurship, have attracted international interest unprecedented in the history of Finnish higher education. Aalto University has not only reached a new level of academic excellence, but also become a pioneer of the new kind of societally embedded research university that breaks the barriers between traditional disciplines as well as the borders between the university and the rest of the society in support of economic growth and greater societal wellbeing.

Board Member Nominee, NAE

Roger L. McCarthy, Ph.D., P.E.

Professional Profile

Dr. Roger L. McCarthy is the founder and owner of McCarthy Engineering. Dr. McCarthy serves on the Board of Shui on Land (SOL), Ltd., (瑞安房地产) which is publicly traded (stock code 0272) on the Hong Kong Exchange.

Dr. McCarthy specializes in the analysis of mechanical designs (and their associated risk), and the analysis of incidents, failures and accidents involving design issues related to mechanical, thermal, machine, architectural, and controls design, particularly as it involves the engineering of the man/machine interface, safety, and fire/explosion/burns/heat transfer design issues. He also analyzes associated issues related to product design and intellectual property issues related to design. He is extensively published in the area of vehicular design, vehicle component design (occupant restraint, transmissions, engines (gas and diesel), fuel tank, brakes, wheels, axles, etc.), risk analysis related to mechanical design, risk analysis of sports recreation and associated products, and the quantitative analysis of the reliability of complex systems. In his career studying the man/machine interface he has researched issues related to product information presentation, its measured effects on product user safety related behavior, on product warnings/instructions, and safety related advertising. His research has addressed child and pediatric safety design issues in sports recreation, playground design, toys, and child resistant closures amongst others. In the course of his human performance research he has directed the scientific testing of over 1,000 human subjects. Dr. McCarthy directed the development of Exponent's Land Warrior System for the US Army, and has directed the development of new robotic systems subsequently deployed in both Iraq and Afghanistan.

Dr. McCarthy has personally investigated many of the major disasters of modern times, including the loss of the Amoco Cadiz, the collapse of the Kansas City Hyatt walkways, the grounding of the Exxon Valdez, the explosion and loss of the Piper Alpha oil platform in the North Sea, the diesel engine failures at Arkansas Nuclear One and the Shoreham Nuclear power plants, the fire and explosion on the semi-submersible Glomar Arctic II, and the bombing of the Murrah Federal Building in Oklahoma City amongst others. He served on the National Academy of Engineering - National Research Council Committee for the Analysis of Causes of the *Deepwater Horizon* Explosion, Fire, and Oil Spill to Identify Measures to Prevent Similar Accidents in the Future (2011) and recently served on the Transportation Research Board (TRB) Federal Railroad Administration Research and Development Program Committee. He is currently a member of Board on Army Science and Technology (BAST) and the Intelligence Science and Engineering Experts Group (ISTEG) of the National Academies. In 1996, Dr. McCarthy testified for multiple days in the second Menendez brothers' murder trial on the crime reconstruction he performed for the prosecution, which ended in their conviction.

Dr. McCarthy was formerly employed by Exponent, Inc., (NASDAQ symbol "EXPO"), headquartered in Menlo Park, California where, during his 30+-year tenure, he was variously CEO, Chairman and Chairman Emeritus. Dr. McCarthy was founder and Chairman of Exponent Science and Technology Consulting Co., Ltd. (Hangzhou) 毅博科技咨询(杭州)有限公司, a wholly owned subsidiary of Exponent, Inc., which expanded Exponent's services to China.

Dr. McCarthy joined Exponent, then Failure Analysis Associates, Inc., (FaAA) in 1978, and retired in 2009. When Dr. McCarthy retired from Exponent it employed more than 750 full-time

staff, including more than 500 degreed professionals, of which 250 held doctorates in their fields, and maintained eighteen offices in the U.S. and three international offices. He became a Director and Vice-President in 1980, and President and Chief Executive Officer in 1982, a position he held until 1996, and Chairman of the Board in 1986, a position he held until 2005. In 1989, Dr. McCarthy reincorporated Failure Analysis Associates, Inc. in Delaware as The Failure Group, Inc. In 1990, Dr. McCarthy took The Failure Group, Inc. public on the NASDAQ exchange. Also in 1990, Dr. McCarthy formed Failure Analysis B.V. in the Netherlands to expand Exponent's operations to Europe. In 1998, The Failure Group, Inc. changed its name to Exponent, Inc.

Dr. McCarthy is a Registered Professional Mechanical Engineer in the State of California, #M20040; a Registered Professional Mechanical Engineer in the State of Arizona, #13684; and a registered Professional Mechanical Engineer in the State of Ohio, #70487. He was a commissioned officer in the U.S. Army Ordnance Corps, trained at Aberdeen Proving Ground, and was honorably discharged as a Captain in 1980.

Academic Credentials

Ph.D., Mechanical Engineering, Massachusetts Institute of Technology, 1977
Mech. E., Mechanical Engineering, Massachusetts Institute of Technology, 1975
S.M., Mechanical Engineering, Massachusetts Institute of Technology, 1973
Sigma Xi Honorary
B.S.E., Mechanical Engineering, University of Michigan (*summa cum laude*), 1972

October 31, 2017

Council Agenda Item 5.a
2018 Board Nominees

Board Member Nominee, AcTI.nl

Curriculum vitae Lucas P.J.J. Noldus

Personal Information
Family name: Noldus
Given names: Lucas Paul Johan Joseph
Home address: Dorpsstraat 171, 6871 AJ Renkum, The Netherlands
Birth date: 24 November 1959
Birth place: Roosendaal en Nispen, The Netherlands
Citizenship: Dutch
Marital status: Married, four children

Employment
1989-present Managing Director, Noldus Information Technology BV, Wageningen, The Netherlands (www.noldus.com)
2016-present Research Associate, Consumer Sciences & Health group, FBR/AFSG, Wageningen University & Research, Wageningen, The Netherlands
2010-2016 Business Development Manager, TeleMetronics Biomedical BV, Wageningen, The Netherlands
2007-2014 Commercial Director, Delta Phenomics BV, Schaijk, The Netherlands
1986-1989 Research Fellow, Department of Entomology, Wageningen Agricultural University
1985 Research Associate, Insect Biology & Population Management Research Laboratory, USDA-ARS, University of Georgia, Tifton, Georgia, U.S.A.
1984 Research Associate, Department of Biology, Beijing Normal University, Beijing, China

Education
1989 Ph.D., Entomology, Wageningen Agricultural University, The Netherlands Thesis title: “Chemical Espionage by Parasitic Wasps”
1983 M.Sc., Biology, University of Leiden, The Netherlands
1980 B.Sc. (cum laude), Biology, University of Leiden, The Netherlands
1977 High school (cum laude), St. Oelbert Gymnasium, Oosterhout, The Netherlands

Boards and Committees
2017-present Foreign Affairs Officer, Netherlands Academy of Technology and Innovation (www.acti-nl.org)
2017-present Chairman, Board of Supervisors, Belmonte Arboretum Foundation
2016-present Member, Wageningen Ambassadors
2016-present Member, Roadmap Committee “Consumer & Supply Chain”, Top Sector Agri&Food
2012-present Chairman, ICT for Brain, Body & Behavior Foundation (www.i3b.org)
2011-present Secretary, Man-Machine Interaction Platform
2009-present Member, Advisory Board, E-Semble BV
2007-present Member, Board of Supervisors, Restaurant of the Future Foundation
2014-2016 Board Member, International Council of Academies of Engineering and Technological Sciences (CAETS)
2010-2016 Vice President and Treasurer, Netherlands Academy of Technology and Innovation

October 31, 2017

Council Agenda Item 5.a
2018 Board Nominees

Board Member Nominee, IAS

Professor Stane Pejovnik, Ph.D.
Short C.V.

Biographical data:
Prof. Dr. Stane Pejovnik was born in 1946, completed general secondary education at Gimnazija Celje in 1964, graduated, and obtained the master and the doctoral degree at the University of Ljubljana. He was elected full professorship at the University of Ljubljana in 1989. His first employment was at the Institute »Jozef Stefan«, Department for Ceramics. In 1982, at the age of 36, he became the Director of the National Institute of Chemistry, leading the institute, for 16 years, out of a profound crisis to the scientific institution of the international relevant scientific importance. In 1985 he founded the Electrochemical Laboratory of Materials Electrochemistry at the National Institute of Chemistry. He was a visiting professor in the USA (North Carolina State University) and in Austria (Technische Universitaet Graz). He held regular lessons at both universities. He was elected Dean of the UL Faculty of Chemistry and Chemical Technology and is now the rector of the University of Ljubljana. He is a popular teacher to his students, an excellent manager and a most agreeable person.

Scientific work - summary:
The name of Prof. Dr. Stane Pejovnik has been closely associated with science and engineering of materials for more than 30 years, within the national and international borders. Already in the early stage of his research, he used the most contemporary and modern experimental methods in sintering in the presence of liquid phase, clustered the results, processed them mathematically thus continually opening new areas or research.
His contribution to the theory of sintering in the presence of liquid phase undoubtedly classifies him as the leading researcher of sintering in Slovenia and among the most important ones around the globe. Already in this phase of his forming himself as a researcher, he started to research materials for energy. Together with prof. Kališnik he introduced the qualitative analysis of microstructure – stereology in Slovenia. He founded and led a research group for materials electrochemistry (at the National Institute for Chemistry), which is known in the global dimensions and referred to as the »Ljubljana school« for preparation and characterization of the nano-structured electrodes for the Li- ion batteries. His essential contribution is independently opening and pioneering a new research area and reaching a global confirmation.

His most important achievements are:
In his personal bibliography, Prof. Dr. Pejovnik compiles over 200 scientific (reviewed) publications, from which there are more than 100 articles in eminent international magazines with high SCI. He always geared his research work towards practical use, and he is a co-author of 6 patents. He is a co-editor of 6 books. The high quality of his research work is shown by approximately 2500 quotations and even more by the fact that his every contribution is quoted 16 times on average. This index indicates also, that he worked in small research groups. He was invited to give lectures all around the globe. He was and still is a member of international editorial boards of scientific newspapers, in international associations and academies. He held and still holds a number of duties in international organizations as a consequence of his reputation among the researchers in the world. He is a winner of many awards and prizes, like: the Boris Kidrič Fund award for inventions (1977), the Boris Kidrič Fund award for publications on sintering in the presence of liquid phase (1981), full member of the International Institute for Sintering Science in Belgrade (corresponding member 1982, full member 2006), Ambassador of the Republic of Slovenia in science (1994), member of the Slovenian Academy of Engineering (1996), and its President since 2014,full member of the International Academy of Engineering in Moscow (corresponding member in 1999, full member in 2009), full member of the World Academy of Art and Science (2005).

With these achievements Prof. Dr. Stane Pejovnik represents personification of significant and key contributions to the development of science and engineering of materials in Slovenia and in the world.

Board Member Nominee, HAE

October 31, 2017

Council Agenda Item 5.a
2018 Board Nominees

Curriculum Vitae: (Mr) KRÁLIK István
Born: December 30, 1948 in Budapest/Hungary
Nationality: Hungarian
Languages: Hungarian, English, German
Domicile: 1137 Budapest, Szt. István park 10 – Hungary
Telephone: +36 20 9444090
Email: kralikistvan@videxim.hu

Graduated at Technical Univertity of Budapest (BME) in 1973 as Mechanical Engineer. Postgraduated as Welding Engineer in 1975 (similar to Ph.D) and finished special courses in Material testing by X-Ray radiography and Ultrasonic material testing for different metals in 1976.

1973-1978 employed by Hungarian State Energetical and Energy-Safety Authority at Material Testing Laboratory as site engineer. Working at government financed petrochemical project-investments in Northern Hungary as field supervisor for welding and testing works with close cooperation of the supplier companies (Badger Ltd from UK, Lurgi-Italy and Linde AG –Germany).

In 1978 joined the Japanese Mitsubishi Corporation (Mitsubishi Shoji Kaisha) Budapest Office as engineer-businessman, responsible for heavy industry investment projects in Hungary supplied by Japanese companies.

As trading activities successfully introduced to the Hungarian market the audio and video products of Japanese Matsushita Electric Company under brandnames: National, Panasonic, Technics.

Utilising the experiences in trade with Far-East , in 1994 set up the private owned Videxim Trading Company Ltd with headquarter in Zürich/Switzerland.

Its main target was to develop and provide connections between East and West and within these activities distributed wide range of audio products from Hong Kong and China to the East-European countries: Hungary, Romania and Slovakia. Also created the companies' own brand name: HomElectric for household appliances which were sold through the same trading channels.

In 2014 reorganised the activities of the company, opening to IT field (uninterruptible power supply systems), rechargeable batteries for industry use, toys, sporting goods, souvenir and gift articles and for controlling these multifunctional activities the Videxim Holding Company Ltd. was set up with headquarter in Hong Kong.

Presently I am responsible for controlling its technical, economical, commercial, and financial advisory services.

Based on the experiences with the Far-East businesses I am founding member and for 2 terms Chairman of the Hungary-Hong Kong Business Association, member of the Swiss-Hong Kong Business Association and member of the Federation of Hong Kong Business Associations Worlwide.

I am proud to be elected member of the Hungarian Academy of Engineering (MMA) in 2001, where acting as Member of the Board since 2014.

I was delegated by the MMA to the CAETS Annual Meetings to Beijing 2014, New Delhi (2015) and London (2016).

October 31, 2017

Council Agenda Item 5.a
2018 Board Nominees

Secretary/Treasurer Nominee, NAE

DR. RUTH A. DAVID

Foreign Secretary
National Academy of Engineering

President and Chief Executive Officer, Retired
Analytic Services Inc.

B. S. Electrical Engineering, Wichita State University
M. S. Electrical Engineering, Stanford University
Ph.D. Electrical Engineering, Stanford University

Dr. David was elected Foreign Secretary of the National Academy of Engineering and assumed that position on 1 July 2015.

From October 1998 to April 2015, Dr. David served as president and chief executive officer of Analytic Services Inc., an independent, not-for-profit, public service institute that provides research and analytic support on national and transnational issues.

From September 1995 to September 1998, Dr. David was Deputy Director for Science and Technology (DDS&T) at the Central Intelligence Agency. During her tenure as DDS&T she helped conceptualize a new nonprofit corporation that could speed CIA's adoption of commercially viable technologies—In-Q-Tel was subsequently established to fulfill this role. Upon her departure, Dr. David was awarded the CIA's Distinguished Intelligence Medal, the CIA Director's Award, the Director of NSA Distinguished Service Medal, the National Reconnaissance Officer's Award for Distinguished Service, and the Defense Intelligence Director's Award.

Previously, Dr. David served in several leadership positions at the Sandia National Laboratories, where she began her professional career in 1975.

Dr. David was elected to the National Academy of Engineering (NAE) in 2002 and served as a Councilor from 2007 through 2013. She is a lifetime National Associate of the National Research Council (NRC) and has contributed to numerous studies. She also is a member of the National Science Board and the Defense Science Board and serves on several university advisory committees.

She was a member of both the Tau Beta Pi Engineering Honor Society and the Eta Kappa Nu Electrical Engineering Honor Society, and in 2010 was inducted into the Women in Technology International Hall of Fame. She is a former adjunct professor at the University of New Mexico and has technical experience in digital and microprocessor-based system design, digital signal analysis, adaptive signal analysis, and system integration.

Dr. David frequently provides lectures, briefings, and articles on the many facets of homeland security, as well as other national security and technology-related issues. She is the coauthor of three books on Signal Processing Algorithms and has authored or coauthored numerous papers and book chapters.

CAETS Dues Schedule

Country	Academy		2017	2018	2019*
Argentina	National Academy of Engineering	ANI	1000	1000	1030
Australia	Australian Academy of Technological Sciences and Engineering	ATSE	6000	6000	6180
Belgium	Royal Belgium Academy of Applied Sciences	BACAS	2000	2000	2060
Canada	Canadian Academy of Engineering	CAE	3000	3000	3090
China	Chinese Academy of Engineering	CAE	6000	6000	6180
Croatia	Croatian Academy of Engineering	HATZ	1000	1000	1030
Czech Republic	Engineering Academy of the Czech Republic	EA CR	1000	1000	1030
Denmark	Danish Academy of Technical Sciences	ATV	3000	3000	3090
Finland	Technology Academy Finland	TAF	3000	3000	3090
France	National Academy of Technologies of France	NATF	3000	3000	3090
Germany	German Academy of Science and Engineering	acatech	3000	3000	3090
Hungary	Hungarian Academy of Engineering	HAE	1000	1000	1030
India	Indian National Academy of Engineering	INAE	6000	6000	6180
Japan	The Engineering Academy of Japan	EAJ	6000	6000	6180
Korea	The National Academy of Engineering of Korea	NAEK	3000	3000	3090
Mexico	Academy of Engineering, Mexico	AI	3000	3000	3090
Netherlands	Netherlands Academy of Technology and Innovation	AcT.nl	2000	2000	2060
Norway	Norwegian Academy of Technological Sciences	NTVA	3000	3000	3090
Slovenia	Slovenian Academy of Engineering	IAS	1000	1000	1030
South Africa	South African Academy of Engineering	SAAE	1000	1000	1030
Spain	Royal Academy of Engineering, Spain	RAI	3000	3000	3090
Sweden	Royal Swedish Academy of Engineering Sciences	IVA	3000	3000	3090
Switzerland	Swiss Academy of Engineering Sciences	SATW	3000	3000	3090
United Kingdom	Royal Academy of Engineering, UK	RAEng	6000	6000	6180
United States	National Academy of Engineering, US	NAE	6000	6000	6180
Uruguay	National Academy of Engineering of Uruguay	ANIU	2000	2000	2060
			81000	81000	83430

*Dues Increase CAETS Council agreed on 15 September 2016 that the dues for 2019 would be increased by 3%.

Minutes

CAETS Energy Committee Meeting, 28 April 2017

Venue: Chinese Academy of Engineering, Beijing

Present	Prof John Loughhead (Chair am), Prof Frank Behrendt (Chair pm), Prof Bob Evans, Prof Han Byungmoon, Prof Rolf Hugli, Prof Philip Lloyd, Prof Seung Il Moon, Prof Chinho Park, Prof Baldev Raj
In Attendance	Ms Samantha Frost, Mrs Narai Kim

Introduction

Prof Loughhead opened the meeting by welcoming old and new Committee Members to Beijing, and inviting all around the table to introduce themselves.

He gave a brief re-cap of the history of the Energy Committee, and the three reports written so far, the most recent being a report on the transport sector, launched at the 2015 CAETS Committee Meeting in New Delhi.

All present agreed to a flexible agenda, with Prof Loughhead opening by giving a rationale of the document put together with Prof Behrendt ahead of the meeting, followed by a discussion on the possible focus areas of the report.

Context

Professor Loughhead began by explaining that the discussion document, *'Energy Technologies for a Climate-Friendly Future Global, Regional, and Local Challenges and Solutions',* should not be treated as a proposal, but rather a starting point. The document recommends that the next CAETS Energy Committee Report review potential future clean technologies as well as their interaction and embedding into existing energy system architectures since there is less perceived need for new information, but an engineering perspective on applying future technologies could be helpful for international stakeholders, including Mission Innovation[1].

[1] Mission Innovation (MI) is a global initiative of 22 countries and the European Union to dramatically accelerate global clean energy innovation.

This style of report could also be valuable to CAETS member academies in their role advising their own national governments by identifying R&D activities that may be needed, in addition to technology or processes that should benefit from prioritized investment in the future.

There was general agreement that a shorter, less technical report, would be of value to member academies and to international stakeholders, and that this is what the Committee should focus on.

The group also discussed the United Nations Sustainable Development Goals[2], and the potential to use Goal number 5, "Ensure access to affordable, reliable, sustainable and modern energy for all" in the framing of the report.

The general consensus was that the SDGs should be used in the framing, but that we should not go as far as to suggest that this report is going to influence the SDGs. Committee members were also very concerned that the report should focus on specific energy areas, and not try to focus on everything.

Committee Members were also keen to be bold with the key messages.

Discussion on Report focus areas

The Committee actively discussed how best to split the report, with the potential to split it many different ways including- global, regional, local: or source, delivery and use.

Discussion also focused on the game-changing nature of sustainable energy storage.

The continuing importance of finding cleaner alternatives to coal was also mentioned as fossil fuel usage is foreseeably unavoidable for much of the world, despite increasing investments in renewable generation.

Committee members felt that nuclear should at least be commented on, and that geothermal and potentially fusion, should also be recognised.

It was brought to the Committee's attention that ATSE are currently writing a report on CCS, and that depending on the timescales, this is something that could be cited.

ACTION: RAEng to speak to ATSE about the time frame for the completion of their CCS report.

Prof Hugli commented that SATW recently completed a report (only available in German) focussed on electrical energy, and that there may be some useful information that could be used from this.

Committee members were all in agreement that as well as linking to other studies, the report should provide examples and case studies from other countries.

The Committee agreed that the report needs to include an element of foresight for the next 15 years if it is to be of potential use to policy makers.

Prof Moon commented that Korea has been working a lot with Lithium Ion batteries in the last two years, so can share the experience of Korea- possibly in the form of a case study

Prof Park commented that a few of the key reports such as IEA's report on self-consumption support scheme to facilitate the renewable energy expansion should be

[2] On September 25th 2015, countries adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets to be achieved over the next 15 years.

shared with CAETS energy committee to help the writers have a more comprehensive view prior to writing the report.

Conclusions

Professor Behrendt chaired the session directly after lunch, where the focus was on narrowing down the key messages of the report, and how it would be structured.

Key Messages

The following key messages emerged from the discussions

- Energy Storage needs to be treated seriously
- Potential value of wider interconnection- GEIDCO in China are strongly championing this
- Smart grid investments are essential in transitioning from coal to renewable energy investment and prepare for a sustainable future

Other messages to include

Electrical demand implications of electric cars- might need to be at least mentioned.
Sector coupling should be included

Contents

The following sections were agreed. There should be no more than 10 pages per section.

1. Facilitating the need for deployment of renewable energy (South Africa, UK, India)
    - Recognising that whilst not the focus of the report, for practical and economic reasons there will be a continuing need for fossil fuel usage, and therefore it is very important to invest in R&D to make fossil fuel usage cleaner.
2. Global Inter-connection and storage section-linked together (China and Korea to collaborate on this section, with Australia to contribute information from their report on storage)
    - This section should also advocate for minimising cost by making intelligent combinations, recognising that this may vary regionally
3. Evidence and advocate the need for deployment of Smart grids (Germany, Canada, Switzerland)

Timescales

1st draft of sections	30 June
RAEng to work sections into a first draft	
1st draft of full report	31 July
Feedback on first draft	8 September
Strengthen report and decide whether additional input is needed	13 October
Final review	27 October
Final report	3 November
Present report at CAETS Convocation in Madrid	10 November

Prof Loughhead encouraged The Committee to reach out to other experts within their academies, to ensure that the wider CAETS network feel ownership of this report.

Report title
Committee Members were reminded that CAETS has adopted Engineering a Better World as an overall title for at least the next two convocations, so we could make a list, and title the report, *Powering a Better World.* Other suggestions included:

- Energy sans frontiers
- Towards a carbon free future
- Looking to the energy future
- Energy foresight

Progress report by the Royal Society Te Apārangi toward Applying for CAETS Membership.

19 October 2017

Context

In November 2016, the Royal Society Te Apārangi, as New Zealand's academy for "science, technology and the humanities" presented to the CAETS meetings in London an outline case for acceptance of the Society for CAETS membership. The case indicated that in a small nation such as New Zealand it is not sustainable to have separate academies but rather a multi-disciplinary academy could operate successfully across and within a number of domains. The Society presently participates in the global lead bodies in science (International Council for Science), social sciences (International Social Sciences Council) and humanities (Union Academique Internationale) but not with CAETS. It is keen to participate in all global lead bodies.

In its outline case, the Society set out its broad history over 150 years, including the commencement of the academy in 1919, the widening of that to include engineering and technology in the 1980s, and the re-introduction of the humanities in 2012. Approximately 15% of the Fellows associate with the domain entitled "Technology, Applied Science and Engineering" (TASE), noting that the term technological sciences is not used in New Zealand, but rather technology and applied sciences.

The feedback received from CAETS in 2016 was that an application would be welcome, but that there would be scrutiny to ensure that TASE was not subsumed under science. Rather it should have a distinct identity within the Society.

In the event, the Society chose not to apply for membership in 2017, but rather to submit this progress report.

Fellowship Process Changes

The Academy Executive Committee which manages the Fellowship, and Medals and Awards processes independently of the Society governing Council can only be comprised of Fellows. It takes responsibility for the election of new Fellows and Honorary Fellows (the latter are resident outside New Zealand). The 2012 Act specifies Fellows may be elected for "distinction in research or the advancement of science, technology, or the humanities." The Academy Executive Committee sets bylaws to give effect to this role.

The previous report to CAETS in 2016 set out that the Academy Executive Committee recognises four "domains" in which the "distinction in research" can be demonstrated:

- Science
- Social sciences
- Humanities
- Technology, applied science and engineering (TASE).

As previously reported to CAETS, each domain has different performance indicators, including demonstration of impact of the research, and that for TASE this allows for wider forms of research output and impact than published papers.

A major change for 2018 is that the Society will commence accepting nominations for "advancement of science, technology or the humanities". Advancement cases will still require demonstration of advancement of knowledge, but the forms of evidence that will be accepted will be primarily those that demonstrate impact of the knowledge. Thus, it will be increasingly possible for engineers and technologists from industry who do not publish in peer-reviewed literature to be elected. The criteria are attached.

It should be noted that the Act under which the Society operates created a Companion grade to which those who demonstrate leadership and public service can be elected, so the Act does not allow those as grounds for Fellowship.

There will be a distinct Evaluation panel for TASE (one of six). Each evaluation panel makes recommendations to a final Fellowship Selection Committee which ranks candidates from all domains as a single list from which the Academy Executive Committee makes the final election of Fellows each year.

Changes to Awards and Medals Processes

In 2017 all awards and medals were regrouped into the four domains. The significant change for 2018 is that the award for science with application (the MacDiarmid medal) and that for technology (the Pickering medal) will be opened up to teams rather than individuals, and to a wider range of outputs in the evidence portfolio.

Governance/Leadership

The Academy Executive Committee presently includes three Vice-Presidents of the Society, one of whom is for "physical and mathematical sciences, technology and engineering", the others being for "social science and humanities" and "biological and life sciences". The Committee is chaired in rotation by the Vice-Presidents, all of whom sit on the Council. Each Vice-President is seen to have an intellectual leadership role. If the President of the Society is a Fellow he or she also sits on the Academy Executive Committee. The Committee has the power to co-opt and of recent times has used this route to ensure that a Fellow who is from the TASE domain is always on the Committee.

The Society recognizes that there is a weakness from a CAETS perspective as TASE does not have an identity and leadership role that is distinctly separate from science in our governance structure. Discussions on the governance structure are proposed for November 2017 to February 2018. A key topic in those discussions will be to clearly demonstrate how we meet the expectation from CAETS of distinct TASE leadership. If changes are required, they can probably be initiated as early as 1 July 2018.

Support from Engineering New Zealand (previously the Institution of Professional Engineers New Zealand)

The Society holds, and will provide with its application, a letter of support from Engineering New Zealand, under its previous name of the Institution of Professional Engineers New Zealand. (Note: the name change occurred on 1 October 2017).

Closing remarks

The Society sees the resolution of the governance/leadership issue to demonstrate a distinct identity for TASE as the remaining critical factor in which it may fall short of CAETS criteria. It would be pleased to hear any other concerns as soon as possible so they can be addressed.

Criteria for "Distinction in Research" in the Technology, Applied Science and Engineering Domain

(a) *intellect; scholarship; international reputation; and peer recognition;*
(b) intellectual achievement; innovation; and an ability to creatively synthesise and critically interpret knowledge in a way that has impact on the field.

It is expected that these criteria will be demonstrated via a combination of publications (which may include commissioned investigative reports), intellectual property creation, impact of the research, peer- recognition and end-user recognition, such recognition normally being wider than solely at a national level.

When assessing impact, nominations address relevant indicators for impact from within the following list (which is expressed generically to apply across all of technology, science and the humanities):

a. Significant changes in the way a body of knowledge is organised and used (as a result of challenging previous conventional wisdom)
b. Longevity of impact of citation
c. Major changes to practice in a professional community, at least at a national level
d. Major changes in relevant public policy and/or government investment strategy, e.g., in social policy, environmental protection, education, or justice
e. Successful promulgation of new products, processes, IP, or services based on the research
f. Significantly increased investment in the research programme over an extended period of time by potential technology transfer partners or end-users

Criteria for "Advancement of Technology"

The nomination statement must be in two parts – a clear statement describing the innovation/new knowledge for which the nominee is responsible, and a summary of the evidence of impact to show there has been major and excellent advancement from the contribution of the nominee. Relevant criteria for impact would be drawn from the following list:

a. Major changes to practice in a professional community, at least at a national level;
b. Major changes in relevant public policy and/or government investment or operational strategy, for example in health, social policy, environmental protection, conservation, education, justice or emergency management;
c. Successful promulgation of new products, processes, IP, or services based on the innovation/new knowledge;
d. Major cultural or social change within communities of significant size;
e. Major environmental change.

It is expected that these criteria can be evidenced in a variety of ways. Key pieces of evidence are to be presented – these can be proxies of impact, e.g., level of uptake of a new technology, evidence of previous practices or technologies being rendered obsolete, peer esteem recognition, etc.

ROYAL SWEDISH ACADEMY OF ENGINEERING SCIENCES

CAETS 2019 – overview (preliminary)

June 24 – 28, 2019 in Stockholm, Sweden

- Monday, June 24 - CAETS Exec Committee meeting
  - CAETS Board of Directors meeting
- Tuesday, June 25 - Conference Day 1, incl dinner
- Wednesday, June 26 - Conference Day 2
- Thursday, June 27 - CAETS Council meeting
- Friday, June 28 - Technical visit(s)

- (CAETS meeting to take place in IVAs confernce center)

CAETS 2019 – Conference outline

- 4 – 6 topics
- Parallell sessions (except for invited speakers presentations)
- Venue takes approx 400; in city center 5-10 minutes' walk from IVA
- Probably some other side-activities
  - Exhibition
  - Young engineers
  - …
- A programme committee with other CAETS academies will be set up

CAETS ENGINEERING A BETTER WORLD

… the Next 100 Years !!

… the Next 100 Years !!

[the heading is alluding to the celebration of IVAs 100th birthday and at the same time allowing a broad spectrum of topics being addressed]

… the Next 100 Years !!

- Creative Chaos
- Digital Dawn
- Inclusive Infrastructure
- Effective Education

optional

- Elusive Energy
- Roaring Robotics

Creative Chaos

Within this sub-heading we intend to illuminate how the engineering sciences could help avoiding, in a 'chaotic world', the rise of a divided world – a disharmoniuos world in a state of disequilibrium; technologically, ecologically, as well as socially.

Possible topics within this sub-heading:

- 'Post-truth' tasks for Academies
- How Academies can fully embrace UNs *Sustainable Devolopment Goals*
- Next generation entrepreneurs
- Water shortage
- Climate change
- Securing cyberspace

Digital dawn

This sub-heading alludes to how engineering sciences by harnessing digital technology can generate new knowledge, higher growth, as well as a better world for everyone.

Possible topics within this sub-heading:

- Boosting health information
- Securing cyberspace
- Smart packaging
- Engineering large research infrastructures
- Qubits and graphene based electronics

Inclusive Infrastructure

This sub-heading addresses the issue of how the engineering sciences could build more attractive and sustainable infrastructures.

- Possible topics within this sub-heading:

- Affordable living
- Mobility
- Transportation
- Smart cities
- Global initiatives: e.g. *One Belt One Road*

Effective Education

This sub-heading would highlight the importance of (life long) education and how important it is to develop efficient educational tools that address the existing diversity of needs.

- Possible topics within this sub-heading:

- Personalized learning
- Educating immigrants
- Life-long learning
- The digital divide

How to proceed

- Approval from CAETSs Board of Directors [Nov 2017]
- Setting up an *Advisory Board* (4-6 academies) [Nov 2017}
- Fine-tuning the topics, identify and invite speakers [Dec 2017 -

  [-April 2018]
- Final Programme [May 2018]
- Call for papers [June 2018]

ROYAL SWEDISH ACADEMY OF ENGINEERING SCIENCES

28 October 2017

Council Agenda Item 11
Bylaws Amendment

Draft CAETS Bylaws Amendment

ARTICLE 2 – Council Membership
Section 4 – Procedures for Admission of New Members

a. Applications for admission will normally be accepted for consideration no earlier than three ~~five~~ years after the official date of establishment of the applicant, with Council flexibility for up to five years in its discretion.

Background Information

Minutes from Council Meeting on 15 September 2016

Regarding the requirement that academies of engineering aspiring to become members of CAETS must have been operating successfully for a minimum period of 5-years, the Council discussion showed preference for at least 3 years with flexibility for up to 5 years where warranted.

Current CAETS Bylaws:

Article 2 – Council Membership

Section 3 Criteria for Membership

A member of CAETS shall:
a. Be representative of the engineering and technological community of that country;
b. Subscribe to the nonpolitical, non-governmental international character of the Council;
c. Have a peer elected membership with criteria for election based on significant personal contributions to engineering, technological sciences, or related activities;
d. Be governed by its elected membership;
e. Be engaged in significant activities demonstrating that its objectives are compatible with the objectives of the CAETS; and
f. Have sufficient financial support to pay the costs of CAETS membership and the costs of participation in CAETS activities.

Section 4 Procedures for Admission of New Members

a. Applications for admission will normally be accepted for consideration no earlier than five years after the official date of establishment of the applicant.
b. The election of a new member academy shall take place only during a regularly scheduled meeting of the Council when the Secretary/Treasurer receives completed application documents 90 days in advance of such meeting.
c. Admission of a new member academy shall require the affirmative votes of at least all but one of the members' representatives present and voting.
d. Applicants elected by the Council, on complying with Council-approved entry requirements, shall be admitted to CAETS effective at the conclusion of the Council meeting at which elected.

إِنَّا كُلَّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ

Pakistan Academy of Engineering

(Registered under the Societies Act 1860)

April 14, 2017

Mr. Ruth David
International Council of Academies
of Engineering & Technological Sciences, Inc. (CAETS)
CAETS Records
National Academy of Engineering
2101 Constitution Avenue, NW
Washington, D. C. 20418,
USA.

Subject: Application for Membership of CAETS

Dear Mr. Ruth David

Thank you very much for your prompt response via e-mail of 9th instant.

We are now pleased to apply formally for the membership of the esteemed CAETS, and present the required information in the following:

• Our website	:	www.pacadengg.org
• Our Bye Laws and Operating Procedures	:	Posted on our website under About us
• Summary of Programmes Executed during last three years	:	Posted on our website under Programes
• The present officers of PAE are	:	1. Dr.-Ing Jameel Ahmad Khan – President 2. Dr. Nasim A. Khan – Executive Secretary / Treasurer 3. Dr. M. Shahid Alam – Vice Chairman

Their responsibilities are prescribed under Article 6.11, 6.11.2, 6.11.3 and 6.1 respectively.

The Pakistan Academy of Engineering was incorporated on December 20, 2013 (Memorandum of Association is enclosed). At present we have 34 Fellows. The minimum qualification of

E-16/2, Block 7, Gulshan-e-Iqbal, Karachi. 75300, Pakistan
Tel: +9221-34831726 Fax: +9221-34968603
Website: http://www.pacadengg.org

إِنَّا كُلَّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ

PAE

Fellowship is a Ph.D. in Engineering. Three of our Fellows are ex-Vice Chancellors (Rectors) and three existing Vice Chancellors of the Engineering Universities. Highly qualified engineers from the consulting profession and research establishments have been nominated as Fellows. The list of Fellows is available on the web. Out target is that by the end of the year we shall have 50 Fellows.

We shall be prepared to provide you with additional information, should you need.

With profound regards.

Sincerely yours,

Dr.-Ing. Jameel Ahmad Khan
President
Pakistan Academy of Engineering
E-16/2, Block-7, Gulshan-e-Iqbal
Karachi, Pakistan.
Cell: 0347-1803374
Tel.: 92-21-34831726
Fax: 92-21-34182105
E-mail: profjakhan@pacadengg.org

Enclosed:

Memorandum of Association of PAE

Memorandum of Association

of

The Pakistan Academy of Engineering

(A Society registered under the Societies Act 1860)

Memorandum of Association
Of
The Pakistan Academy of Engineering
(A Society registered under the Societies Act 1860)

PART- I
Memorandum of Association

THIS MEMORANDUM OF ASSOCIATION is made at KARACHI on this **16th day of December, 2013** by the Founder Fellows of The Pakistan Academy of Engineering being signatories to this Memorandum of Association and the By-Laws (hereinafter referred to as "The Founding Members").

WHEREAS the Founding Members desire that non-profit Society (hereinafter referred to as Academy) be established to provide leadership to the Engineering profession in Pakistan and to its Fellows outside Pakistan for objects as described hereinafter:-

Article 1.0

Name

The name of the Society is **"The Pakistan Academy of Engineering"**

Registered Office

The Registered office of the Society shall be located at 39-C, 22nd Commercial Street, Phase II Extension, DHA, Karachi.

Article 2.0

2.0 Aims and Objects

The Pakistan Academy of Engineering shall be a learned Society and composed of elected members active in the engineering profession in the areas where these are applied. Following shall be the main aims and objects of the Academy.

2.1. To pursue, encourage and maintain excellence in the entire field of engineering in order to promote the advancement of the science, art and practice of engineering for the benefit of the Pakistani nation.

2.2. To provide national forum for the discussion of engineering and technological issues.

2.3. To promote the application of emerging technologies for the benefit of Pakistani nation.

2.4. To provide independent advice on issues of engineering and technology that underlies many questions of national importance.

2.5. To promote the technological welfare of the nation by utilizing the knowledge and insight of eminent members of the engineering profession.

2.6. To bring together the countries most eminent engineers from all disciplines and identity strategic priorities to enhance Pakistan's engineering capabilities and to lead debate by guiding informed thinking and influence public policy.

2.7. To promote network of highly experienced and competent professionals in the field of engineering, who seek to stimulate contacts between disciplines and across national borders.

2.8. To provide the requisite advice to the Government and also conduct its own independent studies that examines important topics in engineering and technology.

2.9. To engage more efficiently with the public and public policy process.

2.10. To encourage cooperation with international engineering efforts.

2.11. To interact with the professional bodies in engineering and scientific academies in Pakistan and abroad.

2.12. To promote strengthening and integration of academia, industry, government and Academy in the country.

2.13. To promote creation of engineering culture in the country.

2.14. To honor outstanding engineers of the country, encourage their innovations and institute awards in recognition of their extra-ordinary contribution to the engineering profession, in education, management, research, practice and overall impact on the Academy.

2.15. To institute and establish Professorships, Studentships, Scholarships, Awards and other Benefactions.

2.16. To function as initiator, catalyst, coordinator and opinion moulder

2.17. To run the Association on non-political, non-commercial and non- religious basis.

2.18. The Association shall purely run on charitable basis.

2.19. The Association shall confine its activities only to the aims and objects of the Association as set forth in the Memorandum of Association and the income and property of the Association from whatever sources derived shall be applied solely towards promoting the objects of the Association and no portion thereof shall be paid by way of dividend profit, bonus to any member, office bearers of the Association, or otherwise, violation of this condition shall be the personal responsibility of the office bearers of the member concerned.

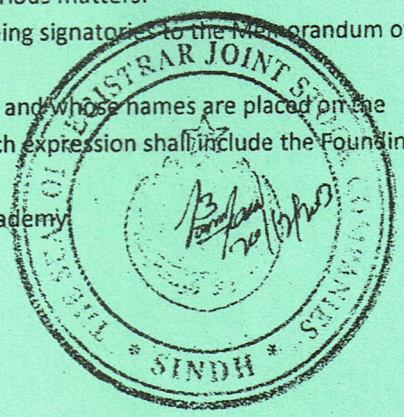
PART - II

BY-LAWS

Article 3.0

3.0 Definitions

3.1.	**Assembly:**	The general body of the Academy comprising all the Fellow Members of the Academy.
3.2.	**The Council:**	The elected body in which the management and direction of the Academy is vested.
3.3.	**Committee(s):**	The recommendatory body(s) appointed by the Council to provide assistance in various matters.
3.4.	**Founding Fellows:**	The founding fellows being signatories to the Memorandum of Association.
3.5.	**Fellows:**	The Members admitted and whose names are placed on the Register of Fellows which expression shall include the Founding Fellows.
3.6.	**Official seal:**	Common Seal of the Academy.



Article 4.0

4.0 The Fellowship

4.1. The Academy shall comprise the Pakistan's most eminent engineers of all disciplines having at least a Ph.D. or equivalent degree in engineering from a recognized institution, and having Pakistani nationality as its fellows. The inter-disciplinary character and spirit of fellowship shall provide unique breadth of engineering experience to further all forms of engineering.

4.2. There shall be up to twenty but not less than ten founder fellows. Subsequently, the other fellows shall be elected by invitation only and not more than twenty five each year from nominations made by the fellows and approved by the Council in its meeting by three fourth majority of the fellows present in the Council in person. Total number of fellows shall not exceed one hundred at any time unless and otherwise decided by the Assembly with three fourth majority.

4.3. The disciplines to which fellowship will be assigned shall be as under and there shall be assigned at least one fellowship to each discipline. The other disciplines shall be added as and when the expertise at appropriate level is available and needed.

Civil Engineering	Aeronautical Engineering
Mechanical Engineering	Marine Engineering
Electrical Engineering	Agricultural Engineering
Electronics Engineering	Mining Engineering
Chemical Engineering	Medical Engineering
Software Engineering	Textile Engineering
Materials Engineering	Industrial Engineering
Engineering Management	Environmental Engineering
Bio Engineering	Energy Engineering
Information & Communication Engineering	Automation Engineering

4.4. These Fellows shall be elected from the nominees being proposed by the Fellows and Foreign Fellows,

The foreign Fellows being not more than twenty percent of the Fellows of the Academy, preferably in the newer fields of engineering or in any of the recognized fields in which the fellowship is not locally available.

4.5. The fellowship shall be interpreted to include important or unusual personal contributions or accomplishments and may be to specific technical areas, in the integration of technologies, in the noteworthy leadership of a group involved in significant innovation of technological progress and as may be further interpreted by the Academy from time to time.

4.6. The Fellows will be entitled to suffix the abbreviation FPAE after their name.

Article 5.0

5.0 The Assembly of the Academy

5.1. The highest decision making body shall be the Assembly of the Academy, which shall comprise its Founding Fellows and Fellows. The Assembly shall take decisions in matters of great weight and decisive importance to the Academy. The Assembly shall make, amend and notify the bylaws, the rules and the regulations relating to the organization and activities of the Academy.

5.2. Notwithstanding anything contained in the Article 4.1, the first Assembly of the Academy shall comprise the Founder Fellows of the Academy.

5.3. The Assembly of the Academy shall meet once a year except for an emergent situation, when it shall meet immediately, after proper announcement. Audited accounts shall be presented in the annual meetings of the Assembly.

5.4. The quorum of the meeting shall be one third of the total strength of fellows but not less than four fellows.

Article 6.0

6.0 The Council:

6.1. There shall be a Council consisting of, all the times, not less than seven Fellows including the President of the Council. The Council shall comprise the following Fellows:

President of the Academy — Chairman

One Founder Fellow to be nominated by the President — Vice Chairman

Five fellows to be elected by the Assembly of the Academy (except foreign fellows) — Members

Executive Secretary (non-voting)— Secretary

6.2. The direction of the management of the Academy shall be exercised by its Council, which shall be elected in the Assembly of the Academy. The direction, aims and objectives of the management of the affairs of the Academy and the control and disposition of its properties and funds shall vest in the Council, who shall have full power to manage the Academy in every respect, to fill vacancies of Council and to appoint staff to secure the most beneficial, effective and efficient administration of the Academy. The Council shall have the following other powers:

6.3. The Council shall have the power to approve the annual budget and annual accounts of the Academy.

6.4. The Council shall have the powers to appoint and fix the terms and conditions of the personnel who may be deemed necessary for the conduct of its affairs.

6.5. The Council may delegate any powers to the President and the Executive Committee for smooth operations of the Academy and to do the following functions:

6.5.1. To accept donations either in cash or movable or immovable properties either with or without any special conditions attached to it, subject to issuance of proper receipt unless nature of such donations contravene the letter and spirit of the objectives of the Academy.

6.5.2. To raise and borrow any moneys and funds required for the purpose of the Academy on such securities as the Council may deem fit.

6.5.3. To recommend to the Assembly any proposal to repeal, alter, amend. rescind or add to all rules, regulations and bye-laws. The Council shall have power and authority to appoint or engage and at its discretion, remove, dismiss or suspend the staff.

6.5.4. The Council shall be entitled to reimburse themselves out of the Academy estate all expenses incurred in or about the execution of the work of the Academy or the Council.

6.5.5. The Council shall be entitled to be indemnified by the Academy out of its properties against the consequences of all lawful acts done by Council in the course of and discharge of their duties.

6.5.6. The Council shall not be entitled to any remuneration and shall work in their honorary capacity. They shall however, be entitled to receive out of pocket expenses incurred by them in the course of discharging their duties.

6.5.7. The Council shall be entitled to enter into any agreement or covenant with other entities for advancing the objectives of the Academy.

6.5.8. Every power, authority or discretion conferred upon the Council shall be exercised or signified either by some instrument in writing to be signed by the Chairman on behalf of the Council as a consequence of a resolution that effect.

6.5.9. The money belonging to the Academy shall not be invested with any private individuals of firm or association of persons or body of individuals.

6.5.10. The Council may deposit for safe custody any documents held with them relating to any property belonging to the Academy under these presents with any Bank and may pay any sum payable in respect of the same.

6.6. Duties of the Council

6.6.1. To take measures to put into effective operation the provisions herein appearing for the fulfillment and execution of the Academy.

6.6.2. The Council shall always ensure:

6.6.2.1. For the audit of the annual accounts of the Academy every year by a qualified accountant as specified in clause (i) of sub-rule (2) of Rule 211 of the Income Tax Rules 2002;

6.6.2.2. For the utilization of the moneys, property or income of the Academy or any part thereof solely for promoting its objects as outlined in this Memorandum of Association and the By-Laws;

6.6.2.3. For prohibiting payment and/or transfer of any moneys, property or income of the Academy directly or indirectly, by way of dividend, bonus or profit to any of the Fellows in the Council or the relative or relatives of a Fellow or Fellows;

6.6.2.4. For prohibiting the making of any changes in this Memorandum of Association and the By-Laws without the prior approval of the Commissioner of Income Tax, Provided that this Clause will have effect only in cases where the approval is granted and;

6.6.2.5. To take measures to put into effective operation the provisions herein appearing for the fulfillment and execution of the objects of the Academy;

6.6.2.6. To ensure the safe custody of all deeds and documents of title pertaining to the Academy and its properties and assets; and

6.6.2.7. To cause to be kept and maintained proper books of accounts showing all receipts and disbursements made on account of the Academy.

6.6.2.8. To maintain and prepare accounts relating to the affairs of the Academy and ensure the safe custody of all deeds and documents of title pertaining to the Academy and its properties and assets.

6.6.2.9. To make and ensure that the Academy shall restrict the surpluses or monies validly set part, excluding restricted funds, upto twenty five percent of the total income of the year provided that such surpluses or monies set apart are invested in Government Securities or invested in accordance with the provisions of Rule 213 Of the Income tax Rules 2002.

6.7. Liabilities of the Council

6.7.1. A Fellow in the Council shall, in discharge of his functions and in exercise of the authorities and powers hereby vested in him, be answerable and responsible only for his own acts, omissions, neglects and defaults and not for those of other Fellows in the Council.

6.7.2. The Fellows in the Council shall be responsible only for such monies, stocks, funds, securities or other properties and assets as they or any of them actually receive and not otherwise for any losses which are involuntary or beyond their control.

6.7.3. **Vacant Office**

6.7.3.1. The office of the Fellow represented in the Council shall be vacated on the happening of the following events:

- By death
- By his/her resignation communicated in writing to the Council.
- By his or her being adjudicated as insolvent.
- By his or her becoming of unsound mind and
- By his or incapacity to act as a Fellow.

6.7.3.2. On vacation of office of the Council member in consequence of happening of any of the above mentioned event, the remaining Fellows in the Council shall nominate a person to fill the vacancy so created.

6.8. Chairman of the Council

6.8.1. The President assigned to the Academy shall be the Chairman of the Council. The Chairman shall preside over the meetings of the Council. In case of the absence of the Chairman or in case the Chairman does not arrive within 30 minutes of appointed time of the meeting, the Council members present may elect a chairman for the meeting. In all the matters relating to, or in connection with or arising out of the Academy, the decision of the Council, shall as far as possible be made unanimously. However, if the Council fails to agree on any matter or issue, the Chairman may use his casting vote to decide the matter.

6.8.2. The Chairman shall sign minutes of previous meetings, after getting the comments of the fellows present in the meeting.

6.8.3. **Vacation of the office of Chairman**

In the event of vacancy of the office of Chairman on account of his death, resignation, or otherwise, the Council shall elect one of its Fellows to be the

Chairman. The office of the Chairman shall not remain vacant for more than fourteen days

6.8.4. **Meeting of the Council:**

6.8.4.1. The Council shall meet as often as necessary or deemed expedient for transacting the business of the Academy.

6.8.4.2. Quorum of the meeting shall not be less than three or one third of the total number of the members, whichever is greater.

6.9. The Executive Committee

Composition of the Executive Committee shall be as follows:

-President of the Academy	-Chairman
-Vice Chairman of the Council	-Vice Chairman
-Two Fellows of the Council to be nominated by the Council	-Member
-Executive Secretary	-Member, Secretary

6.9.1. Functions of the Executive Committee.

6.9.1.1. The Executive Committee shall exercise all powers delegated to it by the Council.

6.9.1.2. The Executive Committee shall look after and take decisions for smooth day-to-day management of the Academy.

6.9.1.3. The Executive Committee shall oversee the functioning of the Academy as per practices laid down by the Council.

6.9.1.4. The Executive Committee shall prepare annual calendar of activities for approval of the Council.

6.9.2. Meetings

The Executive Committee shall meet as and when required but at least once every quarter to dispose of the normal business of the Committee. The quorum of the meetings shall be not less than three members including the President

6.10. Other Committees

The Council may, if it deems expedient, constitute the following committees and approve their Terms of Reference (TOR).

6.10.1. Peer Committee
6.10.2. Finance and Planning Committee
6.10.3. Policies & Programmes Committee Awards Committee
6.10.4. Rules & Regulations Committee
6.10.5. international Liaison committee
6.10.6. Any other committee required to be constituted for furtherance of Objects by the Council

6.11. Officers Of The Academy

6.11.1. THE PRESIDENT

6.11.1.1. There shall be a President of the Academy to be elected by the Fellows of the Assembly for a period of three years.

6.11.1.2. Notwithstanding anything contained in the clause 6.11.1.1 above, the first President of the Academy shall be Prof. Dr.-Ing. Jameel Ahmad Khan for a period of three years.

6.11.1.3. In the absence of the President, the Council shall assign the responsibilities of the President temporarily to a Founder Fellow as per advice of the President.

6.11.2. THE EXECUTIVE SECRETARY

6.11.2.1. There shall be an Executive Secretary to assist the President in managing the affairs of the Academy, the Council, and the Executive Committee.

6.11.2.2. The Executive Secretary shall be a full time Chief Executive Officer of the Academy and shall direct its business subject to policies laid down by the Council.

6.11.2.3. The Executive Secretary shall head the Secretariat of the Academy and shall perform the functions as per policy of the Academy and under the direction of the President. He shall be in-charge of the Secretariat responsibilities with respect to meetings of the Council and the Executive Committee as well as other Committees, receiving fellowship nominations and conduct of elections. He shall be the custodian of the Seal of the Academy.

6.11.2.4. The Executive Secretary shall be appointed by the Council for three years.

6.11.3. TREASURER

6.11.3.1. There shall be a Treasurer who shall be appointed by the Council in accordance with the laid down procedure. The Council shall also determine the period of his service.

6.11.3.2. Treasurer shall be responsible for proper record of collection and disbursement of the funds of the Academy as may be ordered by the Council or the President and shall submit the statement of accounts regarding all transactions to the Council.

6.11.3.3. The Council in its absolute discretion may assign the temporary charge of the Treasurer to the Executive Secretary or any employee of the Academy up to the time a fulltime post is not justified.

Article 7.0

7.0 The Fund
7.1. Endowment
7.2. Donations
7.3. Fellowship Fees
7.4. Services rendered by the Academy
7.5. Government Grants

Article8.0

8.0 The Rules and Regulations

8.1. Rules and Regulations with respect to the performances of the functions of the Academy and its subordinate bodies and to achieve its objects shall be prepared and approved by the Assembly of the Academy on the recommendations of the Council.

8.2 Bank Account

8.2.1 All money received by the Academy shall be deposited in the name of "PAKISTAN ACADEMY OF ENGINEERING" with any scheduled Bank of Pakistan provided the Council and authorized staff may keep a sum not exceeding Rs. 10,000 to meet day-to-day expenses.

8.2.2 The Bank account of the Academy shall be operated jointly by the;

8.2.2.1 Executive Secretary and;
8.2.2.2 Any one of the two of the Fellows duly nominated by the Council through a resolution in writing.

8.3 Account

8.3.1 The accounts of the Academy, subject to law, shall be maintained in such form as the Council shall deem fit.

8.3.2 Subject to sub-clause 8.3.1 hereof, the Executive Secretary shall cause to be maintained complete records of all transactions, assets and liabilities in accordance with the requirements of law. The first financial year shall be closed on the next 30th day of June. Thereafter, each accounting year shall begin on 1st July and close on 30th June.

8.3.3 The accounts of the Academy shall be open to inspection by interested Fellows at all reasonable times, on any working day during a calendar year.

8.3.4 All expenses including rent if any, auditors fee and salaries of other supporting staff, and all other costs, charges and expenses in connection with the Academy, shall be borne by the Academy.

8.4 Auditors

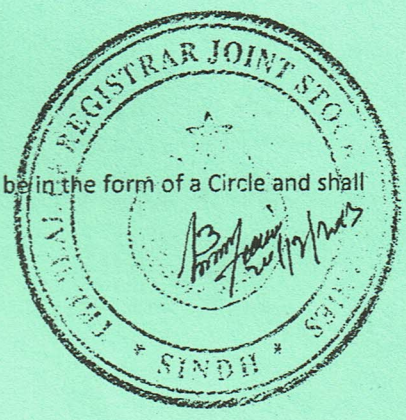
The Council shall once in every year cause to be prepared a statement of account and a balance sheet of the Fund which shall be audited by an auditor duly appointed by the Council. The Auditor shall have access to all papers, accounts and documents pertaining to and connected with the Fund of the Academy and shall conduct audit in accordance with applicable auditing standards and shall furnish an opinion to the Council about true and fair view of the state of affairs of the Academy exhibited by the financial statements.

8.5 Audit

The accounts of the Academy shall be audited by a qualified Chartered Accountant as specified in Clause (f) of the Sub-Rule 2 of Rule 211 of the Income Tax Rules 2002 and will be approved by the General Body every year. The verified audit Report will be submitted in the office of Provincial Assistant Registrar Joint Stock Companies and in the case of failure Rs. 500/- per month will be paid as a penalty in the account of Government of Sindh.

Article 9.0

9.0 Official Seal



The Seal of the Pakistan Academy of Engineering shall be in the form of a Circle and shall be inscribed thereon

"The Pakistan Academy of Engineering Official Seal"

Article 10.0

10.0 Settlement

The Council shall have power and authority to settle, compromise or compound all and any debt, claim, outstanding accounts, disputes, demands, actions, suits and proceedings of the Academy whatsoever, by from or against them or any of them or relating to funds of "Pakistan Academy of Engineering" or any part thereof, or any matter relating to the Academy, and if necessary, to refer the same to Arbitration.

Article 11.0

11.0 Amendments

Subject to law, this Memorandum of Association and the By-Laws may be amended by a resolution passed by at-least three fourth (3/4) majority of the total number of Fellows, in the Assembly, provided that no amendments shall be made in this Memorandum of Association and the By-Laws without the prior approval of the Federal Board of revenue and the Commissioner of Income Tax concerned as required under the Income Tax Rules, 2002 or any other Competent Authority.

Article 12.0

12.0 The Dissolution

12.1. Termination of Membership

An existing Fellow shall cease to remain a Fellow in the following circumstances:

12.1.1. In case of death of the Fellow.
12.1.2. If the Fellow is physically or mentally incapable to perform his/her function.
12.1.3. If the Fellow fails to abide by the guidelines of the Academy.
12.1.4. If the Fellow offers his/her resignation.
12.1.5. Unable to pay the annual Fellowship fee.

12.2. Application of Fund of the Academy

12.2.1. All funds or any part thereof shall solely be utilized by the Academy for the purpose of promoting the objects of the Academy and no portions thereof shall be transferred directly or indirectly by way of dividend, bonus or profit to any of the Fellows.

12.2.2. Funds may be utilized for any purposes which further the objects of the Academy.

12.3. Liquidation

12.3.1. In case the council finds at any time that the Academy has ceased to be viable or they feel unable or incompetent to achieve the objectives of the Academy, they may dissolve the Academy.

12.3.2. Upon such termination of the Academy, all monies and investments of the Fund held by the Council under trust shall be realised and/or otherwise employed or applied in the following order of priority:

12.3.2.1. In payment of any income tax or other taxes due, if any;
12.3.2.2. In payment of any expenses;
12.3.2.3. If after providing for all the above to the full extent which is in the opinion of the Council fair and equitable, there shall remain any surplus/assets, such surplus/assets shall be transferred to any other organization which is approved non-profit organization selected by the Council within three months of the dissolution under intimation to the Commissioner of Income Tax Concerned.

IN WITNESS WHEREOF, the Founding Fellows to these present have set their respective hands on this Memorandum of Association, the day and year first above mentioned.

EXECUTANTS

Witnesses:

1. M. Asad Arif

2. M. Mujtaba Ishaq

TRUE COPY

Registrar Joint Stock Companies Sindh
Karachi.

WE ARE THE SEVERAL PERSONS WHO ARE DESIRIOUS TO BE FORMED INTO AN ASSOCIATION IN PURSUANCE OF THIS MEMORANDUM

SR. NO	NAME AND FATHER'S NAME	ADDRESS	DESIGNATION	SIGNATURE
01.	Dr.-Ing. Jameel Ahmad Khan	E-6/1. Block-7, Gulshan-e-Iqbal, Karachi 75300.	President	
02.	Dr. Wahid Bux Soomro	10-A, Karim Plaza, Block-14, Gulshan-e-Iqbal, Karachi.	Fellow	
03.	Dr. Nasim A. Khan	S.U. House No. 564, Askari V, Malir Cantt, Karachi.	Fellow	
04.	Dr. Afzal Haque	110/II, Saba Avenue, Phase-VI, DHA, Karachi.	Fellow	
05.	Dr.-Ing. M. Khalid Farooq	195, Shah Jamal, Lahore 54600	Fellow	
06.	Dr. Khan Gul Jadoon	Deptt. Of Mining Engineering NWFP Univ. of Engg. & Tech., Peshawar.	Fellow	
07.	Dr. Haroon Jangda	Shaheen Castle Apartment # 202, Plot No. 141, Sharfabad Road No. 10, Behar Muslim Coop. Housing Society, Karachi	Fellow	
08.	Dr. Shahid Alam	92/VI, Roomi Str, Phase-VIII, DHA, Karachi	Fellow	
09.	Dr. Salimuddin Zahir	H. No. 457, Str. 64, Sector-0-9, Pakistan Town, Phase-I, Islamabad-44000	Fellow	
10.	Dr. Abid Karim	FL-11/1/7, Block-6, Gulshan-e-Iqbal, Karachi-75300	Fellow	

WITNESSES TO THE ABOVE SIGNATURE

1. Name: M. Asad S/O M. Akif
2. Occupation Private Service Dated:
3. Signature

TRUE COPY

Registrar Joint Stock Companies Sindh
Karachi

UNDERTAKING LETTER

We the subscribers of the proposed Association namely The Pakistan Academy of Engineering having registered at Karachi, to be registered under the Societies Registration Act, 1860:

a) That the proposed Pakistan Academy of Engineering is not registered earlier under the Societies Registration Act, 1860 or any other law.

b) That there is no dispute among the members.

c) That the property / premises of the Office of the proposed Pakistan Academy of Engineering does not belong to any person or body registered under any other act, such as Cooperative Societies Act, Companies Act, Social Welfare Ordinance etc.

d) That no dispute amongst the proposed Pakistan Academy of Engineering is pending in the Court of Law.

SR. NO	NAME AND FATHER'S NAME	ADDRESS	DESIGNATION	SIGNATURE
01.	Dr.-Ing. Jameel Ahmad Khan	E-6/1. Block-7, Gulshan-e-Iqbal. Karachi 75300	President	
02.	Dr. Wahid Bux Soomro	10-A, Karim Plaza, Block-14, Gulshan-e-Iqbal, Karachi.	Fellow	
03.	Dr. Nasim A. Khan	S.U. House No. 564, Askari V, Malir Cantt, Karachi.	Fellow	
04.	Dr. Afzal Haque	110/II, Saba Avenue, Phase-VI, DHA, Karachi.	Fellow	
05.	Dr.-Ing. M. Khalid Farooq	195, Shah Jamal, Lahore 54600	Fellow	M. Khalid Farooq
06.	Dr. Khan Gul Jadoon	Deptt. Of Mining Engineering NWFP Univ. of Engg. & Tech., Peshawar.	Fellow	Khan Gul Jadoon
07.	Dr. Haroon Jangda	Shaheen Castle Apartment # 202, Plot No. 141, Sharfabad Road No. 10, Behar Muslim Coop. Housing Society, Karachi	Fellow	H. A. Jangda
08.	Dr. Shahid Alam	92/VI, Roomi Str, Phase VIII, DHA, Karachi	Fellow	
09.	Dr. Salimuddin Zahir	H. No. 457, Str. 64, Sector-0-9, Pakistan Town, Phase-I, Islamabad-44000	Fellow	Salimuddin Zahir
10.	Dr. Abid Karim	FL-11/1/7, Block-6, Gulshan-e-Iqbal. Karachi-75300	Fellow	A&K

WE THE PERSONS WHO ARE DESIRIOUS TO BE FORMED INTO PURSUANCE OF THIS MEMORANDUM OF THE ASSOCIATION

SR. NO	NAME AND FATHER'S NAME	ADDRESS	DESIGNATION	CELL NO.	OCCUPATION
01.	Dr.-Ing. Jameel Ahmad Khan	E-6/1. Block-7, Gulshan-e-Iqbal, Karachi 75300.	President	0345-2590349	Engineering
02.	Dr. Wahid Bux Soomro	10-A, Karim Plaza, Block-14, Gulshan-e-Iqbal, Karachi.	Fellow	0333-7019126	Engineering
03.	Dr. Nasim A. Khan	S.U. House No. 564, Askari V, Malir Cantt, Karachi.	Fellow	0300-8564625	Engineering
04.	Dr. Afzal Haque	110/II, Saba Avenue, Phase-VI, DHA, Karachi	Fellow	0334-5099131	Engineering
05.	Dr.-Ing. M. Khalid Farooq	195, Shah Jamal Lahore 54600	Fellow	0333-4241674	Engineering M. Khalid Farooq
06.	Dr. Khan Gul Jadoon	Dept. Of Mining Engineering NWFP Univ. of Engg. & Tech., Peshawar.	Fellow	0333-9109693	Engineering Khan Gul Jadoon
07.	Dr. Haroon Jangda	Shaheen Castle Apartment #302, Plot No. 141, Sharfabad Road No. 10, Behar Muslim Coop. Housing Society, Karachi	Fellow	0300-3565850	Engineering
08.	Dr. Shahid Alam	92/VI, Roomi Str, Phase VIII, DHA, Karachi	Fellow	0300-2017110	Engineering
09.	Dr. Salimuddin Zahir	H. No. 457, Str. 64, Sector-0-9, Pakistan Town, Phase-I, Islamabad-44000	Fellow	0323-8556044	Engineering Salimuddin Zahir
10.	Dr. Abid Karim	FL-11/1/7, Block-6, Gulshan-e-Iqbal, Karachi-75300	Fellow	0333-3244340	Engineering A&K

REGISTRAR JOINT STOCK COMPANIES SINDH

AUTHORITY LETTER

We the following subscribers of The Pakistan Academy of Engineering having registered at Karachi, hereby authorized Dr.-Ing. Jameel Ahmad Khan (President) to make any amendment, alternation and correction when required the Provincial Assistant Registrar, Joint Stock Companies, Karachi in the Memorandum and Articles of "The Pakistan Academy of Engineering", on our behalf as and when required or necessary.

The specimen signature of Dr.-Ing. Jameel Ahmad Khan are as under:

SPECIMEN
SIGNATURE OF AUTHORIZED PERSON

SR. NO	NAME AND FATHER'S NAME	ADDRESS	DESIGNATION	SIGNATURE
01.	Dr.-Ing. Jameel Ahmad Khan	E-6/1. Block-7, Gulshan-e-Iqbal, Karachi 75300.	President	
02.	Dr. Wahid Bux Soomro	10-A, Karim Plaza, Block-14, Gulshan-e-Iqbal, Karachi.	Fellow	
03.	Dr. Nasim A. Khan	S.U. House No. 564, Askari V, Malir Cantt, Karachi.	Fellow	
04.	Dr. Afzal Haque	110/II, Saba Avenue, Phase-VI, DHA, Karachi.	Fellow	
05.	Dr.-Ing. M. Khalid Farooq	195, Shah Jamal, Lahore 54600	Fellow	M. Khalid Farooq
06.	Dr. Khan Gul Jadoon	Deptt. Of Mining Engineering NWFP Univ. of Engg. & Tech., Peshawar.	Fellow	Khan Gul Jadoon
07.	Dr. Haroon Jangda	Shaheen Castle Apartment # 202, Plot No. 141, Sharfabad Road No. 10, Behar Muslim Coop. Housing Society, Karachi	Fellow	
08.	Dr. Shahid Alam	92/VI, Roomi Str, Phase VIII, DHA, Karachi	Fellow	
09.	Dr. Salimuddin Zahir	H. No. 457, Str. 64, Sector-0-9, Pakistan Town, Phase-I, Islamabad-44000	Fellow	
10.	Dr. Abid Karim	FL-11/1/7, Block-6, Gulshan-e-Iqbal, Karachi-75300	Fellow	