



The Lebanese  
Association for the  
Advancement of  
Science (LAAS)



National Council for Scientific Research

**The Lebanese Association for the Advancement of Science  
and  
The Science Faculty at the Lebanese University  
in collaboration with  
The National Council for Scientific Research – Lebanon**

Organize

**The 23<sup>rd</sup> International Scientific Conference**

*“Research and Science in the Service of Humanity”*

Opening Ceremony – 6 April 2017 – 11:00 a.m.

Closing Ceremony – 7 April 2017 – 5:00 p.m.

**Congres Palace**  
*Rafic Hariri Campus - Hadath*

April 6-7, 2017  
Faculty of Sciences - Lebanese University –

[www.laaslb.org](http://www.laaslb.org)  
[www.fsciences.ul.edu.lb](http://www.fsciences.ul.edu.lb)

**23<sup>rd</sup> International Scientific Conference of LAAS**  
***“Research and Science in the Service of Humanity”***

**The Faculty of Sciences at the Lebanese University**  
**6 and 7 April, 2017**

**Introduction**

The LAAS's International Scientific Conference is an annual conference that will be held this year at the Faculty of Sciences at the Lebanese University in the Rafic Hariri Campus – Hadath in collaboration with the National Council for Scientific Research.

The LAAS's International Scientific Conference is a forum for researchers, allowing them to present and discuss the results of their research in various fields of science and education.

The research axes of the conference are:

- Biological, Medical, Pharmaceutical and Health Sciences.
- Chemistry and Physics, Theoretical and Experimental
- Environment, Food Security and Agriculture
- Mathematics and Computer Science
- Engineering Sciences and Architecture
- Social and Human Sciences
- Economics and Management
- Education Sciences
- Arts and World Vision
- Relations : State, enterprises, universities.

Lebanese and foreign researchers are invited to participate in this meeting by submitting summaries of their research for possible oral presentation or poster or display, in the conference program. In addition to presentations of research in the areas already mentioned, the 23<sup>rd</sup> International Scientific Conference encourages addressing national and international issues, such as the transfer and assessment of new technologies, inter-university cooperation, university-industry cooperation, research science education and innovative technologies.





ازحاد الجامعات العربية



جامعة بيروت العربية  
BEIRUT ARAB UNIVERSITY



## **The Committees of the 23<sup>rd</sup> LAAS's Conference**

### **❖ Honorary Committee**

Fouad AYOUB, President of the Lebanese University

Mouin HAMZE, Secretary General of the National Council for Scientific Research

Naim OUAINI, President of the Lebanese Association for Advancement of Sciences

### **❖ Advisory Committee**

Hasan ZEIN EDDINE, Lebanese University (UL) (President)

Saleh ABDEL AL, Lebanese International University (LIU)

Josiane ABI KHATTAR, Holy Family University (USF)

Mohammad Toufic ABOU ALI, Lebanese University (UL)

Soubhi ABOU CHAHINE, Beirut Arab University (BAU)

Michel ABOU GHANTOUS, American University of Technology (AUT)

Nidaa ABOU MRAD, Antonine University (UA)

Ghazi ASMAR, Notre Dame University of Louaize (NDU)

Elie ASSAF, Holy Spirit University of Kaslik (USEK)

Tony ATALLAH, Lebanese university (UL)

Jihad ATTIEH, University of Balamand (UOB)

Christine BABIKIAN ASSAF, Saint Joseph University (USJ)

Nehme AZOURY, Holy Spirit University of Kaslik (USEK)

Aziz BARBAR, American University of Science and Technology (AUST)

Ibtihal BASTAWISI, Beirut Arab University (BAU)

Hisham BASHA, Rafik Hariri University (RHU)

Wafaa BAWAB, Lebanese University (UL)

Jean DAOUD, Lebanese University (UL)

Rony DARAZI, Antonine University (UA)

Assaad EID, American University of Beirut (AUB)

George EID, Notre Dame University – Louaize (NDU)

Rajaa FAKHOURY, Beirut Arab University (BAU)

Antoine FARHAT, Notre Dame University – Louaize (NDU)

Khalil EL FEGHALI, Lebanese University (UL)

Fadi GEARA, Saint Joseph University (USJ)

Camille HABIB, Lebanese University (UL)

Therese EL HACHEM, Lebanese University (UL)

Hisham EL HAGE, Lebanese International University (LIU)

Amin HAJ ALI, Lebanese International University (LIU)

Mohammad EL HAJJ, Lebanese University (UL)

Mohammad HAJJAR, Lebanese University (UL)

Bassam HAMDOUN, Islamic University of Lebanon (UIL)

Ali HAMIE, Arts Sciences & Technology University in Lebanon (AUL)  
Tarek HARB, Lebanese International University (LIU)  
Marlène HAYDAR NAJJAR, Lebanese University (UL)  
Michel HAYEK, Notre Dame University (NDU)  
Hassan HEJASE, American University of Technology (AUT)  
Hussin HEJASE, Maaref University (MU)  
Walid HLEIHEL, Holy Spirit University of Kaslik (USEK)  
Ahmad HOTEIT, Islamic University of Lebanon (UIL)  
Jalal JOMAA, Maaref University (MU)  
Abdo JURJUS, American University of Beirut (AUB)  
Georges KALLAS, Lebanese University (UL)  
Walid KAMALI, Manar University of Tripoli (MUT)  
Dolla KARAM SARKIS, Saint Joseph University (USJ)  
Ibrahim KEBBE, Global University (GU)  
Pierre AL KHOURY, Lebanese German University (LGU)  
Samia KHOURY, American University of Beirut (AUB)  
Elie EL KHOURY, Lebanese Canadian University (LCU)  
Abdul Menhem KOBEISSI, Islamic University of Lebanon (UIL)  
Adel Ahmad EL KORDI, Beirut Arab University (BAU)  
Jean-Claude LAHOUD, Holy Spirit University of Kaslik (USEK)  
Nashat MANSOUR, Lebanese American University (LAU)  
Richard MAROUN, Saint Joseph University (USJ)  
Samir MEDAWAR, Lebanese University (UL)  
Rock-Antoine MEHANNA, Sagesse University (ULS)  
Mohammad MOHSEN, Lebanese University (UL)  
Fadel MOUKALED, American University of Beirut (AUB)  
Joseph MOUKARZEL, Antonine University (UA)  
Michel NAJJAR, University of Balamand (UOB)  
Hania NAKKACH, Beirut Arab University (BAU)  
George NASR, Lebanese American University (LAU)  
Georges NEHME, Antonine University (UA)  
Elise NOUJEIM, National Council for Scientific Research (CNRS-L)  
Fawaz EL OMAR, Lebanese University (UL)  
Mohamad RAHAL, Lebanese International University (LIU)  
Toufic RIZK, Saint Joseph University (USJ)  
Georges SADAKA, Lebanese University (UL)  
Nicole SALIBA CHALHOUB, Holy Spirit University of Kaslik (USEK)  
Ahmad SMAILI, Rafik Hariri University (RHU)  
Ahmad SHATILA, Global University (GU)

Malek TABBAL, American University of Beirut (AUB)  
 Ghazi TADMOURI, Jinane University of Lebanon (JUL)  
 Rabih TALHOUK, American University of Beirut (AUB)  
 Roland TOMB, Saint-Joseph University (USJ)  
 Arz WEHBE, Lebanese Canadian University (LCU)  
 Boutros YARED, Lebanese University (UL)  
 Rafic YOUNES, Lebanese University (UL)  
 Tony ZAYNOUN, Lebanese University (UL)  
 Barbar ZEGHONDI, Holy Spirit University of Kaslik (USEK)  
 Nina ZEIDANE, Lebanese University (UL)  
 Tamara EL ZEIN, National Council for Scientific Research (CNRS-L)  
 Paul ZGHEIB, Holy Spirit University of Kaslik (USEK)

### ❖ International Advisory Committee

Edmond ABI RAAD	Lebanese University (UL)
Francesco CAPPELLO	Director of the Euro-Mediterranean Institute (Italy)
Patrice COURVALIN	Unit of Antibacterian Agents, Pasteur Institute (France)
Christelle GOUTAUDIER	Université de Lyon (France)
Georges HADDAD	Professor of Cardiac Physiology and member of Directors of the Basic and Cellular Cardiovascular Research at American Center for investigative Cardiology
Ali ELHAJ	LLM., Ph D., Chairman and General Manager Veritas Scientific
Ahmad EZZEDINE	Ph D., Associate Vice president, Educational Outreach and International Programs Wayne State University.
Inaya HAJJ HUSSEIN	Oakland University William Beaumont School of Medicine (USA)
Angelo LEONE	University of Palermo (Italy)
Mario MAGLIONE	Director of the ICMCB-CNRS, Université de Bordeaux (France)
Charbel MASSAAD	Dean of the Faculty of Basic and Biomedical Sciences University Paris Descartes (France)
Liliane MASSAAD	Director of the New anticancer therapies team, laboratory of Vectorology and anticancer therapies
Samir F. MATAR	Director General at CNRS,ICMCB-Université de Bordeaux (France)
Luc M. OKE	MD and President of the American Center for investigative Cardiology
Dominique PORQUET	Dean of the Pharmaceutical Faculty in Paris XI, President French pharmaceutical faculties conference (France)
Jean-Luc PROBST	EcoLab (France)
Walid RACHIDI	University of Grenoble Alpes
Douglas N. RUTLEDGE	AgroParisTech (France)
Hervé SABOURIN	Agence Universitaire de la Francophonie – Bureau Moyen-Orient (AUF- BMO)
Christophe SCHMITT	Université de Lorraine (France)
Joseph SCHELNOFF	Distinguished research professor, Florida State University
Abbas SAIDI	Shahid Beheshti University, Tehran, Iran
Giovanni TOMASELLO	University of Palermo (Italy)
Yehya TAHER	University of Versailles Saint-Quentin, Director of International Relations
Rosalyn ZEIN JURJUS	Georges Washington University (USA)

## ❖ Scientific Committees

### ➤ **Biological, Medical, Pharmaceutical, Health Sciences**

Maha ABOULELA	BAU
Saer ALWAN	JUL
Zouheir ATTIEH	AUST
Mona DIAB ASSAF	UL
Bassam BADRAN	UL
Jamila BORJAC	BAU
Magda BOU DAGHER KHARRAT	USJ
Tanios CHELALA	USF
Fouad DABBOUSI	UL
Nadine DARWISH	AUB
Laure EL CHAMY	USJ
Iman EL GHAZZAWY	BAU
Faten EL HAGE	USEK
Diala EL KHOURY	NDU
Mohammad Mostafa EL SAYYED	BAU
Ziad FAJLOUN	UL
Fawaz FAWAZ	CNRSL
Pascal FENIANOS	USF
Amal GALAL	BAU
Ali GHADDAR	LIU
Rima HABIB	AUB
Elie HADCHITY	UL
Christian HADDAD	USEK
Mahmoud HALABLAB	RHU
Rabih HALLIT	USEK
Souheil HALLIT	USEK
Chaza HARMOUCH	JUL
Walid HLEIHEL	USEK
Zeina HOBAIKA	USJ
Fadi HOYEK	USEK
Ayad JAFFA	AUB
Mireille AWAD KALLASSY	USJ
Marc KARAM	UOB



Mona KASTI	GU
Antoine KOSSEIFI	USEK
Ghada KHAWAJA	BAU
Jean-Claude LAHOUD	USEK
Marcel MASSOUD	USEK
Gaby MOUKARZEL	UA
Dani OSMAN	UL
Mike OSTA	AUB
Soha SALEH	LIU
Yonna SACRE	USEK
Julien SFEIR	USEK
Sima TOKAJIAN	LAU

➤ **Theoretical and Experimental Chemistry and Physics**

Marie ABOUD MEHANNA	USJ
Carine ABI GHANEM	UL
Naja ADNAN	UL
Adel AL ALAM	USEK
Mazen AL GHOUL	AUB
Samer AOUAD	UOB
Ramadan AWAD	BAU
Joseph BEJJANI	USJ
Reine BARBAR	USEK
Bilal BEYDOUN	UL
Madona BOULOS	UL
Maya BOUTROS	UL
Marwan BROUCHE	USJ
Manal CHEBBO	AUL
Hanna CHEBIB	UL
Robert DIB	NDU
Juliana EL KHOURY	AUST
Nathalie ESTEPHAN	USEK
Georges FARES	USJ
Wehbeh FARAH	USJ
Ziad FRANCIS	USJ
Roland HABCHI	UL

Lara HALAOUI	AUB
Bassam HAMDOUN	UIL
Rafif HAMMAM	LIU
Tarek HARB	LIU
Ziad HERRO	UL
Mahmoud KOREK	BAU
Samira KORFALI	LAU
Maher KOUDAYEH	UIL
Rola ZAYDAN MEHARD	USEK
Michel NAKHL	UL
Fawaz EL OMAR	UL
Mohamad ROUMIEH	CNRSL
Joseph SAAB	USEK
Bassem SABRA	NDU
Hussein SALAMI	RHU
Najat SALIBA	AUB
Samer SAMARANI	USF
Maher SOUEIDAN	CNRSL
Malek TABBAL	AUB
Youssef ZAATAR	UL
Mirvat ZAKHOUR	UL
Doumit ZAOUK	UL

➤ **Environment, Food Security and Agriculture**

Maher ABBOUD	USJ
Ashraf ABDUL GABER	BAU
Alain ABI RIZK	USEK
Gretta ABOU SLEYMANE	AUST
Charbel AFIF	USJ
Ali ALKHATIB	LIU
Samar AZZI ACHKOUTY	USEK
Mohammad DAKDOUKI	BAU
Ragi DARWISH	AUL
Talal DARWISH	CNRSL
Claude DAOU	UL
Esperance DEBS	UOB

Desiree EL AZZI	USEK
Marc EL BEYROUTHY	USEK
Andre EL KHOURY	USJ
Antoine EL SEMRANI	UL
Youssef EL RAYESS	USEK
Milad FAKHRY	CNRSL
Jocelyne GERARD	USJ
Amira HADDARA	UL
Mahmoud HALABLAB	RHU
Tanos HAGE	NDU
Darine HUSSEIN	LIU
Nahla HWALLA	AUB
Lina KASSIR	JUL
Christian KHALIL	LAU
Maya KHARRAT SARKIS	USJ
Carla KHATER	CNRSL
Walid MALAEB	BAU
Nehme MAHA	USF
Joanna MATTA	USEK
Hania NAKKACH	BAU
Nabil NEMER	USEK
Ammar OLABI	AUB
Adel OMARA	BAU
Rami OWEINI	BAU
Jacques SAMOURI	UIL
Imad TOUFEILI	AUB

➤ **Mathematics and Computer Science**

Hyam ABBOUD	UL
Riham ABDUL KADER	BAU
Youssef AJEEB	AUL
Mohamad AL ABED	RHU
Joseph AL ASSAD	USEK
Hussein BADRANE	UIL
Joanna BODGI	USJ
Toufic EL ARWADI	BAU

Bechara EL BOUNA	UA
Fida EL CHAMI	UL
Hisham EL KHOURY	AUL
Wassim EL HAJJ CHEHADE	BAU
Farah FARAH	UOB
Charbel FARES	USEK
Georges HABIB	UL
Rami HADDAD	USJ
Ahmad HAMMOUD	GU
Ramzi HARATI	LAU
Jihad ITANI	AUL
Hassan JABER	AUL
Ahmad KASSEM	AUL
Hoda MAALOUF	NDU
Joseph MALKOUN	NDU
Nashat MANSOUR	LAU
Dani MEZHER	USJ
Rola NAJA	UL
Nabil NASSIF	AUB
Ghalia NASSREDDINE	JUL
Chady NOUR	LAU
Garo PILAWJIAN	AUL
Saeed RAHEEL	AUST
Wissam RAJI	AUB
Mohamad SAAD	AUL
Hervé SABOURIN	AUF-BMO
Bilal SAID	AUL
Toni SAYAH	USJ
Raafat TALHOUK	UL
Ali WEHBEH	UL
Fadi YAMOUT	LIU
Jomana YOUNES	UIL
➤ <b>Engineering Sciences</b>	
Mohamad ABOUD	LIU
Mirvat ABDDALLAH	RHU

Samih ABDUL NABI	LIU
Hadi ABOU CHAKRA	BAU
Chady ABOU JAOUDE	UA
Ziad FARAJ	AUST
Tilda AKIKI	USEK
Mohamad ARNAOUT	LIU
Perla ATTIYAH	LAU
Ali ASSI	LIU
Jean CHAMOUN	UL
Pascal DAMIEN	USEK
Zaher DAWI	AUB
Nadim DIAB	RHU
Moustafa EL FADEL	AUB
Wassim EL FALOU	UL
Nemr EL HAGGE	USEK
Imad EL HAJJ	AUB
Mirvat EL HOZ	UOB
Ali GHOUWAYEL	LIU
Fadi HAGE CHEHADE	UL
Ali HAIDAR	BAU
Ali HAMIE	AUL
Jihad HAMIE	AUL
Hamzeh HAMIEH	AUL
Ali HAMMOUD	BAU
Mohamad HAMMOUD	LIU
Mohamad HAMZEH	AUL
Adnan HARB	LIU
Hamza ISSA	BAU
Jimmy ISSA	LAU
Mohamad ITANI	AUL
Ahmad JAMMAL	MEHE
Jad JELWAN	USEK
Elie KARAM	UOB
Fakhreddine KEYROUZ	NDU
Mahmoud KHALED	LIU
Mohamad KHALIL	UL

Adnan MASRI	BAU
Oussama MOSTAFA	UIL
Nazih MOUBAYED	UL
Michel NAHAS	LIU
Ziad OSMAN	BAU
Mohamad RAMADAN	LIU
Sandy RIHANA	USEK
Soha SALEH	USJ
Dominique SALEMEH	USJ
Georges SALLOUM	UL
Hadi SAWAYA	USJ
Ali SHAITO	LIU
Hassan SHREIM	UL
Ahmad SKAIKY	AUL
Joe TEKLI	LAU
Yehya TEMSAH	BAU
Nancy ZGHEIB	USEK

➤ **Social and Human Sciences**

Mirna ABBOUD MZAWAK	USEK
Bassel AKAR	NDU
Wafi ALHAJ MAJED	GU
Khodor AWWAD	JUL
Christine BABIKIAN ASSAF	USJ
Hoda BIBI	LIU
Edmond CHIDIAC	USJ
Ragy DARWISH	AUL
Daher EL AILY	AUL
Jamil HAMMOUD	RHU
Sari HANAFI	AUB
Rayan HAYKAL	ULS
Eliane KHALIFE	USJ
Roula KHOURY	USJ
Karim KOBEISSI	UIL
Hayssam KOTOB	UL
Hiam LOUTFI	RHU

Georges MASSE	AUST
Joseph MOUKARZEL	UA
Sami OFEISH	UOB
Sonia OJEIL BSAIBES	USEK
Imad SALAMEH	LAU
Ilham SLIM HOTEIT	UIL
Jihad TAKKOUCH	AUL
Mohammad ZOUBAIDI	BAU
<b>➤ Economics and Management</b>	
Rock Antoine MEHANNA	ULS
Nehmeh AZOURY	USEK
Elie BOURI	USEK
Maria HILAL	UA
Charbel SALLOUM	USEK
Mario SASSINE	USEK
Elizabeth SFEIR	UA
Nahed TAHA	AUL
<b>➤ Science Education, Ethics of Scientific Research</b>	
Nisrine ADADA	GU
Tamer AMIN	AUB
Richard AOUN	USJ
Saouma BOUJAOUDE	AUB
Jamal CHARARA	UL
Najwa FARES	RHU
Micheline GHATTAS	UA
Samer HABRE	LAU
Fadi EL HAGE	USJ
Iman KHALIL	UL
Fares MAALOUF	USJ
Joseph MALKOUN	NDU
Gihane MANSOUR ABOU JAOUDE	USJ
Hiba OTHMAN	AUST
Naim ROUADI	UOB
Audile SAAB	USEK
Marie-Therese SALIBA	UL

Norma ZAKARIA USEK

➤ **Arts and World Vision**

Nidaa ABOU MRAD UA  
Bouchra BECHELANY UL  
Rachid CHAMOUN LAU  
Antoine FISHFISH USEK  
Robert KARAM USEK  
Antoine LAHOUD LAU  
Shireen MAALOUF UL  
Karim NAJJAR AUB  
Ghada SHBEIR USEK  
Joseph ZAAROUR USEK  
Paul ZGHEIB USEK

➤ **Relations: State, Enterprises, Universities**

Josiane ABI KHATTAR USF  
Ghinwa CHLOUK UA  
Tina HABIB USEK  
Anwar KAWTHARANI LIU  
Hassan KHACHFE LIU  
Charbel KHOURY USEK  
Nicolas LOUKA USJ  
Rania MASRI AUB  
Vincent MAZRAANI AUST  
Fadia HOMEIDAN AUB  
Rihab SAWAYA UA  
Raphael WASSIM USJ

❖ **Organizing Committee**

Hyam ABOUD MATAR UL  
Zainab ASSAGHIR UL  
Bassam BADRAN UL  
Fadi HAGE CHEHADE UL / LAAS  
Bassem HAIDAR UL  
Maribelle EL HOKAYEM LAAS  
Majida JALBOUT UL  
Rita KARAM MOUAWAD UL  
Mohamad KHALIL UL / Responsable de l'EDAS à la LAAS



Ahmad KOBEISSI	UL
Rana MANSOUR	UL/LAAS
Marie-Thérèse SALIBA	UL/LAAS
Christine EL SALIBY	LAAS
Antoun YAACOUB	UL

### ❖ LAAS Executive Committee

Naim OUAINI (President)  
 Nashat MANSOUR (Vice President)  
 Hassan CHARIF (Secretary General)  
 Abdo JURJUS (Treasurer and Past President)  
 Karim ECHTAY  
 Georges EID  
 Fadi HAGE CHEHADE  
 Mahmoud KOREK  
 Roger LTEIF

## Important Dates

Extended Abstract submission deadline: March 2-3, 2017

Notification of acceptance: March 15, 2017

Registration fees

- Local participants: 60 \$
- Student participants: 20 \$
- International participants: 150 \$

\*Cover: Lunch, Coffee Break and Technical Organization

### Author Instructions: Guidelines for Authors

- Extended abstracts may be submitted in Arabic, English, or French
- Extended abstracts should be formatted as follows:
  - The font should be Times New Roman
  - The extended abstract's length should be 2 pages, in single spacing
  - Use A4 page size, with 1 inch for the left, right, top, and bottom margins
  - The extended abstract's title should be centered in bold, 14 pt, Times New Roman
  - Leave a blank line after the title and then give the name(s) of the author(s) centered, in 12-point, bold font. On the next line(s), give the name(s) of the department, and the institution of the author(s) in 12-point, normal font. After that, the e-mail address(es) should also be listed
  - Then, leave 2 blank lines and include the extended abstract's text, in 12-point and single spacing.
- Submit extended abstracts in word format or PDF using Edas: [www.edas.info/N23369](http://www.edas.info/N23369)
- For more information you can send an email to:  
[naimouaini@usek.edu.lb](mailto:naimouaini@usek.edu.lb) ; [naimouaini@laaslb.org](mailto:naimouaini@laaslb.org) ; [hassan.zeineddine@ul.edu.lb](mailto:hassan.zeineddine@ul.edu.lb)

### Authors of accepted abstracts will be invited to present their work as follows:

- Oral presentation: the time will be 12 minutes plus 3 minutes for questions, OR
- Poster presentation: please use paper A-zero size (118 cm high and 84 cm wide).

### **To Speakers/Authors of papers**

- Please note that all conference rooms will be equipped with a Windows-based PC with USB drive plus an LCD projector for PowerPoint presentations
- Please make sure that the size of the letters on your .PPT slides (or on transparencies) is large enough for clear presentation. Also, use graphics, diagrams, and figures to make your presentation clear
- The presentation time will be 12 minutes (+3 minutes for Q&A). Please make sure you respect the time.

### **To Session Chairs**

The session Chairs are responsible for:

Ensuring that the presentation equipment is ready at the time of the session and that PowerPoint presentations will be downloaded before the start of the session.

- Ensuring that presentations run exactly in the order given in the conference program
- Introducing speakers
- Controlling time

## **Award for Career Excellence in Scientific Research**

The Lebanese Association for Advancement of Science will grant an award to two outstanding investigators who have made an exceptional contribution to scientific research at the national and international levels.

This event will take place during the 23<sup>rd</sup> International Science Meeting on April 7, 2017, during the closing ceremony.

### **Eligibility:**

- The nominee should be a Lebanese researcher who has made an outstanding contribution to scientific research during the previous years
- The award recipient will be selected based on the quality and quantity of his/her publications
- The selection will be made by an independent council of established researchers appointed by the Board of the Lebanese Association for Advancement of Science
- Major awards won by candidates will be taken into consideration

### **Instructions and Deadlines:**

Scientists can either apply themselves or they can be nominated by people familiar with the candidate's work by sending the following documents to the President of LAAS: [naimouaini@laaslb.org](mailto:naimouaini@laaslb.org) ; [naimouaini@usek.edu.lb](mailto:naimouaini@usek.edu.lb):

- Nomination letter
- C.V.
- 1 or 2 pages describing the nominee's scientific achievements.

The deadline for submission is March 10, 2017

## The Partners

### ➤ **International Organizations:**

- Francophone University Agency – Middle-East Office AUF-BMO
- International Conference of Head of the Universities & Institutions - Ciruiseif / AUF-BMO
- French Institute – Embassy of France
- The Union of the Arab Universities – AArU
- The Universities Association of Lebanon – UAOLB
- The Conference of University Presidents – France – CPU
- The Mediterranean Universities Union – UNIMED
- The National Erasmus+ Office - Lebanon

### ➤ **Ministries:**

- Ministry of Education and Higher Education
- Ministry of Industry
- Ministry of Culture
- Ministry of Information
- Ministry of Energy and Water
- Ministry of Environment
- Ministry of Telecommunication
- Ministry of Foreign Affairs and Immigrants
- Ministry of Labor
- Ministry of Justice
- Ministry of Tourism
- Ministry of Administrative Reform
- Ministry of Public Health
- Ministry of Finance

\*\*\*\*\*

- The Lebanese Army
- The Internal Security Forces – ISF
- The General Security Forces - GSF

### ➤ **Orders and Associations:**

- Association of Lebanese Industrialists - ALI
- Lebanese Businessman Association – RDCL
- Order of the Engineers and Architects – Beirut
- Order of the Engineers and Architects – Tripoli
- Lebanese Order of Physicians – Beirut
- Lebanese Order of Physicians - Tripoli

### ➤ **Official Institutes:**

- The National Council of Scientific Research in Lebanon –CNRS-L
- Lebanese Center for Energy Conservation – LCEC
- Lebanese Standards Institution – LIBNOR
- Institute of Industrial Research – IRI
- National School of Administration –ENA
- Quality Program at the Ministry of Economy and Trade - QUALEB
- Lebanese Petroleum Administration – LPA
- Institution of Lebanese Agriculture Research – IRAL

### ➤ **Universities:**

- Lebanese University - UL
- Holy Spirit University of Kaslik –USEK
- Saint Joseph University - USJ

- American University of Beirut – AUB
- Lebanese American University – LAU
- University of Balamand – UOB
- Beirut Arab University – BAU
- Notre Dame University - Louaize – NDU
- Sagesse University – ULS
- American University of Sciences and Technology – AUST
- Islamic University of Lebanon – UIL
- Antonine University – UA
- Holy Family University – USF
- Lebanese International University –LIU
- Manar University of Tripoli- MUT
- Jinan University of Lebanon – JUL
- Rafic Hariri University – RHU
- Arts, Sciences and Technology University in Lebanon – AUL
- Global University – GU
- Lebanese German University – LGU
- Lebanese Canadian University – LCU
- American University of Technology – AUT
- Maaref University - MU

## Sponsors