



Council Meeting Agenda

Thursday, September 13, 2018 – 0900 - 1430

Sheraton Montevideo Hotel

Victor Solino 349, Punta Carretas, Montevideo, Uruguay

1. Welcome and Introductions
2. Approval of Agenda
3. Approval of Council Minutes of 16 November 2017
4. Report of the 10 September 2018 Meeting of the Board of Directors
 - a. 2017 Audit Committee Report
 - b. 2019 Operating Budget
 - c. Rotation Schedule
 - d. InterAcademy Partnership for Research
 - e. CAETS Statements (discussion to follow)
 - f. CAETS Website (discussion to follow)
 - g. CAETS Discussion Topics Going Forward
5. Administrative Actions
 - a. Election of Board Members for 2019-2020
 - b. Approval of 2020 Dues Schedule
 - c. Future CAETS Meeting Schedule
 - i. 2019 Annual Meeting: IVA, Sweden – June 24-28, 2019
 - ii. 2020 Annual Meeting: NAEK, South Korea
 - iii. 2021 Annual Meeting: ANI, Argentina
6. Progress Report on New Zealand Application for CAETS Membership
7. CAETS 2019 Update: IVA, Sweden
8. CAETS 2020 Update: NAEK, Korea

Reconvene in Closed Session

9. Due Diligence: Pakistan Application for CAETS Membership
 - a. Council Vote

Reconvene in Open Session

10. Report of the Energy Committee
11. Summary and Next Steps: Engineering Education
12. Summary and Next Steps: How Engineering Academies Interact with the Public
13. Summary and Next Steps: Engineering and the Sustainable Development Goals
14. New Business
15. Presentation of Certificates in Recognition of CAETS Service
 - a. Past President: Elías Fereres, Spain (RAI)
 - b. Board (2017-2018): Vladimir Andročec, Croatia (HATZ)
 - c. Board (2017-2018): Frank Behrendt, Germany (acatech)
 - d. Board (2017-2018): Trueman Goba, South Africa (SAAE)
 - e. Board (2017-2018): Ulrich (Ueli) Suter, Switzerland (SATW)

Adjourn

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

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

Member Participants

Argentina (ANI): Osvaldo Josue Postiglioni
Australia (ATSE): Hugh Bradlow, Matt Wenham
Belgium (BACAS): Archiel Van Cauwenberghe
Canada (CAE): Robert Evans
China (CAE): Xiaohong Li, Shukai Jiang, Jiayi Cheng, Hongtao Ren, Erhu Deng
Croatia (HATZ): Zdravko Terze, Vladimir Androcec
Czech Republic (EA CR): Milos Hayer, Petr Zuna
France (NATF): Bruno Revellin-Falcoz, Alain Bravo
Hungary (HAE): István Králik
Germany (ACATECH): Frank Behrendt, Patrick Hartmann
India (INAE): Mathur Ajay, Bryana Nagappa Suresh, Rajan Minocha, Vipparthi Adimurthy
Japan (EAJ): Hideaki Koizumi, Kotobu Nagai
Korea (NAEK): Kyungho Shin, Inkeun Lee, Narai Kim
Mexico (AI): Jaime Parada
Netherlands (AcTI.nl): Lucas Noldus
Norway (NTVA): Lars Dyrhaug
Slovenia (IAS): Stane Pejovnik
South Africa (SAAE): Truman Goba, Felix Reinders, Bob Pullen, Mike Shand
Spain (RAI): Elias Fereres, Jaime Domeniguez, Javier De Vargas??, Pere Brunet, Enrique Cerda Olmedo
Sweden (IVA): Magnus Breidne
Switzerland (SATW): Hugli Rolf, Ulrich Suter
United Kingdom (RAEng): Dame Ann Dowling, Samantha Frost, Andrew Clark, David Thomlinson, Shane McHugh
Uruguay (ANIU): Lucio Cáceres, Adriana Gamboggi
United States (NAE): Dan Mote, Ruth David

Observers

Nigeria: Adetokundo Denloye, Rasaki Afolabi Lasisi
Pakistan: Jameel Ahmad Khan

1. Welcome and Introductions

a. Remembrance: William J. Salmon

The President opened the meeting and invited self-introductions by the participants. He then offered comments in remembrance of Bill Salmon, who had served as the CAETS Secretary/Treasurer since its incorporation in 2000.

2. Approval of Agenda

The agenda was approved as presented.

3. Approval of Council Minutes of 15 September 2016

The Council Minutes were approved as presented. The President noted that the Executive Committee and Board had approved their respective minutes on Monday, with an addendum to the EXCOM minutes noting that the video produced subsequent to the CAETS 2016 annual meeting was posted in lieu of a traditional CAETS Statement, although RAEng did post a brief statement on their website. That statement will be circulated for endorsement by CAETS.

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**

The Secretary/Treasurer reported that the Board had received the 2016 Audit Committee Report noting a clean opinion. The base operating budget for 2018 was approved; a small group was tasked to perform additional analysis prior to proceeding with an upgrade of the CAETS website. The updated rotation schedule was provided for information; it was noted that Board Member nominations for 2019 will be solicited from Argentina, Finland, China, and India. The topic of CAETS/WFEO cooperation was deferred pending the outcome of the Council discussion on Diversity and subsequent assessment of Member interest in scoping a CAETS project on that topic. The Board endorsed continued use of the “Engineering a Better World” theme by CAETS, and identified three topics that could form the basis for future discussions and/or committees: 1) How do engineering academies communicate with the public? 2) Engineering Education—what transformations are needed/underway? 3) Engineering for Sustainable Development Goals. The Secretary/Treasurer agreed to survey Members to elicit their interest in these topics in advance of the 2018 annual meeting.

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**

The Council elected the following Board Members for terms beginning in 2018: Tuula Teeri (President-elect), IVA; Roger McCarthy, NAE; Lucas P. J. J. Noldus, AcTI.nl; Stane Pejovnik (IAS); István Králik, (HAE); and Ruth David (Secretary/Treasurer), NAE. The EXCOM reviewed and recommended approval of the 2019 dues schedule, which reflects a 3% increase as agreed upon in 2016; the Council approved the schedule as presented. It was noted that later agenda items include updates on the 2018 and 2019 Annual Meetings and that the Council will hear more about the 2020 Annual Meeting, to be hosted by NAEK, during the coming year.

6. Report of CAETS Committee on Energy

Frank Behrendt (ACATECH) provided a brief update on the work of the Energy Committee, noting that he had agreed to chair the effort when the previous chair needed to step aside to accommodate the demands of work assignments. He noted that minutes of all meetings will be provided and that the intent is to deliver a report to CAETS members by the time of the 2018 Annual Meeting.

7. Progress Report on New Zealand Application for CAETS Membership

Matt Wenham, ATSE, provided a brief update on behalf of the Royal Society of New Zealand with regard to the restructuring underway that will provide clear parity between TASE (technology, applied science and engineering) and other science domains. Changes underway affect both elections and governance and are intended to position TASE to apply for CAETS membership.

8. CAETS 2018 Update: ANIU, Uruguay

Lucio Caceres provided an update on the planning underway for the 2018 Annual Meeting; charts are posted on the CAETS website. He solicited help from member academies including particularly their assistance in nominating speakers who could address convocation topics in the broad areas of sustainable agriculture and forestry.

9. CAETS 2019 Update: IVA, Sweden

Magnus Breidne provided an overview of potential topic areas for the 2019 Convocation; charts are posted on the CAETS website. He noted that 2019 marks the 100th anniversary of their founding and that other anniversary-related events are planned. He invited CAETS member participation in their planning committee.

10. New Business

Members expressed interest in ensuring that the Rotation Schedule and CAETS Financial Statements and Budgets are available to all Council members. The Secretary/Treasurer noted that the information is posted on the website as background information for EXCOM and Board members but is readily accessible by all members; in the future it will also be included in the Council background information section. It was observed that when organizing the technical agenda for future CAETS Annual Meetings, the appropriate lexicon is 'symposium' for a 1-day meeting and 'convocation' for a 2-day meeting.

Break: Reconvene in Closed Session**11. Change to Bylaws**

The Council approved the previously agreed upon change to the CAETS Bylaws regarding new member applications:

ARTICLE 2 – Council Membership

Section 4 – Procedures for Admission of New Members

Applications for admission will normally be accepted for consideration no earlier than three years after the official date of establishment of the applicant, with Council Flexibility for up to 5 years at its discretion.

12. Membership Application Pending: Pakistan

The EXCOM reported its assessment that alternatives to a site visit could provide sufficient due diligence evaluation of the readiness of the Pakistan Academy to become a member of CAETS. Noting the substantial value of a CAETS site visit to the prospective member academy, the Council determined that a site visit was important and should be augmented by the proposed due diligence alternatives.

Reconvene in Open Session**13. Broadening the Vision II****a. Ethics in Engineering**

This session included a panel discussion of the various aspects of Ethics in Engineering, observing that the importance of ethical practices grows as technology gets closer to humans. Panelists also emphasized the need to introduce ethics at a very young age. The panel was moderated by Pere Brunet, Professor of the Polytechnic University of Catalonia, Spain, and included Dawn Bonfield, RAEng Visiting Professor of Inclusive Engineering, Aston University Towards Vision, University of Bath, Stevenage, United Kingdom; Carme Torras, Professor of Research of the Spanish Scientific Research Council, Spain; and Hideaki Koizumi, Honorary Fellow, Hitachi, Ltd., Japan. Each panelist shared their perspectives and invited questions.

b. Diversity in Engineering

David Thomlinson provided an overview of the RAEng's Diversity and Inclusion Programme, which is focused on understanding the extent to which engineering and related organizations are inclusive and nurture diversity of all kinds. He shared with the Council a "Diversity and Inclusion Progression Framework for Professional Bodies." The framework describes four levels of good practice for each of eight areas in which diversity should be considered and can be used for planning and assessing progress. Council members were then invited to share their respective programs and initiatives targeting the increase of diversity in engineering.

14. Presentation of Certificates in Recognition of CAETS Service

The Council expressed its gratitude to Dame Ann Dowling (RAEng) for her three years of leadership on the Executive Committee and Board as President-elect, President, and Past President. It then recognized the service of Paul Verstraeten (BACAS), Hideaki Koizumi (EAJ), Martin Philip Bendsoe (ATV), and Jaime Parada (AI-Mexico), each of whom completed their two years of service on the CAETS Board of Directors.

The Council Meeting was adjourned.



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

2018 President
Lucio Cáceres, ANIU, Uruguay

2018 President Elect
Tuula Teeri, Sweden

2018 Past President
Elías Fereres, RAI, Spain

Secretary/Treasurer
Ruth David, NAE, US
355 Toscana Circle
Gordonville, TX 76245
caets@nae.edu; ruth.a.david@outlook.com
Tel+1-571-216-7773

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

CAETS Member Academies
National Academy of Engineering, Argentina
Australian Academy of Technological Sciences and
Engineering
Royal Belgian Academy Council of Applied Sciences
Canadian Academy of Engineering
Chinese Academy of Engineering
Croatian Academy of Engineering
Engineering Academy of Czech Republic
Danish Academy of Technical Sciences
Technology Academy Finland
National Academy of Technologies of France
German Academy of Science and Engineering
Hungarian Academy of Engineering
Indian National Academy of Engineering
The Engineering Academy of Japan
The National Academy of Engineering of Korea
Academy of Engineering, Mexico
Netherlands Academy of Technology and Innovation
Norwegian Academy of Technological Sciences
Slovenian Academy of Engineering
South African Academy of Engineering
Royal Academy of Engineering, Spain
Royal Swedish Academy of Engineering Sciences;
Swiss Academy of Engineering Sciences
Royal Academy of Engineering, United Kingdom
National Academy of Engineering, USA
National Academy of Engineering, Uruguay

Acad. Eng. Lucio Cáceres
National Academy of Engineering of Uruguay
Cuareim 1492
11 100 Montevideo, Uruguay

Dear President Cáceres:

We were nominated to the CAETS Audit Committee by our respective academies, the South African Academy of Engineering (SAAE) and the National Academy of Engineering (NAE) of the United States and subsequently appointed by you, as CAETS President, in accordance with CAETS Operating Procedures.

The CAETS Secretary/Treasurer prepared and submitted the enclosed two-page statement, CAETS Financial Summary FY2017, dated 30 April 2018. 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 31 December 2017.

Submitted by,

Trueman Goba
President, SAAE

Al Romig
Executive Director, NAE

Joan Zaorski
Director of Finance, NAE

Enclosure: CAETS Financial Summary 2017

CAETS FINANCIAL SUMMARY

Fiscal year 2017

1/1/2017 - 12/31/2017

OPERATIONS

	FY 2015	FY2016	FY2017	FY2017 ¹	FY2018 ²
Receipts	actual	actual	actual	budget	budget
Dues	77,286.97	79,975.20	84,494.20	81,000.00	81,000.00
Expenses					
Communications	1,538.20	531.36	-	2,000.00	7,000.00
Equipment	342.13	1,230.78	-	2,000.00	500.00
Legal-Prof. Fees			1,113.00	100.00	100.00
Management Fee	44,000.00	44,000.00	44,000.00	44,000.00	44,000.00
Meetings	101.21		127.07	600.00	300.00
Postage, Delivery	635.78	21.24	33.30	2,000.00	300.00
Printing		600.00	-	2,000.00	500.00
Supplies	170.63	147.40	243.15	300.00	300.00
Travel	8,587.68	17,382.37	15,409.09	25,000.00	25,000.00
Strategy Implementation			-	3,000.00	3,000.00
Total Expenses	55,375.63	63,913.15	60,925.61	81,000.00	81,000.00

¹Approved by Board on 16 September 2016; dues based on 6 at \$1K; 3 at \$2K; 11 at \$3K; 6 at \$6K

²Approved By Board on 13 November 2017; dues based on 6 at \$1K; 3 at \$2K; 11 at \$3K; 6 at \$6K.

Note: \$7000 expense for CAETS website upgrade deferred pending further analysis and review.

ACTIVITIES AND CHANGES IN RESERVE FUNDS

Balance From 12/31/2016	248,476.49
Revenue	
Dues Received	84,494.20
USAA Interest Income	84.46
Reserve Fund Contribution	-
	<u>84,578.66</u>
Expenses	
Operating Expenses	60,925.61
Reserve Fund Expenses	-
	<u>60,925.61</u>
	23,653.05
Balance 12/31/2017	272,129.54

CAETS FINANCIAL SUMMARY

Statement of Financial Position 12/31/2017

ASSETS

USAA ¹ Account Balance 12/31/17	6,103.95
Bank of America Account Balance 12/31/17	<u>297,017.63</u>

Total Assets	303,121.58
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LIABILITIES

Deferred Revenue from Prepaid Dues	11,000.00
Checks Issued but Not Cleared	19,359.99
Due to Secretary/Treasurer	71.58
On Account for Members	<u>560.47</u>

Total Liabilities	30,992.04
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NET ASSETS

<u>272,129.54</u>

Total Liabilities and Net Assets

303,121.58

¹USAA Account to be closed during 2018; process is underway; remaining funds will be transferred to Bank of America Account.

CAETS FINANCIAL SUMMARY

PAGE 1 OF 2

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

OPERATIONS

	FY 2014	FY 2015	FY 2016	FY2016	FY 2017
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	
	<u>\$80,250.27</u>	
Expenses		
Operating Expenses	\$63,913.15	
Reserve Fund Expenses	\$6,000.00	
	<u>\$69,913.15</u>	
		<u>\$10,337.12</u>
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	<u>\$4,043.86</u>
Balance per Bank Stmt on December 31, 2016	260,119.33

Ledger Balance on 12/31/2016	\$260,119.33
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**STATEMENT OF FINANCIAL POSITION
12/31/2016****ASSETS**

USAA Account Ledger Balance	<u>\$260,119.33</u>
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	<u>\$560.47</u>
Total Liabilities	\$11,642.84

Net Assets	<u>\$248,476.49</u>
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Total Liabilities and Net Assets	<u>\$260,119.33</u>
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CAETS 2019 Budget

Board Agenda Item 3.c

	FY2015 Audited	FY2016 Audited	FY2017 Audited	FY2018 Budget ¹	FY2019 Proposed Budget ²
Dues				81,000.00	83,430.00
Net (less fees/exch)	77,286.97	79,975.20	84,494.20		
Operating Expenses					
Communications	1,538.20	531.36			1,500.00
Website				7,000.00	1,000.00
Equipment	342.13	1,230.78		500.00	200.00
Legal-Professional Fees			1,113.00	100.00	500.00
Management Fee	44,000.00	44,000.00	44,000.00	44,000.00	44,000.00
Meetings	101.21		127.07	300.00	200.00
Postage, Delivery	635.78	21.24	33.30	300.00	300.00
Printing		600.00		500.00	500.00
Supplies	170.63	147.40	243.15	300.00	230.00
Travel	8,587.68	17,382.37	15,409.09	25,000.00	25,000.00
Strategy Implementation				3,000.00	10,000.00
	55,375.63	63,913.15	60,925.61	81,000.00	83,430.00

Reserves¹	
Rebuild CAETS Website	13,000.00

¹2018 Budget approved without funding for website upgrade; operating budget approved = \$74,000

²2019 Operating Budget based on approved 3% increase in dues

CAETS Rotation Schedule - 2018

BD Item 3.d - CAETS Rotation Schedule

Member Academy	Date Elected	Annual Meeting Host		Officer			Board			
				President Elect	President	Past President	Board	2018	2019	2020
Spain (RAI)	1999	2017	C	2016	2017	2018	2016	Elías Fereres		
Uruguay (ANIU)	2000	2018	C	2017	2018	2019	2017	Lucio Cáceres	Lucio Cáceres	
Sweden (IVA)	1978 (F)	2019	C	2018	2019	2020	2018	Tuula Teeri	Tuula Teeri	Tuula Teeri
Korea (NAEK)	2000	2020		2019	2020	2021	2019		Prof. Kwon Oh-Kyong	Prof. Kwon Oh-Kyong
Argentina (ANI)	1999	2021		2020	2021	2022	2020		Deferred 6/13/18	NOM (Pres-Elect)
France (NATF)	1989	2022		2021	2022	2023	2021			
Croatia (HATZ)	2000	2023		2022	2023	2024	2017	Vladimir Andročec		
Finland (TAF)	1989	2001	C	2023	2024	2025	2019		Dr. Panu Nykanen	Dr. Panu Nykanen
Czech Repubic (EA CR)	1999	2002		2024	2025	2026	2015			NOM (2020-2022)
USA (NAE)	1978 (F)	2003	C	2025	2026	2027	2018	Roger McCarthy	Roger McCarthy	
Norway (NTVA)	1990	2004					2015			NOM(2020-2022)
Germany (acatech)	2005						2017	Frank Behrendt		
Australia (ATSE)	1978 (F)	2005	C				2019		Prof. Hugh Bradlow	Prof. Hugh Bradlow
Belgium (BACAS)	1990	2006					2016			
Japan (EAI)	1990	2007	C				2016			
Netherlands (AcTI.nl)	1993	2008					2018	Lucas P. J. J. Noldus	Lucas P. J. J. Noldus	
Slovenia (IAS)	2000						2018	Prof. Stane Pejovnik	Prof. Stane Pejovnik	
South Africa (SAAE)	2009						2017	Trueman Goba		
Canada (CAE)	1991	2009	C				2015			NOM (2020-2022)
Denmark (ATV)	1987	2010					2016			
Mexico (AI)*	1978 (F)	2011	C				2016			
Switzerland (SATW)	1988	2012					2017	Ulrich (Ueli) W. Suter		
Hungary (HAE)	1995	2013					2018	István Králik	István Králik	
China (CAE)	1997	2014	C				2019		Prof. LI Xiaohong	Prof. LI Xiaohong
India (INAE)	1999	2015	C				2019		Dr. Sanak Mishra	Dr. Sanak Mishra
United Kingdom (RAEng)	1978 (F)	2016	C			2017	2015			NOM (2020-2022)
Secretary/Treasurer	2017							Ruth David	Ruth David	Ruth David

F - Founding Member

C - Convocation

*Formed in 2002 by merger of the National Academy of Engineering (Founding Member) and the Mexican Academy of Engineering

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2018 CAETS Board Membership:

Officers

Lucio Cáceres, Uruguay (ANIU) – CAETS President
Tuula Teeri, Sweden (IVA) – CAETS President-Elect
Elías Fereres, Spain (RAI) – CAETS Past-President
Ruth David, United States (NAE) – CAETS Secretary/Treasurer

Members 2017-2018

Vladimir Andročec, Croatia (HATZ)
Frank Behrendt, Germany (acatech)
Trueman Goba, South Africa (SAAE)
Ulrich (Ueli) Suter, Switzerland (SATW)

Members 2018-2019

Roger McCarthy, United States (NAE)
Lucas P. J. J. Noldus, Netherlands (AcTI.nl)
Stane Pejovnik, Slovenia (IAS)
István KRÁLIK, Hungary (HAE)

2019 CAETS Board Membership:

Officers

Tuula Teeri, Sweden (IVA) – CAETS President
Oh-Kyong Kwon (NAEK) – CAETS President-Elect – NOMINATED
Lucio Cáceres, Uruguay (ANIU) – CAETS Past-President
Ruth David, United States (NAE) – CAETS Secretary/Treasurer

Members 2018-2019

Roger McCarthy, United States (NAE)
Lucas P. J. J. Noldus, Netherlands (AcTI.nl)
Stane Pejovnik, Slovenia (IAS)
István KRÁLIK, Hungary (HAE)

Members 2019-2020 – NOMINATED

Hugh Bradlow, Australia (ATSE)*
LI Xiaohong, China (CAE)
Panu Nykanen, Finland (TAF)
Dr. Sanak Mishra, India (INAE)

*Argentina deferred 2019 Board Nominee due to expected nomination of President-Elect in 2020. Australia was next on the Rotation Schedule.



Professor Oh-Kyong Kwon
President of the National Academy of Engineering of Korea
HYU Distinguished Professor of Hanyang University

E-Mail: okwon@hanyang.ac.kr

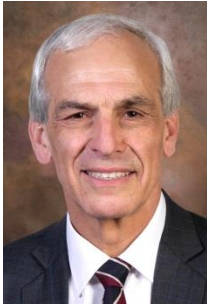
Dr. Oh-Kyong Kwon received the B.S. degree in electronic engineering from Hanyang University, Seoul, Korea, in 1978, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University, Stanford, CA, USA, in 1986 and 1988, respectively.

From 1987 to 1992, he was with the Semiconductor Process and Design Center, Texas Instruments Inc., Dallas, TX, USA, where he was engaged in the development of multichip module technologies and smart power integrated circuit technologies for automotive and flat panel display applications. In 1992, he joined Hanyang University, Seoul, Korea, as an assistant professor at the Department of Electronic Engineering, where he is now a distinguished professor. Dr. Kwon had served the positions of the Dean of Engineering School, and the Provost and the Senior Vice-President of Hanyang University. He also served as an Executive Vice-President of the National Academy of Engineering of Korea, where he is now a President.

Dr. Kwon had served as a committee member of IEEE International Solid-State Circuits Conference, IEEE International Electron Devices Meeting, and IEEE EDS Distinguished Lecturer. He received Fellow Award and Special Recognition Award from Society for Information Display, Appreciation Award from SEMI (Semiconductor Equipment and Materials International), Young Engineer Award from National Academy Engineering of Korea, and Best Patent Award from Korean Intellectual Property Office.

His research interests include mixed mode signal circuit design, analog front-end circuit design for various sensors and bio-medical instruments, the driving methods and circuits for flat panel displays, high-speed interface circuits for DRAM and display systems, smart power integrated circuit technologies, and electrical noise modeling for high-speed system-level integration. He has authored and co-authored over 345 international journal and conference papers and holds 229 U.S. patents.

ATSE BOARD OF DIRECTORS 2018



**Professor Hugh Bradlow FTSE
President**

Professor Bradlow is President of the Australian Academy of Technology and Engineering. He is also an independent Non-Executive Director of Silicon Quantum Computing Pty Ltd.

He was previously Chief Technology Officer and Head of Innovation at Telstra, responsible for the R&D of new technologies and their introduction into Telstra's business. Subsequently he became Chief Scientist at Telstra, in which role he advised the Telstra Board and management on the longer term technology directions and technology disruption anticipated to impact Telstra and its customers.

Before joining Telstra in September 1995, Professor Bradlow was Professor of Computer Engineering at the University of Wollongong in Australia and Professor of Electrical Engineering (Digital Systems) at the University of Cape Town.

Professor Bradlow is a graduate in electrical engineering from the University of Cape Town in 1973 and received the D.Phil. degree for research in experimental nuclear physics from the University of Oxford. He is an Emeritus Professor of the University of Wollongong, a Professorial Fellow of the University of Melbourne, and a recipient of a Centenary Medal from the Commonwealth of Australia.

He is globally recognised as a thought leader in telecommunications and was elected as the joint 2009 Australian Telecommunications Ambassador of the Year, named by Global Telecom Business as one of the most 100 most influential telecommunications executives in the world and Smart Company designated him as one of the 12 most influential people in Australian ICT.

Bio of Prof. LI Xiaohong



Prof. LI Xiaohong is the President of the Chinese Academy of Engineering (CAE). He holds a PhD in engineering and is a member of CAE. He also serves as a member of the Discipline Assessment Group of the Academic Degree Commission of the State Council, an Executive Director of China Coal Society, and a Chief Scientist of the 973 Program. His past positions include Vice Minister of Education of China, President of Wuhan University, President of Chongqing University, and the Director of the State Key Laboratory of Coal Mine Disaster Dynamics and Control.

Prof. LI studied in the Mining Department of Chongqing University during 1978 to 1985 and obtained his Bachelor's Degree and Master's Degree. In 1993, he obtained his PhD in mining engineering in Chongqing University. He was a research fellow at the University of California Berkley, USA from 1989 to 1991, and a visiting scholar at Queensland University of Technology, Australia in 1996.

As an expert in mining safety technologies, he has been committed to the research of coal mine gas control. His research has generated remarkable economic and social benefits through the new developments in ways to prevent mining gas accidents and improve gas mining efficiency. Prof. LI is a winner of the China National Funds for Distinguished Young Scientists and an honorary professor at the University of Queensland, Australia. Prof. LI has also been honored with the National Scientific and Technological Progress Award and international academic awards for several times. He has 6 books and over 200 papers published.

Prof. LI was a member of the 11th CPPCC, a representative of the 12th NPC, a delegate of the 18th CPC National Congress, and is now a member of the 19th CPC Central Committee.

1. Full name and date

- Nykänen, Panu Kullervo
- male
- CV 15.6.2018

2. Date and place of birth, nationality, current residence

- b. 17.3.1961 Tampere, Finland
- Finnish
- Kerkkoontie 189, 06530 Kerkkoo, Finland

3. Education and degrees awarded

- PhD, University of Helsinki, Finnish and Scandinavian history, y. 2000
- Phil. Lic. University of Helsinki, Finnish history, y. 1995
- Bachelor of Arts, University of Helsinki, archaeology, y. 1992
- title of docent: Finnish and Scandinavian history, University of Helsinki, 18.6.2014
- title of docent: History of technology, Helsinki University of Technology, 1.6.2005–31.5.2010

4. Other education and training, qualifications and skills

- Coast Guard Diploma, y. 2007
- CEVNI - Code européen des voies navigation intérieure diploma, y. 2010

5. Linguistic skills

- Finnish, mother tongue
- Swedish, English, some German, French

6. Current position

- Academy Secretary, Council of Finnish Academies CoFA. 28.8.2017 – 15.10.2018
- Secretary General, Finnish Academy of Technical Sciences TTA. Y. 2011–

7. Previous work experience

- Researcher, University of Jyväskylä, 1.6.2014–15.3.2017
- Secretary General, Council of Finnish Academies, 2013–2014
- Adjunct Professor, Aalto-University, 2010–2013
- Researcher, Helsinki University of Technology 1999–2010
- Several different positions, University of Helsinki, National Board of Antiquities etc.

8. Research funding as well as leadership and supervision

- Several research fundings, 1994–2015. Alfred Kordelin Foundation, Outokumpu Ltd Foundation, Hallin Foundation etc.

- Officially appointed supervisor to undergraduate and post-graduate students/doctoral students, several.

9. Merits in teaching and pedagogical competence (if required, complement by submitting a teaching portfolio)

- responsibility over several university courses e.g. Aalto-university Kon-0.4710 History of Industrialization - Suomen teollistumisen historia, Kon-4720 History of research and technology - teknillisen tutkimuksen ja opetuksen historia ja Kon-4730 Cultural history of Technology - Tekniikan kulttuurihistoria 2010, 2011 ja 2012. University of Jyväskylä HISA514 Euroopan taloushistoria, October 2015, 2016; History of Technology - Suomen tekniikan historia HISTPO16 helmikuussa 2015; HISA512 Changes in Economic history - Suomen elinkeinoelämää muuttavat tekijät October – November 2014; HISA511 Global Economy November 2015.

10. Awards, prizes and honours

- Society for the History of Technology in Finland, honorary member, y. 2008
- Society for the History of Technology in Finland, silver medal, y. 2002
- Right to use the cap of the engineering profession, y. 2001
- Honorary prize “pultti” N:o 8, Engineers Association in Helsinki – Helsingin Insinöörit, y. 2002

11. Other academic merits

- service as a pre-examiner or as an opponent of a doctoral dissertation, as a member in dissertation committees, several cases
- evaluation of academic/scientific or artistic competence (e.g. title of docent), several cases
- memberships and positions of trust in scientific and scholarly societies, Chair and secretary of the National committee for the history of technology, y. 2010–2017
- editor-in-chief, Tekniikan Waiheita, Finnish Journal for the History of Technology 1995 - 2001
- referee for scientific and scholarly journals

12. Scientific and societal impact of research

- total number of publications: 39 major publications (peer reviewed and monographs), app. 155 other articles (partly peer reviewed) and publications

13. Positions of trust in society and other societal merits

- Finnish Academy of Technical Sciences TTA, ordinary member 2009–
- Board member, Vice president International Council of Museums, International Committee University Museums and Collections UMAC 2007–2016
- Society for the History of Technology in Finland, Board member 2002–2013, 2015 –, Chair 2004–2007
- Universeum, European Academic Heritage network, Reflection group member 2007; Interim board member 2007–2010; Board member 2011–2012
- Finnish Armed forces, corporal 1981



Dr. Sanak Mishra

Dr Sanak Mishra is an icon of the Indian steel industry and is acclaimed as a brilliant scientist and Metallurgist. He is presently Senior Advisor, Mishra Dhatu Nigam Limited (MIDHANI), Hyderabad. Previously, he has held the appointments of Secretary General and Executive Head of the Indian Steel Association, and Vice President of ArcelorMittal and Chief Executive Officer of its Projects in India. He established in Kolkata the ArcelorMittal Design & Engineering Centre as a global group facility for the company. Earlier he had held the position of Managing Director of the Rourkela Steel Plant of the Steel Authority of India Ltd (SAIL). Dr Mishra obtained his B.E. degree in Metallurgy from the Indian Institute of Science, Bangalore. He then received M.S. and PhD degrees in Metallurgical Engineering from University of Illinois at Urbana-Champaign, USA. He is credited with the discovery of magnetic clusters in dilute alloy systems of iron, nickel and copper, and the discovery of the texture memory effect in grain-oriented electrical steels. In 1980, he had received the prestigious Alexander von Humboldt International Fellowship from Germany and spent two years as Visiting Scientist at the Aachen Technical University wherein he worked in the areas of deep drawing automotive steels and energy efficient electrical steels. He is a recipient of numerous awards and recognitions including the National Metallurgist Award from the Ministry of Steel, Government of India; JRD Tata Award for Excellence in Corporate Leadership in Metallurgical Industries and the Platinum Medal of the Indian Institute of Metals. He was conferred the Centenary Year Distinguished Alumni Award from the Indian Institute of Science, Bangalore in 2008, and the Distinguished Merit Alumni Award from the Department of Materials Science & Engineering at the University of Illinois at Urbana-Champaign (USA) in 2010. Dr. Mishra served as the President of the Indian Institute of Metals during 2009-10.

CAETS Dues Schedule

CO Item 5.b

Elected	Country	Academy		2017	2018	2019	2020
1978 (F)	Australia	Australian Academy of Technological Sciences and Engineering	ATSE	6000	6000	6180	6180
1997	China	Chinese Academy of Engineering	CAE	6000	6000	6180	6180
1999	India	Indian National Academy of Engineering	INAE	6000	6000	6180	6180
1990	Japan	The Engineering Academy of Japan	EAJ	6000	6000	6180	6180
1978(F)	United Kingdom	Royal Academy of Engineering, UK	RAEng	6000	6000	6180	6180
1978(F)	United States	National Academy of Engineering, US	NAE	6000	6000	6180	6180
1991	Canada	Canadian Academy of Engineering	CAE	3000	3000	3090	3090
1987	Denmark	Danish Academy of Technical Sciences	ATV	3000	3000	3090	3090
1989	Finland	Technology Academy Finland	TAF	3000	3000	3090	3090
1989	France	National Academy of Technologies of France	NATF	3000	3000	3090	3090
2005	Germany	German Academy of Science and Engineering	acatech	3000	3000	3090	3090
2000	Korea	The National Academy of Engineering of Korea	NAEK	3000	3000	3090	3090
1978 (F)	Mexico	Academy of Engineering, Mexico	AI	3000	3000	3090	3090
1990	Norway	Norwegian Academy of Technological Sciences	NTVA	3000	3000	3090	3090
1999	Spain	Royal Academy of Engineering, Spain	RAI	3000	3000	3090	3090
1978(F)	Sweden	Royal Swedish Academy of Engineering Sciences	IVA	3000	3000	3090	3090
1988	Switzerland	Swiss Academy of Engineering Sciences	SATW	3000	3000	3090	3090
1990	Belgium	Royal Belgium Academy of Applied Sciences	BACAS	2000	2000	2060	2060
1993	Netherlands	Netherlands Academy of Technology and Innovation	AcT.nl	2000	2000	2060	2060
2000	Uruguay	National Academy of Engineering of Uruguay	ANIU	2000	2000	2060	2060
1999	Argentina	National Academy of Engineering	ANI	1000	1000	1030	1030
2000	Croatia	Croatian Academy of Engineering	HATZ	1000	1000	1030	1030
1999	Czech Republic	Engineering Academy of the Czech Republic	EA CR	1000	1000	1030	1030
1995	Hungary	Hungarian Academy of Engineering	HAE	1000	1000	1030	1030
2000	Slovenia	Slovenian Academy of Engineering	IAS	1000	1000	1030	1030
2009	South Africa	South African Academy of Engineering	SAAE	1000	1000	1030	1030
				81000	81000	83430	83430

(F) - Founding Member

Report of the CAETS Visiting Committee to the Pakistan Academy of Engineering Karachi, Pakistan – May 1-2, 2018

Introduction

By letter to CAETS Secretary/Treasurer Ruth David, dated April 14, 2017, the President of PAE, Dr. -Ing. Jameel Ahmad Khan, asked that PAE be considered for membership in CAETS. The letter included as an attachment a copy of the Memorandum of Association of The Pakistan Academy of Engineering which delineates PAE Aims and Objects, By-laws, selection criteria for Fellows, functions of the Assembly (the highest decision-making body), and composition of the Council (provides day-to-day management of the PAE). Additional information relating to PAE qualifications for membership, including a summary of activities and audited financial statements is provided on the PAE website (www.pacadengg.org). In advance of the visit to the PAE, biographies of all Fellows were provided for review.

PAE President Dr. -Ing. Jameel Ahmed Khan has demonstrated sustained interest in CAETS activities, having attended CAETS Council Meetings as an observer in 2015 (Delhi, India), 2016 (London, UK), and 2017 (Madrid, Spain).

On-Site Due Diligence

The visit to the PAE headquarter in Karachi, Pakistan, took place May 1-2, 2018. CAETS representatives involved were Prof. Dr. Frank Behrendt (acatech, CAETS Board Member) as onsite visiting representative together with Eng. Lucio Cáceres (ANIU, CAETS President) and Dr. Ruth David (CAETS Secretary/Treasurer) who participated via teleconference.

Brief Summary of Agenda Highlights

PAE was represented by its President, Dr.-Ing. Jameel Ahmad Khan, as well as several members of its Council, the Executive Board and additional Fellows of the academy, including: Dr. Shahid Alam, Dr. Nasim A Khan, Dr. Afzal Haque, Dr. Noorullah Soomro, Dr. M. Imran Aslam, Dr. Azal Haque (Vice Chancellor of Sir Syed University), Dr. Mushahid H. Hashmi (Chairman Automotive Engineering Department, NED University), Dr. Ahmad Hussain (Director ORIC, SZABIST University), Mr. Nadeem Arif (Secretary Outreach Committee, PAE). The majority of the persons listed above attended the meeting continuously and were actively engaged in the discussions.

The full agenda for the visit is provided in Appendix A.

The meeting began with an introduction of the PAE Fellows present and a description of the background and history of the academy by PAE President Jameel Ahmad Khan. PAE was registered on December 20, 2013 as a Society under Pakistan's Societies Registration Act XII of 1860. On March 5, 2014, The Pakistan Academy of Engineering Endowment Fund was registered as a Trust under the Pakistan Trust Act of 1882. The Trust was established to do all acts and deeds required for efficient management of the PAE Endowment Fund so that sufficient resources are available to the PAE to carry out its objectives. Both entities filed for registration as non-profit organizations. The PAE expects the process of recognition to be completed at the end of the current financial year.¹ Further details with respect to the

¹ See ADDENDUM: Certifications granted May 8, 2018

financial situation of PAE will be discussed in the context of qualifications for membership in part f of this report.

The atmosphere of this two-day meeting was very open and friendly. All information and materials requested by the CAETS representative were supplied promptly, and questions were answered exhaustively. Consequently, it can be stated that based on the information supplied both prior to and during the visit, a solid foundation was established for the recommendation provided in the concluding section of this report.

The discussion between PAE and the CAETS representative followed the criteria for membership as defined in the CAETS Bylaws. Key elements of this discussion are summarized below.

Summary of PAE Qualifications for CAETS Membership

In accordance with CAETS Bylaws, Article 2 – Council Membership; Section – Criteria for Membership: A member of CAETS shall:

Be representative of the engineering and technological community of that country;

In accordance with Article 2 of its Memorandum of Association, PAE aims to promote the advancement of science, art, and practice of engineering for the benefit of Pakistan. It aims to be a national forum for discussions around these topics, and to give independent advice on them. These are classic objectives of CAETS member academies. Additional information regarding PAE's past and planned programs and activities is provided in part e.

PAE's fellowship is comprised of representatives from academia as well as industry. The biographies of the current fellows show that many of them are, or have been, in influential positions in engineering in both sectors. As one example, PAE's current president has been the chairman of the Pakistan Engineering Council and the President of the Pakistan Chamber of Engineers for six years each. Both bodies represent Pakistan's engineering profession across all disciplines. The current PAE fellowship reflects the breadth of engineering specialization in Pakistan, as evidenced by the biographies reviewed.

PAE clearly fulfills the requirement of this part of CAETS's Bylaws.

Subscribe to the nonpolitical, non-governmental international character of the Council;

PAE's only source of funds at present is the above-mentioned Pakistan Academy of Engineering Endowment Fund, a non-profit organization. This is motivated and justified by the academy's wish to stay clear of governmental financing to avoid any kind of dependency. This allows PAE to fulfill the non-political, non-governmental character to be honored by all CAETS member academies.

PAE also has demonstrated international engagement through its interactions with Industry, Associations, Consultants, Government agencies, Academia & Engineering bodies. *A list summarizing organizational interactions is provided in Appendix B.*

PAE clearly fulfills the requirement of this part of CAETS's Bylaws.

Have a peer elected membership with criteria for election based on significant personal contributions to engineering, technological sciences, or related activities;

PAE Membership is by invitation only, based on clear criteria requiring candidates to have at least a PhD in engineering or equivalent degree from a recognized institution. Further, in accordance with PAE By-Laws, Article 4, “the fellowship shall be interpreted to include important or unusual personal contributions or accomplishments and may be in 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.” It is expected that the Fellows together cover all relevant fields of engineering. Foreign Fellows may not constitute more than 20 percent of the membership.

The current number of Fellows is 37. PAE expects to grow steadily in the coming years until the total number of 100 set by PAE By-Laws is achieved. The annual growth rate should not exceed 25 fellows.

One aspect which needs to be better-aligned with respect to CAETS Bylaws is that currently PAE’S Council (President, one of the Founding Fellows of the academy as Vice-President, five Fellows elected by the membership, and the Executive Secretary as a non-voting member) elects new Fellows from the list of candidates nominated by current Fellows. The term “peer-elected membership” aims at having new Fellows elected by all existing Fellows rather than by a selected subset (e.g. Council). The future role of the Council with respect to the election could be one of a selection committee forwarding a list of vetted candidates to the full membership for vote. PAE’S leadership agreed to adopt this change and will submit a statement regarding this to CAETS. The formal adaption of the By-Laws will be a multi-year effort due to the way the Pakistani administration deals with such matters.²

Be governed by its elected membership;

While the PAE’S Council was elected by the fellowship, membership in this body is currently for life, with the need for stability and continuity during the start-up period of the academy given as reason. The current Council is the driving force for the activities of the academy. PAE’S leadership agreed to adopt terms for Council members as well as rules limiting the number of terms to which a Fellow can be elected. A statement regarding the necessary change of the By-Laws will be submitted to CAETS.²

Appropriate term limits and rules also will be implemented for the PAE’S officers (President, Vice-President, etc.). A term length of 3 to 5 years will be discussed. Again, a statement regarding the necessary change of the By-Laws will be submitted to CAETS.²

Be engaged in significant activities demonstrating that its objectives are compatible with the objectives of CAETS;

PAE established a series of half-day symposia (typically three per year) functioning as key exchange mechanisms between academia, government and industry. Titles of recent symposia are (*a more comprehensive list of past and planned symposia is provided in Appendix C*):

- Innovative Thar Coal Value Chain (2017)
- Hydrogen, Carbon-Free-Fuel, Democratizing the Energy (2017)
- Cybersecurity - Where do we stand? (2017)

² See ADDENDUM Statement of Intent 14 May 2018; Adopted by PAE Assembly 4 August 2018

- Prospects of Mini Nuclear Power Plants in Pakistan (2018)

In addition to the series, five institutes (similar to, e.g., topical networks of fellows of acatech) have been established by PAE:

- The Institute of Technology Assessment and Transfer
- Centre for Advanced Energy Studies
- Water & Wastewater Technologies
- Institute of Manpower Dynamics
- Institute of Cybersecurity Management

In these institute/workgroups, Fellows of PAE and others generate reports, studies, and other publications relating to the respective topics.

PAE also employs a “Knowledge Forum” model to share information relating to selected “Technology Alerts.” *(a summary of related activities is provided in Appendix D).*

PAE clearly fulfills the requirement of this part of CAETS’s Bylaws.

Have sufficient financial support to pay the costs of CAETS membership and the costs of participation in CAETS activities.

The above-mentioned Trust (Pakistan Academy of Engineering Endowment Fund) based on long-term commitments by engineering individuals for the basis for a sustainable operation of the academy. The application for being accepted as tax-free entity has been submitted for both the trust and the academy and is expected to be granted in the upcoming months.³

Currently, the trust pays for staff, rent, . of the academy to avoid a double taxation until the tax-free status is achieved. Audited financial statements are available on the academy’s website for both entities.

After receiving the tax exemption for both entities, the trust will act as money collector from supporters and “treasure chest” supporting the academy by transferring annual lump sums to it. The operational budget will then be within the Academy.

The expected annual budget of approximately \$50,000 to \$100,000 USD will be sufficient for a sustainable operation of PAE within CAETS’s framework.

PAE clearly fulfills the requirement of this part of CAETS’s Bylaws.

Recommendation to Council

On the basis of PAE’s presentations and subsequent discussions, with particular attention to its statutes, reputation, financial strength and impressive recent record, the CAETS Visiting Committee agreed that PAE fully meets the criteria for membership of CAETS (Section 3 of the Bylaws). The Committee concluded, therefore, that there is a compelling case for its election to CAETS at the meeting of Council on 13 September 2018.

³ See ADDENDUM: Certifications granted 8 May 2018

Appendix A. Agenda for Visit

Agenda for CAETS Team Visit to the PAE

CAETS Officers: Name: Mr. Lucio Caceres, President
Name: Dr. Frank Behrendt, Board Member

Focal Person: Name: Dr.-Ing. Jameel Ahmad Khan
Designation: President

Visit Scheduled On: May 1 & 2, 2018

Details of the Schedule:**May 1, 2018**

ITEM	TIMING
• Arrival of CAETS Team at the PAE's Head Office	1300hrs
• Welcome of CAETS Team by the President, PAE	1305hrs – 1310hrs
• Introduction of CAETS & PAE team members and quick tour to the Academy Facility	1310hrs – 1330hrs
• Lunch Break	1331hrs – 1440hrs
• General Discussion by the CAETS team on the Criteria for the membership and the membership application	1441hrs – 1520hrs
• Introduction of PAE by Dr.-Ing. Jameel Ahmad Khan, President	1521hrs – 1600hrs
• Conduct of Business during the last four years by the Fellows of PAE (Dr. Shahid Alam, Dr. Nasim A Khan, Dr. Afzal Haque, Dr. Noorullah Soomro and Dr. M. Imran Aslam)	1601hrs – 1630hrs
• General Discussion with Council and Fellow members on the CAETS membership expectations for both CAETS and PAE including Feedback & Review	1631hrs – 1655hrs
Break before Video Telecom	1656hrs – 1659hrs
• Skype Call / Telecom with Mr. Lucio Caceres & Dr. Ruth A. David	1700hrs – 1830hrs
• Departure for Hotel	1845hrs

May 2, 2018

ITEM	TIMING
• Arrival CAETS Team at the PAE's Head Office	0930hrs
• Meeting with Dr. Azal Haque, Vice Chancellor of Sir Syed University	0930hrs – 1030hrs
• Meeting with Dr. Mushahid H. Hashmi, Chairman Automotive Engineering Department, NED University	1031hrs – 1130hrs
• Meeting with Dr. Ahmad Hussain, Director ORIC, SZABIST University	1131hrs – 1230hrs
• Meeting with Mr. Nadeem Arif, Secretary Outreach Committee, PAE	1231hrs – 1330hrs
• Lunch Break	1331hrs – 1430hrs
• General discussion, review and feedback by CAETS team	1431hrs – 1645hrs
Break before Video Telecom	1646hrs – 1659hrs
• Skype Call / Telecom with Mr. Lucio Caceres & Dr. Ruth A. David	1700hrs – 1830hrs
• Departure for Hotel	1845hrs

Appendix B. – PAE Interactions

PAE is already interacting with Industry, Associations, Consultants, Government agencies, Academia & Engineering bodies.

This includes:

a. Industries (Mills, Constructors, Banks, Cybersecurity & Engineering Consultants, Firms etc.) :-

1. Indus Motors Co. Ltd.
2. Merck (Pvt.) Ltd.
3. Thal Engineering
4. Cargill Pakistan Holdings (Pvt.) Ltd.
5. Sindh Engro Coal Mining Company (SECMC)
6. Principal Builders
7. Ravian Maritime (Pvt.) Ltd.
8. Sui Southern Gas Company Ltd.
9. McDonald's – SIZA Foods (Pvt.) Ltd.
10. EMC Pakistan (Pvt.) Ltd.
11. Nippon Steel & Sumikin Engineering Co. Ltd.
12. Chiyoda U Tech Co. Ltd.
13. Linde Pakistan Ltd.
14. M11 Group, Canada
15. Trend Micro
16. Bank Al-Habib Ltd.
17. Mr. Mohammad Irshad, Consultant Nuclear Power Plants, Lincoln, California, USA
18. Exponent Engineers (Pvt.) Ltd.
19. Osmani & CO.
20. Silicon Valley Builders, USA - (Mr. Mike Zaidi)
21. Mr. Shakeel Rahman, Consultant Operational Analysis, Health Care, USA
22. National Bank of Pakistan
23. Engineering Services Group, USA
24. Kia Lucky Motors Pakistan Limited
25. Technology Links (Pvt.) Ltd.
26. International Steels Limited
27. National Refinery Limited
28. EA Consulting (Pvt.) Ltd.
29. DHA Cogen Limited
30. Engineering Consultants International (Pvt.) Ltd.
31. Zishan Engineers (Pvt.) Ltd.
32. Pakistan Refinery Limited (PRL)
33. Habibullah Associates (Pvt.) Ltd.
34. MOORE STEPHENS – Shekha & Mufti Chartered Accountants
35. Qavi & Company Chartered Accountants

36. Lear Corporation - USA
37. Premier Systems (Pvt) Ltd.
38. Environmental Consultancy Services (ECS)
39. DICE Foundation – USA
40. MM Pakistan (Pvt.) Ltd.
41. Al-Abbas Printers
42. Friends Construction Syndicate (Pvt.) Ltd.
43. SOILMAT Engineers (SME)
44. Insight Engineering
45. House of Habib
46. ESS.IAAR (Planning, Engineering & Services Consultants)
47. Pakistan International Airline (PIA)
48. Japan Coal Energy Center (JCOAL)
49. SIEMENS Saudi Arabia
50. Habib Metropolitan bank Ltd.
51. Civil and Structural Engineering Consultants, Karachi
52. AAA Partnership (Pvt.) Ltd.
53. NESPAK Karachi Office

b. Academia & Agencies (Government/Private):-

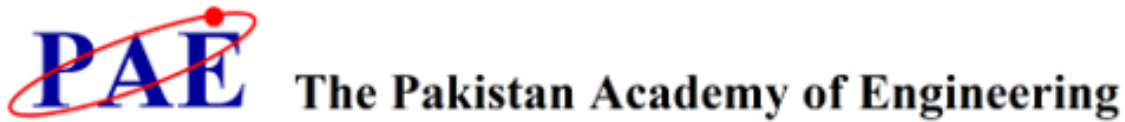
1. Institute of Applied Energy, Japan (IAE)
2. Pakistan Japan Business Forum
3. Pakistan Atomic Energy Commission (PAEC)
4. Pakistan Science Foundation (PSF)
5. Pakistan Scientific and Technological Information Centre (PASTIC)
6. National Engineering and Scientific Commission (NESCOM)
7. Indus University
8. NED University of Engineering & Technology (NEDUET)
9. Hamdard University
10. International Council of Academies of Engineering & Technological Sciences, INC.
(CAETS)
11. Information Systems Audit and Control Association (ISACA)
12. The Citizens Foundation (TCF)
13. National University of Computer and Emerging Sciences (NUCES-FAST)
14. SZABIST University
15. Usman Institute of Technology (UIT)
16. GIK Institute of Engineering, Sciences and Technology
17. Sir Syed University of Engineering & Technology (SSUET)
18. Newports Institute of Communication & Economics
19. Dawood University of Engineering and Technology
20. Pakistan American Cultural Center (PACC)
21. Aviation Institute of Management (AIM)
22. PAF Karachi Institute of Economics and Technology (PAEF KIET)
23. SAARC Energy Centre
24. Asian Institute for Environmental Research & Energy (A-ENERGY)
25. Institute of Business Management (IBM)
26. Pakistan Workers Federation (PWF)

27. Medicell Institute of Higher Education & Training
28. Shehri-Citizens for a Better Environment (Shehri-CBE)
29. Jang Group of Newspapers
30. Nawa-i-Waqt Group
31. Thar Coal & Energy Board (TCEB)
32. Dept. of Physical Medicine and Rehabilitation JPMC Karachi
33. DHA Suffa University
34. Asia Pacific Union for Housing Finance (APUHF)
35. Pakistan Council of Scientific & Industrial Research (PCSIR)
36. Deutscher Akademischer Austauschdienst – German Academic Exchange Service (DAAD Pakistan)
37. Goethe-Institut Pakistan – German Cultural Center
38. National Organisation Wasserstoff - und Brennstoffzellentechnologie, Germany
39. Energy Dept. Govt. of Sindh
40. Karachi Development Authority (KDA)
41. NEDIAN Social Engineers Trust (NEDIAN SET)
42. Korea Atomic Energy Research Institute (KAERI)
43. Ummul Qura University, Makkah, Saudi Arabia
44. Mehran University of Engineering & Technology (MUET)
45. Pakistan Centre for Philanthropy (PCP)
46. National University of Sciences and Technology (NUST)
47. Space & Upper Atmosphere Research Commission (SUPARCO)

c. Consulates & Embassies:-

1. U.S. Consulate General Karachi
2. Consulate General of the Islamic Republic of IRAN Karachi
3. Consulate-General of Japan in Karachi

Appendix C. PAE Symposia



List of Symposia:

- **Symposium 1:**
Prospects of E-MOBILITY in Karachi
(December 20, 2014)
- **Symposium 2:**
Engineering and Health Care Nexus in Pakistan
(June 13, 2015)
- **Symposium 3:**
Industrial Renaissance and Competitiveness for Pakistan
(August 1, 2015)
- **Symposium 4:**
Drinking Water
(October 31, 2015)
- **Symposium 5:**
Coal-to-Liquids (CTL) Technology for Pakistan
(January 30, 2016)
- **Symposium 6:**
Additive Manufacturing
(July 30, 2016)
- **Symposium 7:**
Innovative Thar Coal Value Chain
(February 04, 2017)
- **Symposium 8:**
Hydrogen, Carbon-Free-Fuel, Democratizing the Energy
(July 01, 2017)



The Pakistan Academy of Engineering

- **Symposium 9:**
Cybersecurity – Where do we stand?
(December 16, 2017)
- **Symposium 10:**
Prospects of Mini Nuclear Power Plants in Pakistan
(April 28, 2018)
- **Symposium 11:**
Our Mineral Resources – The Most Neglected Sector
(November 03, 2018)
- **Symposium 12:**
Bioeconomy & Engineering Nexus
(March 02, 2019)
- **Symposium 13:**
Preparing for Our Digital Economy
(July 06, 2019)

Appendix D. Knowledge Forum



The Pakistan Academy of Engineering

Knowledge Forum

LIST OF PROGRAMMES

- 1. Wireless Power Transfer – Application in Hybrid – Electric Vehicles**
(October 03, 2015)
- 2. Digital Transformation**
(March 19, 2016)
- 3. Advances in Engineering Education**
(July 16, 2016)
- 4. Wind Farming in Pakistan**
(October 01, 2016)
- 5. Dematerialization and its impact on Industry**
(December 31, 2016)
- 6. Profile of the Future Engineer**
(September 23, 2017)
- 7. Business Strategy for Engineering Organizations in Pakistan**
(February 03, 2018)
- 8. Materials Science and Engineering of Epoxy Based Composites**
(May 05, 2018)



Pakistan Centre *for* Philanthropy

(The first NPO Certification Agency, authorized by The Government of Pakistan vide notification No.1116 (I)/2003)

Pakistan Centre *for* Philanthropy hereby certifies that
according to the records of the organization

The Pakistan Academy of Engineering

is certified as per NPO evaluation standards notified by FBR.


Executive Director



PCP-2018/582

Certification No.

8-05-2018

Issued on

8-05-2021

Valid up to

Islamabad

Place of issue

Certification Expiry:

- Validity of regular certification is:
Three (3) years from the time of issuance.
- Validity of provisional certification is:
One (1) or two (2) years from the time of issuance.

Disclaimer

PCP certification is based on an examination of the NGOs/ INGO's functioning and performance during the last one/ two/ three years in the light of its objectives as stated in its governing document and certifies that the organisation meets the requirements as per the set standards notified by FBR. All opinions expressed in this report are based on the information provided by the organisation. PCP does not take any responsibility for, nor makes any express or implied guarantee as to the accuracy or the comprehensiveness of this information as only the information provided voluntarily by the organisation forms the basis of this report. Certification by PCP is voluntary and optional does not guarantee non-profit status, as this is a matter for determination by FBR and the relevant Commissioner of Inland Revenue. Furthermore, PCP certification is not a security clearance and PCP does not give any security clearance. All NGOs/INGOs are still subject to security clearance from the Ministry of Interior and other concerned Ministries and Law Enforcement Agencies of the Government of Pakistan and other Provincial Governments.

*We recommend contacting PCP office for verification / validation of the Certification Award.
Contact us: +92 51 2286531-32 Email: mail@pcp.org.pk or visit our website at www.pcp.org.pk*



Pakistan Centre *for* Philanthropy

(The first NPO Certification Agency, authorized by The Government of Pakistan vide notification No.1116 (I)/2003)

Pakistan Centre *for* Philanthropy hereby certifies that
according to the records of the organization

Pakistan Academy of Engineering- Endowment Fund

is certified as per NPO evaluation standards notified by FBR.


Executive Director

PCP-2018/583

Certification No.

8-05-2018

Issued on

8-05-2021

Valid up to

Islamabad

Place of issue

Certification Expiry:

- Validity of regular certification is:
Three (3) years from the time of issuance.
- Validity of provisional certification is:
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Acad. Ingr. Lucio Caceres
President, CAETS

May 14, 2018

**Subject: Statement of Intent regarding fulfilment of the relevant part of
CAETS By-laws**

Dear Mr. President

In pursuance of the discussion and agreement, arrived at the CAETS Assessment Meeting held on May 01 and 02, 2018 at the PAE head office, we are pleased to present our Statement of Intent in order to have an alignment with CAETS By-laws.

PAE will introduce the following Amendments in its By-laws:

1. Amendment in the Article 4.2

There shall be upto twenty but not less than ten fellows. Subsequently, other fellows shall be elected by invitation only and not more than twenty-five each year from the nominations made by the Peer Committee constituted under Article 6.10.1. They will put up to the Council for Consideration and finally approved by the Assembly with three fourth majority of the fellows present in the Assembly. Total number of fellows shall not exceed one hundred at any time unless and otherwise decided by the Assembly with three fourth majority.

2. Amendment in the Article 6.1

There shall be a Council consisting of, all the times, not less then 7 fellows including the President of the Academy. The Council shall comprise the following members:

- | | |
|---|-----------------|
| • President of the Academy | - Chairman |
| • One fellow to be nominated by the President | - Vice Chairman |
| • Five fellows to be elected by the Assembly of the Academy (except foreign fellows) for a period of three years with an aggregate elected term of fifteen years. | - Members |
| • Executive Secretary | - Non-voting |

3. Amendment in the Article 6.7.3.2

On vacation of the office of a Council member in consequence of happening of any of the above mentioned event, the Assembly shall re-elect another fellow as a member of the Council.

4. Amendment in the Article 6.11.1.1

There shall be a President of the Academy to be elected by the Assembly for a period of three years with an aggregate elected term of fifteen years.

Under Article 11.0 the above noted amendments duly approved by the Assembly will be submitted to the Federal Board of Revenue and the Commissioner of Income Tax concerned for approval. Subsequently, the amendments will be submitted to the Provincial Assistant Registrar, Joint Stock Companies, Sindh, Karachi for registration.

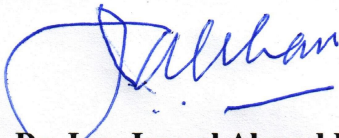
We hope that the above Statement of Intent will satisfy CAETS to proceed with the regularisation of membership of the Pakistan Academy of Engineering.

The entire legislative process will take considerable time please.

Thanking you.

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

CC:

1. Dr. Ruth David, General Secretary, Treasurer, CAETS
2. Prof. Dr. Frank Behrendt, Member BoD, CAETS.

**Resolution of the Amendments in the By-Laws of PAE passed
in the Fifth (5th) PAE Annual Assembly Meeting
held on August 04, 2018**

After discussion, clarifications and approval by the Council of the proposed amendments in the By-Laws of PAE in order to have an alignment with CAETS and PCP, it was decided as follows:

Resolution No. AA-5.10

Resolved unanimously that the Assembly of PAE approves the Amendments in the By-Laws of PAE in response to the proposal submitted by Dr. Syed Muhammad Usman Ali and seconded by Dr. Muhammad Imran Aslam after the approval by the Council of PAE in response to the proposal submitted by Dr. Afzal Haque and seconded by Dr. Noorullah Soomro. The Amendments are enumerated as follows:

Amendments in the By-Laws of PAE

1. Amendment in the Article 4.2

There shall be upto twenty but not less than ten fellows. Subsequently, other fellows shall be elected by invitation only and not more than twenty-five each year from the nominations made by the Peer Committee constituted under Article 6.10.1. They will put up to the Council for Consideration and finally approved by the Assembly with three fourth majority of the fellows present in the Assembly. Total number of fellows shall not exceed one hundred at any time unless and otherwise decided by the Assembly with three fourth majority.

2. Amendment in the Article 6.1

There shall be a Council consisting of, all the times, not less than 7 fellows including the President of the Academy. The Council shall comprise the following members:

- President of the Academy - Chairman
- One fellow to be nominated by the President - Vice Chairman

- Five fellows to be elected by the Assembly of the Academy (except foreign fellows) for a period of three years with an aggregate elected term of fifteen years. - Members
- Executive Secretary - Non-voting

3. Amendment in the Article 6.7.3.2

On vacation of the office of a Council member in consequence of happening of any of the above mentioned event, the Assembly shall re-elect another fellow as a member of the Council.

4. Amendment in the Article 6.8.4.2

In pursuance of the Income Tax Rules, 2002, Clause 213 (b), it is proposed to amend the Rule No. 6.8.4.2 of PAE By - Laws:

“Resolved that the Rule No. 6.8.4.2 of the Pakistan Academy of Engineering By - Laws is amended as follows:

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

5. Amendment in the Article 6.11.1.1

There shall be a President of the Academy to be elected by the Assembly for a period of three years with an aggregate elected term of fifteen years.

6. Amendment in the Article 8.2.1

All money received by the Academy shall be deposited in the name of “PAKISTAN ACADEMY OF ENGINEERING” with any schedule bank of Pakistan provided the Council and authorised staff may keep a sum not exceeding **Rs.30,000/-** to meet day-to-day expenses

Under Article 11.0 the above noted amendments, duly approved by the Assembly of PAE will be submitted to the Federal Board of Revenue (FBR) and the Commissioner of Income Tax concerned for approval. Subsequently, the amendments will be submitted to the Provincial Assistant Registrar, Joint Stock Companies, Sindh, Karachi for registration.