



Board Meeting Agenda

Monday, September 10, 2018 – 0900 - 1200

Sheraton Montevideo Hotel

Victor Solino 349, Punta Carretas, Montevideo, Uruguay

Board Members

Acad. Eng. Lucio Cáceres (President)

Dr. Elías Fereres (Past-President)

Dr. Tuula Teeri (President-Elect)

Dr. Ruth David (Secretary/Treasurer)

Roger McCarthy (United States)

Lucas P. J. J. Noldus (Netherlands)

Vladimir Androžec, Croatia

Frank Behrendt (Germany)

Trueman Goba (South Africa)

Ulrich Suter (Switzerland)

Prof. Stane Pejovnik (Slovenia)

István Králik (Hungary)

1. Welcome and approval of agenda
2. Approval of Board Minutes of November 13, 2017
3. Report of the Secretary/Treasurer
 - a. Audit Committee: 2017 Financial Audit
 - b. 2018 Financial Status and Banking Relationships
 - c. 2019 Operating Budget
 - d. Rotation Schedule
 - e. IAP-R (InterAcademy Partnership for Research)

4. Discussion: CAETS Statements

Purpose: Given the experience of the past 2 years, it seems that there are differing views among member academies regarding the appropriate substance, form, and target audience for CAETS statements. It would be useful to agree upon key elements that could be presented to the Council for their endorsement.

Coffee Break

5. CAETS Website Requirements

Purpose: In attempting to get competitive quotes for a rebuild of the CAETS website it became clear that a solid requirements document is needed in order to effectively evaluate submissions. Advance materials will include a draft document showing core requirements and options from the Sec/Treas perspective; it would be helpful to have inputs from the Board regarding the most valuable options that should be considered.

6. CAETS Discussion Groups (2018 and 2019)
7. New Business

Adjourn

Monday, November 13, 2017 – 14:30—17:00

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

Participation**Board Members:**

Dr. Elías Fereres (President), RAI	Martin Philip Bendsoe, ATV
Dame Ann Dowling (Past-President), RAEng	Jaime Parada, AI
Acad. Eng. Lucio Cáceres (President-Elect), ANIU	Vladimir Androcec, HATZ
Dr. Ruth David (Secretary/Treasurer), NAE	Frank Behrendt, acatech
Paul Verstraeten, BACAS	Trueman Goba, SAAE
Hideaki Koizumi, EAJ	Ulrich Suter, SATW

Guests:

Hugh Bradlow, ATSE	Matt Wenham, ATSE
Andrianna Gamboggi, ANIU	Samantha Frost, RAEng
Andrew Clark, RAEng	Shane McHugh, RAEng
István Králik, HAE	

1. Welcome and approval of agenda

The president welcomed attendees to the Real Academia de Ingenieria facilities and offered brief comments in remembrance of Bill Salmon. The agenda was approved as presented.

2. Approval of Board Minutes of 12 September 2016

The minutes were approved as presented.

3. Report of the Secretary/Treasurer

- a. Audit Committee: 2017 Financial Audit**
- b. 2017 Financial Status**
- c. 2018 Operating Budget**
- d. CAETS Website**
- e. Rotation Schedule**

The Secretary/Treasurer reported that the CAETS 2016 Financial Audit was complete and that no issues had been identified by the Audit Committee; a copy of the audit report was provided for information. She provided an update regarding to the establishment of a new account with Bank of America; the long-standing USAA account will be closed out over the next year as they no longer support either check-writing or direct acceptance of foreign wire transfers. A year-to-date financial summary was provided; current and projected 2017 operating expenses are below the approved budget. A proposed 2018 Operating Budget was proposed and approved with the exception of a proposed expenditure for upgrading of

the CAETS website. Board Members felt that the cost proposal provided by the current vendor was insufficiently detailed and that the costs were excessive. The proposed upgrade will not proceed absent agreement by Board Member Frank Behrendt that the proposed costs are aligned with the agreed upon services. Additionally, alternate hosting services will be considered, as the current website is maintained under an agreement with the US NAE. The updated CAETS Rotation Schedule was provided for information.

4. Continuation of CAETS Theme: *Engineering a Better World*

Board Members observed that the “Engineering a Better World” theme is well-aligned with the UN Sustainable Development Goals and agreed to recommend ongoing use to the Council.

5. Inter-Academy Partnership

After discussion of the recently restructured InterAcademy Partnership (IAP), Board Members agreed that CAETS should focus initially on identification of opportunities to engage via the IAP for Research (IAP-R) component. The Secretary/Treasurer agreed to establish communications with the IAP-R Secretariat.

Coffee Break

6. CAETS/WFEO Cooperation

WFEO had indicated interest in collaborating with CAETS on a project relating to expansion of diversity in the engineering profession. RAEng, which agreed to lead the discussion of diversity during the CAETS annual meeting, reported that absent a clearly defined project it was difficult to scope a potential collaborative effort with WFEO. Instead, RAEng will work first with other CAETS Members to share best practices and determine whether there is interest in establishing a CAETS project in this area.

7. CAETS Discussion Topics for 2018

Two broad topic areas were identified for consideration; the Secretary/Treasurer agreed to draft brief descriptions of each and circulate to assess CAETS member interest in advance of the 2018 annual meeting. The topics are summarized below.

- *How do engineering academies interact with the public? Are there best practices that can be distilled from CAETS Member academies? What might CAETS do to communicate the value of engineering to society, policy-makers, and other stakeholders?*
- *Engineering education—is it changing? Is quality improving? Are new technologies being used? Are curricula changing? How are topics like project-based education, multi-disciplinary education, and innovation being integrated?*

8. CAETS Committees

The Board discussion included several topics, including content and audience for CAETS papers/reports, as well as how the CAETS website might more effectively support the work

of committees. There was general agreement that sharing of information and best practices among CAETS members is of primary importance but expanding those efforts to inform the public and other key stakeholders on broadly relevant topics is a worthy objective. It was noted that an upgraded CAETS website should include the capability to support work-in-progress by CAETS committees, enabling them to upload and share intermediate work products in private (not viewable by the public) spaces. There also was some discussion of establishing a moderated forum which would enable direct public engagement around CAETS papers/publications. Two topics were identified that might form the basis for new CAETS committees: Engineering Education and Engineering for Sustainable Development Goals. The Secretary/Treasurer agreed to consider this discussion in scoping an upgraded CAETS website.

9. New Business

No new business was brought forward; the Board 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

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

NET ASSETS	<u>272,129.54</u>
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Total Liabilities and Net Assets	303,121.58
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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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WCS 17Mar2017

2018 Financial Status

Board Agenda Item 3.b

CAETS OPERATIONS	FY2015 Audited	FY2016 Audited	FY2017 Audited	FY 2018 Budget¹	FY2018 Year-to-Date	FY2018 Projected
Dues				81,000.00	80,811.00	80,811.00
Net (less fees/exch)	77,286.97	79,975.20	84,494.20			
Operating Expenses						
Communications ³	1,538.20	531.36			510.79	1,000.00
Website Upgrade ¹				7,000.00	-	-
Equipment	342.13	1,230.78		500.00	-	-
Legal-Professional Fees			1,113.00	100.00	162.00	250.00
Management Fee	44,000.00	44,000.00	44,000.00	44,000.00	22,000.00	44,000.00
Meetings	101.21		127.07	300.00	-	-
Postage, Delivery	635.78	21.24	33.30	300.00	183.12	250.00
Printing		600.00		500.00	-	-
Supplies	170.63	147.40	243.15	300.00	88.73	150.00
Travel	8,587.68	17,382.37	15,409.09	25,000.00	12,339.20	22,000.00
Strategy Implementation ²				3,000.00	2,887.70	2,887.70
	55,375.63	63,913.15	60,925.61	81,000.00	38,171.54	70,537.70

Approved FY2018 Operating Budget

74,000.00

2018 Dues Receipts based on 6 at \$1K; 3 at \$2K; 11 at \$3K; 6 at \$6K

¹FY2018 Operating Budget approved 13 November 2017 without authorizing funds for website

²PAE Due Diligence - Costs reimbursed to Frank Behrendt

³Telecons with IVA (4/4, 4/28, 6/14)

CAETS Assets

USAA Account (funds transferred to Bank of America 7/30)		0
Interest Recorded 7/31	0.50	0.50
Balance on 7/31/18		0.50
Check issued to close account	0.5	0
Bank of America		
Balance on 7/31/18		338,901.93
Checks Pending	24,058.36	314,843.57

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

InterAcademy Partnership for Research Board Meeting Notes

London, UK

8 February 2018

Action Items and Updates

- Daya Reddy and Richard Catlow: finalize research evaluation proposal (in progress)
- Thierry Courvoisier and the Royal Society: draft a scoping paper on the consequences to changes in ocean circulation (on hold in light of amount of current activity on this topic)
- Giulio Cossu: draft a scoping paper on an IAP project on regenerative medicine
- Teresa Stoepler and Peter McGrath: draft a letter introduction to the new UN Secretary General, António Guterres. Include a pitch on updating the IAP report, *Inventing a Better Future*, in light of changes since then and the SDGs that could result/tie-in the project idea, “Quantifying the Benefit of Human Capital” (letter finalized and will be sent soon)
- Teresa Stoepler and the Royal Scientific Society of Jordan: Identify leads to develop a scoping paper on the Academia-Industry Partnership idea as the basis for funding proposals (in progress)
- Teresa Stoepler and the Australian Academy of Science: Identify leads to develop a scoping paper on the “Quantifying human capital in science” idea as the basis for funding proposals (in progress)
- Nadira Karunaweera: contact the IAP regional networks regarding a project on gender mainstreaming, holding conference calls and then deciding how to proceed

Welcome and introductions

- 1 Richard Catlow and Daya Reddy, co-chairs of the InterAcademy Partnership (IAP) for Research opened the meeting, welcomed all attendees, and gave a special welcome to the new IAP-R Board members in attendance. This meeting was borne out of an idea at the last IAP-R meeting in October 2017 in Berlin, where we did not have the time to commit to developing project ideas. Part of this meeting will be to take stock of the vision of IAP-R, strategies, objectives, and what can and should be done differently moving forward. Reddy outlined the agenda, requested approval of the October meeting minutes, and adopted the minutes as they stand in the agenda book.

Executive Director’s Report

- 2 Teresa Stoepler, Executive Director of IAP-R provided the Executive Director’s report. Since October 2017, the organization has gone through a significant transition period:
 - In November, the board voted to dissolve the InterAcademy Council (IAC), establish IAP-R, and transfer all assets from IAC to IAP-R
 - In December, IAP-R was legally incorporated as a U.S. Limited Liability Corporation (LLC) in Delaware
 - Stoepler has led the organization in hiring an accountant, opening a bank account, and securing a temporary treasurer—Janine Purcaro, CFO of the Institute for Advanced Study (IAS). Janine has been involved with IAP-R through IAS’ role as the fiscal sponsor of the two Carnegie projects
 - The joint IAP website has been live since December 2017

- IAC is in final steps of dissolution. Once the dissolution has been posted in a Dutch newspaper for 60 days, the second and final transfer of assets will be made to IAP-R, completing the process
- The next steps are to draft an operating agreement and management policies for IAP-R; many of the statutes will carry over from IAC, but this does present an opportunity to review processes such as study and report review. Attendees of this meeting may be asked to volunteer to join sub-committees to review these processes
- Next steps also include purchasing insurance for the Board and co-chairs for errors and omissions and seeking funding opportunities for future projects. We welcome your assistance in developing funding proposals.

IAP Structure and Organization

- 3 Volker ter Meulen gave a presentation on the structure and organization of IAP. Until May 2014, the InterAcademy Panel (now IAP-S) was the oldest society beginning in 1993. Then, around 2000, the InterAcademy Medical Panel (IAMP) (now IAP-H) and InterAcademy Council (IAC) (now IAP-R) were established. Around the same time, the four regional networks developed in order to address regionally specific content areas. In 2013, a review suggested a unified approach between the various networks. Following this recommendation, the InterAcademy Partnership (IAP) was created and the three established networks were transitioned into three branches, IAP for Science, IAP for Research, and IAP for Health. There is consensus that IAP for Research is not the “right” name and this will be further discussed at the 2019 triennial assembly in South Korea. Ter Meulen then reviewed IAP’s strategic objectives and implementation plan, as well as the individual IAP for Science, Research, and Health implementation plans (please see the pdf attachment of the powerpoint for additional detail).
- 4 Following the presentation and in response to questions for clarification regarding the respective roles of three arms of IAP, John Boright explained that IAC (now IAP-R) did not produce statements in the way IAPanel (now IAP-S) or IAMP (now IAP-H) did; IAC instead implemented a process for in-depth studies that IAP-R continues to operate under today. Questions continued concerning what each branch is programmatically responsible for and it was agreed that the breakdown of the three arms reflects historical and operational differences. Ter Meulen used the FNSA project as an example of how all three branches are responsible for bringing expertise from each of their memberships into one project and Reddy added that ICSU has merged with ISSC and these points have been the key motivation underlying that merger.
- 5 The conversation then returned to the name “IAP for Research.” The name was decided in Hermanus as nothing else could be agreed upon with the understanding that it would be discussed again at South Korea; however, ideas can be proposed before then. It was agreed there needs to be a clear difference between Science and Research. To the outside world, we are IAP, the InterAcademy Partnership. There may not be a use for the three individual names to be used in external communication; they may serve internal organization purposes only (e.g., for specific separate funding mechanisms).
- 6 Cheryl Praeger asked who decides the appropriate nature of projects for each organization (where the project resides) and what happens if the nature of the project changes. Similarly, Thierry Courvoisier asked where the legitimacy comes from for IAP-R to tackle these questions. In response, the

membership of IAP-S is responsible for electing the IAP-S Executive Committee and the IAP-R Board. The IAP-Health EC is elected by members of IAP-Health. The legitimacy of IAP-R in tackling the studies it takes on is in the study and report processes that are overseen by a committee of experts for each given project, which is a different mode of operation from IAP-S and IAP-H.

- 7 Reddy also brought up the need to address why engineering is not a part of this organization alongside science and health. Ruth David, Foreign Secretary of CAETS, added that one of the reasons she came to represent CAETS is to ask how CAETS can more effectively engage with IAP. CAETS' understanding of the IAP-R model is that it undertakes large, multidisciplinary studies, whose experts would presumably include engineers, which has happened on an ad hoc basis to date. David suggests that this continues to be the best way to engage with the individual members of CAETS.
- 8 Stoepler concluded the discussion, adding that an additional aspect of this is fundraising: the Carnegie projects are on the order of \$1 million each. To replicate the current model, there is a need for external funding as IAP-R does not have nor receive core funding beyond partial secretariat support from the NAS. Ter Meulen agreed that getting core funding is unlikely, especially due to differing norms for external funding for overhead between the US and Europe. Reddy added that it depends on how the request is packaged to an extent; we need to be creative. If there is some commitment from member academies for example, even very small, it makes a big difference in getting the ball rolling.

-----Coffee break-----

Carnegie Projects

- 9 Teresa Stoepler provided an overview of the two ongoing IAP-R projects, Improving Scientific Input to Global Policymaking and Harnessing SEM for Africa, both of which are funded by Carnegie Corporation of New York. The first is intended to engage IAP members and young academies in the SDGs, the second in engaging African Academy leadership in regional science policy frameworks. Everyone has received a copy of the publication produced by the first project, *Supporting the Sustainable Development Goals: A Guide for Merit-Based Academies*. In surveying the academy networks, it was found that academies could be contributing more to their governments' involvement in the SDGs and so the project is developing four regional workshops to engage regions on particular areas within the goals that are applicable to said region—as determined by the IAP regional networks. This project is chaired by Jinghai LI of CAS and Eva Alisic, former co-chair of GYA.
- 10 The second project also draws on the survey of academies and is based on the STISA 2024 framework. The project is currently: overseeing four small grants projects; piloting an African diaspora fellowship program, which will provide opportunities for diaspora scientists to collaborate with their home academies to bring new experiences into their academy processes; and the working group has been invited to contribute to the STISA 2024 mid-term review. The project will also develop a short guide similar to the other project to understand the STISA 2024 agenda and will consider the Africa Science Leadership Programme and other programs through the African young academies. The project is chaired by Robin Crewe and Oyewale Tomori and the final meeting will be held in Benin following the Annual Meeting of African Science Academies. Final reports of both projects will be released at the IAP triennial meeting in South Korea in 2019.

- 11 Kazuhiko Takeuchi asked how these projects connect with the UN and other organizations. Stoepler responded that the SDGs project is currently planning to propose a plenary session at the UN Multi-stakeholder Forum in June. Both projects also send working group members to UN regional meetings and the planned regional workshops will take it to a working level.
- 12 Olivier Pironneau asked whether IAP can receive funds from the UN. Boright responded in principle, yes, one of the IAP-R studies was solely funded by UN, the review of IPCC. Christiane Diehl added that this project can help position the academies to receive funds from the UN. EASAC is now planning to hold their regional workshop in conjunction with the next Council meeting so that it can capitalize on already having 29 members there and will hold this meeting two days earlier so that both fellows and staff who are actually responsible for the projects are in attendance.
- 13 The Africa project working group will meet in Benin in November and the SDGs project working group will meet in Europe (location TBD) in September. Richard Catlow is on the Africa project working group. As we begin to think about follow-on activities, it is worth noting the amount of funding required to complete this type of project. Both represent huge topics and these projects have been a great start, but there's a lot more to do in both areas.

Research Evaluation

- 14 Daya Reddy introduced the proposal to the group. This study has been discussed within IAP for several years. The goal at this meeting is to address any gaps and of course funding for this type of project. There is concern of undue reliance on metrics in evaluation and decision-making and so this project would seek to address how evaluation is currently undertaken and how we can improve evaluation systems. Catlow added that this is a very topical area with a variety of avenues we could go in terms of which problems and issues to address.
- 15 Ter Meulen has previously tried to get funding for the project, but has received comments like “this problem has been created by the science community, why should we [external funders] pay for a way for you to figure it out?” Catlow responded that we need to emphasize this is not just another study that says scientists are abusing metrics. This proposal would take a different approach and would start off trying to figure out what's going on around the world.
- 16 Marileen Dogterom asked how broad the project is envisioned to be, and whether it would encompass the related issues of open science and publishing. Pironneau asked if the project would consider consequences of other metric systems, such as those of universities, etc. Catlow responded that it would be problematic if it included university systems, but that it should include all methods used worldwide, not just the journal impact factor (JIF).
- 17 Reddy added that the goal of the study is not to propose getting rid of metrics altogether, but to conduct a study that says what they are, how they're used, and the characteristics and shortcomings of these systems.

- 18 Giulio Cossu thought five workshops may be excessive, but otherwise agreed with what's been written. He pointed out that bibliometrics were introduced as an objective measure in order to reduce decision-making reliance on friendship/favors. Publishers also have great power here, not just the number. For example, publishing in *Nature* or *Science* often leads to a job or a promotion in and of itself.
- 19 Courvoisier mentioned various reports, the Open Science Framework, and the OECD Global Science Forum (GSF), which all comprise a large body of work that has a direct aim in this area. We'll need to be careful this project doesn't duplicate existing efforts. Elisa Reis agreed that we need to convey what new aspects we are bringing to the table as a lot has been done in this area. Catlow agreed and added that part of the issue is seeing how other parts of the world are addressing this area. We don't want this to be another document bemoaning the use of metrics, funders will say it's in your hands and stop doing it.
- 20 Stoepler reviewed the history of this proposal concept. Conversations around the idea began in 2014 and a total budget of 250k was proposed. The Leopoldina was interested and the proposal was discussed at the Royal Society. In 2015, Robbert Dijkgraaf, then co-chair of IAC/IAP-R talked to the Moore Foundation and the National Science Foundation—who was looking to do this type of project on a much bigger scale. The Sloan Foundation was also interested, but each of the three was waiting for the other to make the first commitment, and each funder also had slightly different expectations of the project. With Dijkgraaf's help, IAP-R could re-approach both foundations and later with provisional commitments, NSF.
- 21 Ter Meulen suggested that we involve universities, as they are stakeholders with obvious interest in the outcome, more so than outside organizations. If we secure \$50k from a few, we can operate the project. Diehl added that these would need to be regional, flagship universities to maintain global perspective. Reddy responded that we may want to consider approaching networks of universities, such as The League of European Research Universities (LERU) and the International Alliance of Research Universities (IARU), but that individual universities may have a better chance of providing funding. McGrath suggested that we could activate our member academies and find someone in each academy to approach universities in their country. Stoepler added that that would also be an opportunity to collect ideas for case studies/good examples.
- 22 Praeger suggested that another way of cutting across this issue is through disciplines, for example, the International Math Union published a paper on citation statistics, *Citation statistics: A joint report of the International Mathematical Union (IMU), the International Council for Industrial and Applied Mathematics (ICIAM) and the Institute of Mathematical Statistics (IMS)*.
- 23 Reddy concluded the conversation with a plan to finalize this document quickly to share, suggest co-chairs for a committee and at least some members of the committee, and revise and refine the budget to bring it closer to 750k. At that point we will be ready to go back to the foundations that had been earlier approached.

-----Lunch Break-----

FNSA

- 24 Ter Meulen introduced the FNSA project. EASAC, NASAC, IANAS, AASSA came up with this topic. At the end of 2015, the project formulated 10 major questions and currently, each of the four networks are releasing reports to answer these questions. All four reports will be presented in Argentina for the G20 meeting. Each network is raising awareness of the documents and the project has been approached by the UN to see if they can use the reports. This is a new model of operating and in the end it's successfully engaged so many people.
- 25 Pironneau asked when the reports will be released. The European report was already released, the IANAS report is pending, the NASAC report is expected by the end of February and the AASSA report in March. McGrath added that he and Stoepler are discussing the best way to put this on the website as the reports come out to increase visibility.

Refugee and At-Risk Scientists

- 26 Peter McGrath presented on the Refugee and At-Risk Scientists proposal, which is a project of Science International, a meeting series organized by a group of three international science organizations: IAP, TWAS, and the new ISC (ICSU + ISSC). Science International has done one project together; the outcome was the international accord, "Open Data in a Big Data World." Refugees and at-risk scientists has now been agreed on by the Science International group as the next topic. The strength of this topic comes from something the Swedish International Development Cooperation Agency (SIDA) funded last year that produced a very strong set of recommendations. The demand for assistance for refugee scientists is greater than the number of bodies doing this. Science International proposes getting a coordinated grip on what is going on, on the ground. The next step is for the key organizations of Science International to each propose a strong person to lead from their side. The idea is to host a first planning/brainstorming meeting in June. CARA (Council on At-Risk Academics in Europe), Helmholtz, and the European Union (EU) are all interested in this effort.
- 27 Catlow asked what input Science International is seeking from IAP/IAP-R in terms of nominating people to the working group. McGrath responded that that's the first step and they're currently identifying the organizations to meet in Trieste in June.

New Project Ideas

- 28 Prior to the meeting, attendees were asked to submit new project ideas, which are compiled in the agenda book and there are also questions to help frame these ideas (see short descriptions in Appendix A). One key question to consider for all potential new projects is whether IAP-R can add unique value to the topic area.
- 29 The first idea was submitted by the Australian Academy of Sciences (AAS), who are very much in favor of an evaluation project. Praeger presented on the idea for a paper that explores and quantifies the economic benefit of trained scientists. The intended principle audience would be policymakers who are not sympathetic to scientists. AAS thought the UK or Germany had possibly done a similar paper recently.

- McGrath commented that there are agreements between African science ministers to commit 1% of the national budget to science programs, but it is often much lesser than this in actuality. This report could help spur this type of involvement.
- Rapela Zaman responded that the Royal Society is looking to an update to the UK report Praeger mentioned.
- There was consensus that it would be helpful for science academies to endorse the importance in investing in human capital. The project could consider training related to job creation and the economic impacts of young scientists being trained to create jobs, i.e. the transfer of intellectual property. This assumes, however, that society recognizes the impact of each individual. The project could potentially go further than the impact on society and explore how society should adapt. We need to first be clear on whether we are talking about training scientists or the impact of trained scientists on society. What is the value of this group of trained scientists?
- It was suggested that this could be a very helpful document for the academies to argue value, but may not be an appropriate topic for a major project.

30 Pironneau presented the ideas put forth by the French Academy. The first, Endocrine Disruptors, would synthesize what's been done in this area. The second idea, Bioinspired Systems, was agreed to be an interesting idea, but not necessarily for IAP-R. The final idea, Participatory Research, which is also called "Citizen Science" has potential for IAP-R. Boright commented that this could go in various directions, one area is to connect it with education; programs around the world are built around the idea of students learning the scientific method by actually experimenting. McGrath added that integrating science literacy and engaging citizens in science and science projects would have a closer link to the IAP education group rather than IAP-R.

31 Giulio Cossu presented for the Accademia dei Lincei (Italy) on a project on regenerative medicine, the output of the project could be to create a registry of peer-reviewed clinical trials like a trip advisor website, to differentiate between scientific and commercially-based trials. There was consensus that this would be a great project idea and that it would be more appropriate for IAP as a whole rather than for IAP-R. Cossu agreed to write a scoping paper. McGrath suggested he liaise with Mario Stefanini on the IAP-H Executive Committee.

32 Nadira Karunaweera presented the idea for the National Academy of Sciences, Sri Lanka on gender mainstreaming in the higher education sector: a process by which true gender equity can be achieved. It would be good to get a sense of what science organizations in other countries are doing in this area, including the Global Young Academy (GYA), and pulling all of these threads together. ICSU has done a study on how to measure the impact of women in science and IAP has done various reports and initiatives on women in science. Reis suggested that the next step is exploring the best policy solutions for the already extensive research completed showing that women struggle to break the glass ceiling. McGrath suggested contacting the different IAP regional networks, holding conference calls and then deciding how to proceed.

33 Stoepler presented two project ideas on behalf of the Royal Society of Jordan. First, the Board discussed the project on the relationship between universities and industry. Ruth Cooper highlighted that there is a lot of literature available on this topic. For examples, search "science parks" on the UNESCO website.

Marcos Scheuenstuhl added that the topic is discussed in the IAP report “Lighting the Way.” Catlow concluded that there is a lot of interest in this topic, particularly related to the developing world.

34 There has also been a lot of work around the second project idea, on science engagement and communicating science to non-scientists. Takeuchi reported that the Science Council of Japan created a committee on communicating science to press and mass media that was very well received. McGrath added that IAP released a statement of this nature on climate change and education. Catlow followed up that at this stage, IAP-R should consider the best avenue to capitalize on what’s already been completed. McGrath added that a lot of this work has been addressed by the IAP education committee and suggests connecting someone from Jordan to this committee.

New topics:

- Courvoisier suggested a project that considers consequences to changes in ocean circulation on trade, weather, food production
-
- Reddy responded that within ICSU there are programs such as the Global Ocean Observing System (GOOS) and the Scientific Committee on Oceanic Research (SCOR) which could be useful partners in such a project.
-
- Ter Meulen suggested that an IAP statement would be the best way to approach this topic. This proposal had general support.
- McGrath added that IAP did a statement on ocean acidification not that long ago
- Dogterom asked if there is a mechanism in place for others to submit ideas to the Board, like the UN, etc.?
- McGrath responded that as of now, there are mechanisms like this only for statements. Stoepler added that IAP-R needs to establish a contact within the UN. It’s in the minutes from the last meeting to send a letter to UN Secretary General António Guterres, which Reddy added is very timely as the UN Scientific Advisory Board is now inactive
- Diehl added that the current IAP-R project on the SDGs is doing a lot to build IAP’s connections with the UN at different levels

-----Coffee break-----

35 Following the coffee break, the Board split into two groups to discuss the two project ideas with the most traction and where IAP-R would be expected to bring the most added value, Bridging Academia and Industry, submitted by Jordan, and Quantifying the Benefit of Human Capital, submitted by Australia.

36 On the oceans idea, Boright suggested contacting the Royal Society Canada, as they are hosting the G7 this year and oceans is one of their two foci. They are determined to have a series of activities on oceans. Also, IAP has a publication that’s widely popular, *Doing Global Science*, and is the one and only thing that brings the organization a little income (from royalties). An additional activity would be for the regional networks to promote *Doing Global Science* through workshops, training, etc. on how to use it. Stoepler added that we are also interested in additional language translations of *Doing Global Science*.

Group 1: Academia – industry partnerships

Proposed by: Royal Scientific Society of Jordan, IAP-R Board Member

37 This group was led by Stoepler and discussed objectives, risks, potential funders, and next steps for this proposal as outlined below.

Background

38 Young students with scientific and industry training are a huge opportunity, especially in countries with large youth populations such as many countries in Africa.

39 Objectives

- Engage industry in academic curriculum development so students are “industry ready”
- Review structures that incentivize industry and academia to work together (e.g., tax incentives for industry, state support for involvement of key regional industries)
- Compile case studies

Risks

40 In countries without a well-developed scientific community, there is a risk that all of the scientists may go to industry and there will be no “basic scientists” left to do curiosity-driven research.

41 Potential funders/stakeholders

- EU Commission
- African Development Bank (for African countries)
- Top universities (with regional representation around the world)
- University networks
- Chambers of Commerce
- State governments

Next steps

42 Identify leads to develop a scoping paper on this topic as the basis for funding proposals

Group 2: Quantifying the Benefit of Human Capital

Proposed by: The Australian Academy of Science

43 This group continued the conversation that Praeger started earlier and was led by Zaman. This project would seek to quantify the benefits of scientists, research, and researchers in attempt to answer why we’re investing in science. It is worth considering a more creative way to do this especially in regard to human capital and a rethinking of our economic models.

44 Reis discussed the social progress committee that she is a part of (www.ipsp.org), which is looking at differences in health, education, and family, major progress in the last 40-50 years, and exploring why progress is unevenly distributed right now. The committee has found that inequality in knowledge is huge. Several important findings have implications for this study; the “good life” does not have to be indexed by money, the negative externalities of inequality need to be considered i.e. life expectancy;

cultural values are changing, in example, society wants to see the protection of nature and transparency of markets. The role of academies could be to consider the contributions of scientists in this context. This would present a unique opportunity for collaboration with social scientists.

45 Considering that the audience is envisioned to be policymakers, the group responded that a main question of this proposal would be what do scientists bring to society. McGrath responded that there are contributions from science and scientists in the state, market, civil society. Cooper added that it is important to keep in mind that the value propositions are quite different between science, engineering, and medicine. Society is more affected by the outputs of engineering and medicine. In scoping this, choosing the right lexicon is important in addressing the audience at question.

46 The group endeavored to respond to the main framing questions:

- What's the policy problem:
 - A lack of appreciation for basic research; people see the value of applied research through the outputs
 - Not sure the data exists and what exactly we'd measure
 - Identifying gaps in the S&T indicators
- What can IAP-R bring that's unique?
 - IAC's first report, *Inventing a Better Future*, attempted to articulate the value of human capacity. Perhaps IAP-R can update this in the context of the SDGs
 - What was missing from that report was discussion on inclusion and disparities, it was making a general case that human capacity is a key thing
 - The report was internalized by USAID and other bilateral donors and rolled out by Kofi Annan
 - It was suggested that in the letter introduction to the new Secretary General, we include a pitch on updating this report in light of changes since then and the SDGs

47 Following the report out from groups 1 and 2, the meeting concluded with an appreciative thanks to all attendees and an invitation to drinks and dinner hosted by the Royal Society.

Appendix A -Potential New Project Ideas

Australian Academy of Sciences

- 49 The Australian Academy of Science would like to suggest that a paper that might be worth exploring is quantifying, in economic terms, the benefit of human capital (i.e. trained scientists) from government investment in science and technology. We believe that this may have been done already in Germany. Such a paper may be helpful in providing ammunition for politicians who are keen to support science and justify increased support to the community.

French Academy of Sciences

50 Endocrine Disruptors

A major public health issue, endocrine disruptors are not hormones, but chemistry and / or environmental products that are toxic to the individual by using different signaling pathways used by hormones. Their role was initially evoked in the United States in the 1960s, when the toxicity of pesticides was highlighted. In the 1970s, the transgenerational consequences of Distilbene treatments were discovered. The routes of administration are multiple: aerial, oral, transdermal ... Endocrine disruptors are suspected to be the origin, potential or demonstrated, many cancers (breast, uterus, prostate), infertility, cognitive disorders, obesity and metabolic diseases. The approximate cost of the consequences of using these disrupters could amount to 160 billion euros each year in the countries of the European Union.

51 Bioinspired systems

Each plant or animal species is a remarkable innovation since it has lasted for hundreds of thousands of years, even millions of years, often despite constraints that seem extreme. The idea of taking inspiration from these successes to innovate is not new, but we now have technological advances that facilitate this bioinspiration. This field of research, which is growing rapidly, sometimes going as far as biomimicry, affects so many disciplines that it can only be approached through a few examples. Thus, in the constant race required by strategies to fight against bacteria and viruses to be effective, their interactions with animals and plants are a source of information and innovation all the more crucial as the resistance of bacteria to antibiotics is worsening alarmingly.

52 Participatory Research

Participatory research is conducted with the people who's life world is studied. This means that the research is not only about the problem but also about the way people concerned deal with the problem. It also brings in ethic problems, the need for democracy, and an environment where people can express their ideas safely. For example in a study aimed at understanding and curing men with offending behaviours COOK & INGLIS, 2008, the men worked together with the academic researchers to co-construct understandings about research and to identify the most effective ways for reaching new understandings (learning).

Accademia dei Lincei (Italy)

- 53 Project idea: Raise awareness in the public and among patients associations of what regenerative medicine is, what it can achieve and what is still for the “tomorrow file”, how to distinguish between serious experimental medicine trials and commercially driven initiatives, that, by the way, have an astonishingly growing market, and sell hopes rather than therapies.

National Academy of Sciences, Sri Lanka

- 54 Title: Gender mainstreaming in higher educational sector

Gender inequality is commonly encountered in the higher educational sector though not addressed or recognized frequently. NASSL has been interested in the topic for some time with a workshop already conducted with external funding obtained following submission of a proposal.

Royal Scientific Society of Jordan

- 55 **Title of project:** “Bridging Academia-Industry partnership in the Smart learning & Knowledge based society”.
- 56 Introduction: The World’s developing economies and industrialized countries depend on the human capital and Knowledge-based societies, and this is reflected on higher education, thus universities have become important players in regional economic development. Academic institutions could contribute spin off research to Industry and create viable products and services ending up in a win-win situation. knowledge sharing between public science and industry is recognized as one of the pathways towards the knowledge based society and has been pointed out by the European Commission as one of the main features of the European research area (Ref. *European Commission, “The European Research Area: New Perspectives”, (Green Paper) Brussels: Commission of the European Communities, 2007*)
- 57 Bridging academia with industry can be through different approaches: Research partnerships & Services, Shared infrastructure, Joint Innovative entrepreneurship initiatives, Human resource training and transfer, Commercialization of intellectual property, Joint scientific publications, Private participation in graduate programs & Joint supervision on PhD students, Spin-off companies, patent licensing
- 58 For academic institutions, motivations to collaborate with industry include; improvement of teaching using new technologies, access to funding, reputation & ranking, access to information from industry, and employing university graduates in private sectors.
- 59 For Industries, motivations to work with universities may include gaining access to technological knowledge, finding skilled workers, providing training to existing or future employees, having access to the university’s facilities and equipment, reducing risks by sharing the costs of R&D, and assist in the overall teaching and research agenda of universities.

60 The Academia-industry partnership, though faces many challenges, among which are the following:

- Industry focus on fast commercial results and universities focus on basic research.
- Industry are interested in quick outputs (patents or new products), University researchers, in contrast, are interested to publish research results as fast as possible.
- Difficulty in obtaining the required information for research purposes from some companies.
- Several universities lack the presence of specialized laboratories to convert the research results to the initial product (Prototype) before the production phase

Objectives:

- To establish academia-industry innovative initiatives (science parks, university research spin-offs and start-ups ...).
- To assist in modifying university curricula and programs to respond to industry needs.
- To be able to Conduct applied research and training for university students, specially graduate students and develop their practical skills and increases their opportunity to enter the job market upon graduation.
- To encourage Joint projects with industries to help in solving their problems and improve their performance.
- To conduct Joint publications and Networking
- To promote student Internship Programs supported by Industry and Student graduates offered long-term employment in the Industry

Target Public/Audience:

Universities (students, faculties, administrators), Companies, NGOs, representatives from Ministry of Education and Ministry of Higher Education, R & D centers

61 **Title of Project:** “Science Engagement & Talking Science to non-Scientists: Linking Climate Change & Energy to the Society, Media & Policy Makers”

62 Introduction: The world, and the Middle East in particular, is facing a lot of challenges in communicating science and science related issues such as Climate Change and Sustainable Energy Development. Engaging formally with the public, policy makers and the media is multifaceted particularly when explaining the scientific complexities in a public controversial matter (i.e. climate change) in today’s world of complex, dynamic, and competitive media environment.

63 Policymakers are facing challenges in their ability to materialize large-scale development of renewable energy and climate change risk mitigation or reduction because of the lack of understanding of the science behind. Accordingly, they are unable to develop accurate political frameworks, dispute scientific claims or do not support policies that are evidence based and consistent with the science. In an era of “Alternative Facts”, media awareness and monitoring is becoming more and more crucial. At the same time, public engagement is extremely important to facilitate the exchange of information, knowledge, perspectives, and preferences among groups of different expertise and backgrounds. As we are in the century of fast dynamics with rapidly evolving communication environment and channels. Decision makers, government agencies, policy makers, media, and the public should be engaged in discussions

about important science related issues (i.e Climate Change, Energy), become more aware from the youngest to the oldest generation with facilitated understanding and perception of science.

64 Objectives:

- Promote Evidence-Based Policy Making through Proper Scientific Engagement.
- Identify the major challenges with regard to efficient scientific communication to non-scientists and how to overcome them.
- Revise the current energy and climate change policies in Jordan and identify roadmaps for restructuring, where needed.
- Raise awareness on how should scientists use the media (social media, internet, newspapers, TV, etc) for public engagement.
- Promote Energy solutions (Savings, efficiency) and encourage science based transition to clean and safer energy with a linkage to climate change.
- Address policy makers in how to access, understand and share scientific facts

Target Public/Audience:

Policy Makers, Academic Institutions & Research Centers, and Media

Next Meeting of IAP-R Board

NOTE: CAETS Is an Ex-Officio Board Member

Dear IAP-R Board Members,

The next InterAcademy Partnership (IAP) Conference and General Assembly has been confirmed for April 8 – 11, 2019 and will be hosted by IAP and the Korean Academy of Science and Technology (KAST) in Songdo, South Korea. The schedule of events is as follows:

April 8: IAP-R Board Meeting, IAP-S EC Meeting, IAP-H EC Meeting, IAP Board Meeting

April 9: Conference on Science and the Sustainable Development Goals: The Role of Academies

April 10: Conference on Science and the Sustainable Development Goals: The Role of Academies

April 11: Joint IAP Meeting, IAP-S and IAP-H General Assemblies

We hope that all IAP-R Board members will attend the entirety of the Conference and joint IAP meeting and ask that you plan to arrive by the evening of April 7th to ensure participation in the IAP-R Board meeting. IAP-R member academies are expected to cover the cost of airfare for their respective representative. KAST will generously sponsor the hotel accommodations for one representative from each IAP-R member academy for a maximum of 4 nights. Please [register for the conference by September 15, 2018](#). Visa letters will be sent to all participants upon receipt of a completed registration form.

Additional logistics information is included in the attached Circular.

Please let me know if you have any questions.

Sincerely,

Nina

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Nina Ward

Program Associate, IAP for Research

c/o The National Academies of Sciences, Engineering, and Medicine

500 5th Street NW

Keck 505



Science and the Sustainable Development Goals: The role of academies

InterAcademy Partnership

Conference & General Assembly

hosted by the
Korean Academy of Science and Technology (KAST)
Songdo, Korea
9-11 April 2019

First Circular

- **General Information**
- **Tentative Programme Structure**
- **[Link to Registration Form](#)**

Organization

The upcoming **IAP** Conference and General Assembly will be hosted by **IAP** in collaboration with the Korean Academy of Science and Technology (KAST) in April 2019.

Programme

The Opening Ceremony will take place on Tuesday 9 April followed by the two-day conference on **Science and the Sustainable Development Goals: The role of academies** ending on Wednesday 10 April 2019. The conference will explore how science is required to underpin and advance progress towards achieving the 17 goals of the UN 2030 Sustainable Development Agenda, and in particular, what role academies and – and should – play towards achieving these goals.

Among the specific sessions identified by the conference Scientific Committee, there will be discussions on the role of academies in the 21st Century and how academies have been, and should continue to evolve, to respond to today's challenges. Other sessions will investigate these issues in greater depth.

Participants will include distinguished scholars, presidents and leadership of national academies of science, medicine, engineering, as well as experts and health advisors from both industrialized and low and middle income countries (LMICs).

The third day, Thursday 11 April 2019, will be dedicated to the General Assemblies of IAP for Science and IAP for Health, and the joint InterAcademy Partnership meeting, all of which are closed sessions for representatives of IAP member academies only.

The scientific programme is currently under preparation by the Scientific Committee chaired by Professor Myung Chul Lee, president of KAST, and Professor Volker ter Meulen, president of the InterAcademy Partnership and co-chair of IAP for Science. The full list of committee members is available ([HERE](#)).

An online programme outline will be available soon and updated regularly on this page.

Participation

Invitation to attend the Conference is extended to all members of the InterAcademy Partnership as well as invited observers and a selected number of distinguished personalities from LMIC and industrialized countries and to local guests particularly engaged in the conference topic. Participation is by invitation only. The General Assembly is a business session open to representatives of member academies of the InterAcademy Partnership only.

Venue & Official Language

The IAP Conference and General Assembly 2019 will be held in Songdo, Korea, at the Sheraton Grand Incheon. The official language of the event will be English.

Accommodation and Travel

KAST has generously offered accommodation for one participant per IAP member academy for a maximum 4 (four) nights.

All participants will stay at the [Sheraton Grand Incheon](#)

Hotel reservations will be made by the local organizers on receipt of a hotel booking form which will be included with the second circular.

A small number of partial travel grants will be provided - upon request - to IAP member academy participants from LMICs If you are entitled and require such support, please indicate as such in the online preliminary registration form. Your request for support will be reviewed by the organizers.

Travel Schedules and Airport Transfers

Participants should make their own travel plans to reach Seoul, Korea. Local transportation from airport to the hotel/venue will be organized for participants who provide flight information in the final registration form included in the second circular.

For all member academies, please arrange to arrive on Monday 8 April in order to attend the Opening Ceremony on the morning of 9 April and arrange to leave on night of 11 or the morning of 12 April 2019 after attending the General Assembly.

Meetings of the IAP for Health, IAP for Science Executive Committees and the IAP for Research Board are scheduled 8 April. ECand Board members are requested to keep this in mind when they make their travel arrangements.

Visas

A valid passport and a visa are required for entry into Korea. Visas can be obtained from a Korean Embassy or the nearest Consulate General. An official visa invitation letter facilitating visa application will be sent to participants upon receipt of the information required, to be provided by completing the preliminary registration form.

Sightseeing

Pre and post conference tours and a parallel programme for accompanying persons (at participants' own expense) will be arranged by the local organizer. Information will be provided in the second circular.

Registration

The **Preliminary Registration Form** can be found here <https://tinyurl.com/IAP2019>

It must be completed in all its parts and submitted by **15 September 2018**. The IAP Secretariat will follow up with registered participants **ONLY**. Information concerning the procedures for hotel reservations will be available to registered persons only. Participants who are offered accommodation by the organizers will be informed accordingly. More information will be provided in the second circular.

Addresses for correspondence and further information:

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Dr. Peter McGrath, IAP
Ms. Lyunhae Kim, KAST

Purpose: *Given the experience of the past 2 years, it seems that there are differing views among member academies regarding the appropriate substance, form, and target audience for CAETS statements. It would be useful to agree upon key elements that could be presented to the Council for their endorsement.*

Over-arching question: Is 100% consensus required (i.e. sign-off by all member academies) required for issuance of a CAETS Statement?

Background:

2017: Statement was developed and circulated to members for comment in early January (one representative felt strongly that the statement should be available for Council review during its meeting after the Convocation). Comments were received from 9 academies and included both endorsements and strong objections, including:

Re. genetic engineering and blue bioeconomy -

- “Their main objection is that the engineers should focus their attention on the development of new, nature-inspired technologies, which could have a major impact on the global economy and ensure basic human needs to be met by sustainable means and methods, instead of continuing with the exhaustion of present potentials of nature that surrounds us.”
- “In the chapter on Genetic Engineering we recommend that we take out the last paragraph. GMO foods has never really been accepted and we think we need to consider what people feel in order to have them accepting new technologies.”

Re. structure and content –

- “We suggest to keep the traditional and rather standard and time proven form of the CAETS Statements from the preceding Convocations (see heading Statements&Reports at the CAETS website). These Statements clearly express the issues and state the conclusions and recommendation of CAETS. This kind of Statements the National Academies can present on the national level to inform the public and present them to the National Governments. We are sure this was the original idea behind the CAETS Statements.”

2016: Statement was drafted for review by the Council during the meeting after the Convocation ended; no consensus was achieved. RAE subsequently posted a video (which attracted a very large audience) and a brief description of the Engineering a Better World conference on their website.

Previously Posted Statements:

- 2015 CAETS Statement “Pathways to Sustainability in the Energy, Mobility and Healthcare Sectors”
 - Summary of Convocation – no recommendations
- 2014 CAETS Statement “Engineering and the Future of Humankind”
 - Summary included recommendations

- 2013 CAETS Statement “Educating Engineers”
 - Summary included recommendations
- 2012 CAETS Statement – Urban Development and Public Transportation: Improved Understanding of the Interdependencies
 - Summary included recommendations
- Conclusions prepared by AI of the 2011 CAETS Convocation on Engineering Analysis and Management to Reduce Risks
 - DRAFT statement posted
- 2010 CAETS Statement – Sustainable Food Systems
 - Statement included recommendations
- 2009 CAETS Statement – Global Natural Resources – Management and Sustainability
 - Statement included recommendations
- 2008 CAETS Statement – Delta Technology for a Sustainable and Habitable Planet
 - Statement included recommendations
- 2007 CAETS Statement -- Environment and Sustainable Growth
 - Statement included recommendations
- 2006 CAETS Statement – Oceans and the World’s Future
 - Statement included recommendations

CAETS Website

Concerns

- Significantly outdated technology (no longer supported)
- Policies not addressed (e.g. Privacy, Copyright, Security)
- Limited functionality; primarily static content
- Difficult to maintain/use
- Hosted by US National Academy of Engineering; subcontracted to DIAMAX for design and management

Considerations

Redesign to update look and improve functionality

- Recommend addition of “member-only” section (password protected)
 - Meeting materials
 - Minutes (sanitized version could be public access)
 - Most email addresses
 - Work-in-progress by committees/working groups
 - Other items as deemed appropriate
- Establish/post Privacy and Copyright Policies
 - DMCA: Digital Millennium Copyright Act
 - GDPR: General Data Protection Regulation (EU data privacy rights)
- Restructure site map to support featured information

Improve portability of site content/management

- Recommend use of open source Content Management System (e.g. WordPress)
 - WordPress has approximately 18 million installations worldwide
- Recommend use of Shared Web Hosting to reduce costs; highly rated options include:
 - DreamHost (advertises free website for 501(c)(3) organizations)
 - Bluehost (WordPress partner since 2005)

Reduce Costs (set-up & ongoing)

- NAE/DIAMAX – est. \$20K setup and \$500/month maintenance (currently paid by NAE)
 - Pro: Familiarity, currently own domain name, help desk
 - Pro: NAE hosting provides some continuity
 - Con: Proprietary Content Management System
 - Con: Substantial upfront costs due to content migration
- Recommend setup and content migration by Secy/Treas to Shared Services site
 - Pro: Substantial reduction in setup costs (will incur some minimal costs in transferring domain name; purchase of template/plugin needed for site)
 - Pro: Ongoing maintenance est \$5-\$20/month depending on term and design
 - Pro: Can scale hosting services as needed; transfer site operations, etc.
 - Con: Secy/Treas experience to design and maintain site

Current Website Content

HOME

- Brief description of CAETS
- “What’s New” link to upcoming Annual Meeting

ABOUT

- Summary of CAETS History (outdated)
- Board of Directors (current)
- Articles of Incorporation (current)
- Bylaws (current)
- 2013 Booklet of Articles of Incorporation, Bylaws, Operating Procedures (outdated)
- Rotation Schedule (current)
- CAETS Study Procedures (2001 – should be reviewed)
- CAETS First 35 years 1978 – 2013 (could update to 40 years?)
- CAETS 2013 PowerPoint

MEMBERSHIP

- Member Academies (links to websites – some broken links)
- Emails/Action (outdated – current information in Member Directory)
- Emails/Information (outdated – current information in Member Directory)
- Member Academies Contact Information (outdated – current information in Member Directory)
- CAETS Academies Mailing Addresses (outdated – current information in Member Directory)
- Founding Dates of Engineering (and related) Academies (outdated – current information in Member Directory)
- 2014 Survey of Member Academies
- 2010 Survey of Member Academies
- 2004 Survey of Member Academies
- Other Engineering Academies Contact Information (needs review/update)

MEETINGS

- Links to CAETS Meetings and Materials (March 2000 – Present)

STATEMENTS & REPORTS

- 2015 CAETS Statement “Pathways to Sustainability in the Energy, Mobility and Healthcare Sectors”
- 2014 CAETS Statement “Engineering and the Future of Humankind”
- 2013 CAETS Statement “Educating Engineers”
- Opportunities for Low-Carbon Energy Technologies for Electricity Generation to 2050 (Report and Guide, June 2013)
- 2012 CAETS Statement – Urban Development and Public Transportation: Improved Understanding of the Interdependencies

- Conclusions prepared by AI of the 2011 CAETS Convocation on Engineering Analysis and Management to Reduce Risks
- WG Report on Low-emissions Technologies for Electric Power (Ex Sum Sept 2010)
- 2010 CAETS Statement – Sustainable Food Systems
- 2009 CAETS Statement – Global Natural Resources – Management and Sustainability
- 2008 CAETS Statement – Delta Technology for a Sustainable and Habitable Planet
- 2007 CAETS Statement -- Environment and Sustainable Growth
- 2006 CAETS Statement – Oceans and the World’s Future

COMMITTEES (out-of-date)

- CAETS Energy Committee
- CAETS Noise Control Technology Committee
- Committee on International Organizations

OTHERS

- Issues of Concern – Summary of issues identified by members (2003-2014)
- Activities of Interest – Summary of activities identified by members (2003-2014)
- Survey Results on China-Japan-Korea Technology Cooperation 2015 (no content)
- CAETS IAP Discussions 2014-2015
- Picture of Six CAETS Presidents (June 26, 2008)

Some members have expressed an interest in continuing activities relating to 2017 discussion topics:

- Engineering Ethics
- Diversity

2018 Discussion Groups are focusing on:

- Engineering Education
- Communicating with the Public
- Engineering and the Sustainable Development Goals

Questions:

- Should CAETS discussion topics lead to an output? (e.g. statement, report)
- Should discussion threads be captured and summarized for member access on the website?
- Should interest groups be pulled together around topics of ongoing interest for follow-on activities?
- What should be the discussion focus for CAETS 2019?