



IUVESTA

20th General Meeting

**Clarion Hotel & Congress Malmö Live,
Malmö, Sweden**

Wednesday, July 3rd, 2019

(For Submission)

<http://www.iuvsta.org>

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General Assembly of IUVSTA
Comprising the 20th Ordinary General Meeting
and the
Extraordinary General Meeting of 2019

Clarion Hotel & Congress Malmö Live, Room High Live 2, Malmö, Sweden
Wednesday, 3rd July 2019 at 13.00 hrs

AGENDAS
General Meeting 20

Attendance and Constitution of General Meeting 20	C. Eisenmenger-Sittner
Welcome by the President	L. Montelius
Remembrances	L. Montelius
Alterations to Membership	C. Eisenmenger-Sittner
Admission to membership of Cuba (1 Share)	
Admission to membership of Serbia (1 Share)	
Approval of Minutes of GM 19	C. Eisenmenger-Sittner
Amendments to the Statutes and By-Laws	C. Eisenmenger-Sittner
There are no proposed changes to the Statutes and By-Laws	
Approval of the Accounts for Financial Year 2018	F. Reniers
Discharge of the Directors	
Approval of the Budget for Financial Year 2019	
<i>Transfer of Presidency from L. Montelius (Sweden) to Anouk Galtayries (France)</i>	
Elections for the Triennium 2019-2022	A. Galtayries
The Executive Council nominee for President Elect is Francois Reniers (Belgium)	
The Past President will be L. Montelius (Sweden)	
The President nominates the following Officers:	
Scientific Director Jay Hendricks (USA)	
Scientific Secretary Katsuyuki Fukutani (Japan)	
Secretary General Christoph Eisenmenger-Sittner (Austria)	
Treasurer Arnaud Delcorte (Belgium)	
Ratification of the framework budget for the Financial Years 2020 to 2022	A. Delcorte
Approval of subscription rates for each of the three Financial Years 2020, 2021 and 2022	A. Delcorte
Ratification of National Committee Councillors & Alternates	C Eisenmenger-Sittner
Recognition of retiring Officers and ECM members	L. Montelius
Any Other Business	Floor
Adjournment of General Meeting 19	A. Galtayries

2019 Extraordinary General Meeting

Constitution of the 2019 Extraordinary General Meeting	A. Galtayries
Report of the Past President	L. Montelius
Reports of the Previous Executive Council	
Secretary General	C Eisenmenger-Sittner
Committee Reports	L. Montelius
Scientific and Technical Director	D. Ruzic
Division reports	D. Ruzic
Treasurer & Finance Committee	F. Reniers
Inaugural Statement of the President	A. Galtayries
Motion to Adjourn	Floor

Member Delegates to the 20th General Meeting
(as notified June 2019)

Argentina		Germany	
Head of Delegation	Represented by Austria	Head of Delegation	Ute Bergner
Australia		Great Britain	
Head of Delegation	Anton P.J. Stampfl	Head of Delegation	Timo Gans Deborah O'Connell
Austria		Hungary	
Head of Delegation	Manfred Leisch Helmut Riedl	Head of Delegation	István Csarnovics
Belgium		India	
Head of Delegation	Diederik Depla François Reniers	Head of Delegation	Not Represented
Brazil		Iran	
Head of Delegation	Pedro A. P. Nascente	Head of Delegation	Represented by Austria
Bulgaria		Israel	
Head of Delegation	Ivan Petrov	Head of Delegation	Sidney Cohen Tatyana Bendikov Igor Rahinov
China		Italy	
Head of Delegation	Zhenchao Dong Haiming Guo	Head of Delegation	Mariano Anderle Fabrizio Giorgis
Croatia		Japan	
Head of Delegation	Maja Mičetić Ivana Capan	Head of Delegation	Yasunori Tanimoto Katsuyuki Fukutani Fumio Komori
Czech Republic		Korea	
Head of Delegation	Stanislav Novák Pavel Hedbávný	Head of Delegation	Geun Young Yeom Jong-Souk Yeo
Finland		Mexico	
Head of Delegation	Represented by Sweden	Head of Delegation	Emmanuel Haro-Poniatowski
France		Netherlands	
Head of Delegation	Sylvie Bourgeois	Head of Delegation	Ingmar Swart Ad Ettema

GM-20-03-02

Pakistan

Head of Delegation Represented by Japan

Philippines

Head of Delegation Michelle Marie S. Villamayor
Magdaleno R. Vasquez, Jr.

Poland

Head of Delegation Leszek Markowski

Portugal

Head of Delegation Carlos Tavares
Orlando Teodoro

Slovakia

Head of Delegation Andrej Vincze

Provisional Members

Cuba

Head of Delegation Joe Greene

Serbia

Head of Delegation Janez Kovač

GM-20-03-02

Slovenia

Head of Delegation Janez Kovač
Miran Mozetič
Janez Šetina

Spain

Head of Delegation Miguel Manso

Sweden

Head of Delegation Lars Johansson
Pär Omling
Ulf Karlsson

Switzerland

Head of Delegation Martin Wuest

USA

Head of Delegation Joe Greene
Ivan Petrov

Member votes, based on subscribed shares.**Quorum:** Two-thirds of members present or represented.

30(32) members; quorum – 21 members

Shares	National Member	GM Votes
1	Argentina	1
1	Australia	1
3	Austria	2
3	Belgium	2
2	Brazil	2
1	Bulgaria	1
1	Croatia	1
	Cuba*	
2	Czech Republic	2
2	Finland	2
9	France	4
15	Germany	5
8	Great Britain	4
3	Hungary	2
2	India	2
2	Iran	2
2	Israel	2
5	Italy	3
13	Japan	5
7	Korea	4
2	Mexico	2
5	Netherlands	3
2	Pakistan	2
1	Philippines	1
10	P.R. China	5
3	Poland	2
2	Portugal	2
1	Serbia*	1
1	Slovakia	1
1	Slovenia	1
3	Spain	2
3	Sweden	2
3	Switzerland	2
20	USA	5

* If admitted to membership by the GM



General Assembly of IUVESTA

Comprising

**The 19th Ordinary General Meeting
and
The Extraordinary General Meeting
2016**

**BEXCO Convention Centre,
Busan, Korea.**

24th August, 2016

<http://www.iuvsta.org>

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**Minutes of the 19th Ordinary General Meeting of the IUVSTA
and the Extraordinary General Meeting 2016
BEXCO Convention Centre, Busan, Korea.
Wednesday August 24, 2016.**

1 Opening

The President, Mariano Anderle, formally opened the meeting at 13.00. He invited the delegates to introduce themselves.

2 Attendance

National Delegations:

Officers:	President	Prof M Anderle
	President Elect	Prof L Montelius
	Past President	Prof J-J Pireaux
	Secretary General	Prof C Eisenmenger-Sitner
	Treasurer	Prof François Reniers
	Scientific Director	Prof David Ruzic
	Scientific Secretary	Dr Andrej Vince

National Delegations:

Australia	Anton Stampfl
Austria	Manfred Leisch, Christoph Eisenmenger-Sittner
Belgium	Diederik Depla
Brazil	Perdo Nascente, Marcelo Ferreira
Croatia	Nikola Radic, Maja Buljan
Czech Republic	Pavel Hedbanvy, Bohuslav Rezek, Antonin Fejfar
Finland	Represented by Lars Montelius
France	Anouk Galtayries, Jean-Louis Bersier
Germany	Ute Bergner, Christian Day, Sven Ulrich
Great Britain	David Sykes, Timo Gans, Steven Schofield
Hungary	Laszlo Ovari
India	Represented by
Austria Iran	
Represented by Austria	
Israel	Sidney Cohen, Hagai Cohen
Italy	Paolo Manini, Mario Rocca
Japan	Yoshio Saito Katsuyuki Fukutani, Yasunori Tanimoto
Korea	Hee Jea Kang, Eun Ha Choi, Jin-hyo Boo
Mexico	Emmanuel Haro-Poniatowski, Francisco Agirre-Tostado, Juan Hernandez -Rosas
Pakistan	Javaid Ahsan Bhatti
P R China	Ningsheng Xu, Zhenchao Dong, Haiming Guo,
Poland	Represented by Austria
Portugal	Carlos Tavares, Orlando Teodoro
Slovakia	Andrej Vincze
Slovenia	Miran Mozetic, Janez Kovac
Spain	Jose Martin-Gago
Sweden	Lars Johansson
Switzerland	Martin Wuest
USA	Joe Greene, Gregory Exarhos

Observers: Stanislav Noval (Czech Republic), Alex Shard (Great Britain), Francesco Ghezzi (Italy), Guen Yong Yeom (Korea), Ulf Karlsson (Sweden), Ivan Petrov (Surface Engineering Division), Christian Teichert (Nanometer Structures Division), Giacomo Ceccone (Biointerfaces Division), Jay Hendricks (Vacuum Science Division), Ann Sykes, Alexandra Jung.

Recording Secretary: Dr D E Sykes

Prof Christoph Eisenmenger-Sittner, the Secretary General announced that the quorum for the meeting was 50% and as 97% of Societies were represented the meeting was quorate; only one Society was not represented.

3 President's Welcome

The President, Mariano Anderle, welcomed delegates to the meeting and thanked the Korean Vacuum Society for their hospitality. He asked Prof H J Kang to give a brief introduction to the Korean Vacuum Society.

4 Remembrances

The President informed the meeting that, during the triennium, he had been informed of the deaths of Serge Choumoff, Jean-Paul Langeron, and John Robbins; he read their obituaries (ECM-11902-02, ECM-119-02-03 and ECM-119-02-04). The meeting stood and observed a silence of one minute.

5 Alterations to Membership

Prof Eisenmenger-Sittner informed the meeting that two Societies, The Bulgarian Union of Physicists and the Philippines Vacuum Society, had applied to join the Union, each requesting one share. The applications had been discussed at ECM120 and ECM123 respectively and provisional membership for both Societies had been agreed. It was explained that the voting procedure was a secret ballot during which delegates from the applicant countries were asked to leave the room; as there were no delegates from the prospective members present, their representatives were asked to leave. Ann Sykes (UK) and Alexandra Jung (Austria) were appointed as tellers and a secret ballot undertaken, the outcome of which was unanimous approval for the admission of both Societies.

6 Minutes of GM-18

[GM-18-01-01]

Dr Reid reported that the minutes of GM17, [GM-17-01-01], were on the web site and in the book of reports. He had not been informed of any necessary changes to the minutes and these were approved as a true report of the meeting.

7 Amendments to the Statutes and By-Laws

The Secretary General explained that the Statutes Committee had recommended reviewed Statutes the By-Laws and no changes were considered necessary. Small changes had been made to the Procedures Manual in order to have consistency in the guidelines for Workshops, Schools, Technical Training Courses and Short Courses.

8 Approval of the Accounts for the financial year 2015

The Treasurer, François Reniers, explained that the Union was constituted under Belgian law and consequently the General Meeting had to approve the accounts of the previous year; the accounts also had to be validated by a certified accountant. He presented the figures for 2015 showing the balance sheet and the state of the General Fund which, at the end of 2015, stood at 666 kEuro. Expenditure had been 23 kEuro and income 28.9 kEuro . He invited questions and comments; there were none. A motion to approve the accounts for 2015 was carried unanimously by a show of hands.

9 Approval of the Budget for the financial year 2016.

François Reniers explained that normally the approval of the Budget would be carried out at the first meeting of the year but every three years it was more appropriate that it be carried out at a triennial meeting. He presented his budget for 2016 which had been discussed at ECM122 and ECM123. Questions and comments were invited, there were none.

A motion to approve the budget for 2016 was carried unanimously by a show of hands.

The outgoing President thanked the Treasurer of all his work throughout the triennium.

10 Transfer of Presidency

At this point in the meeting Dr Mariano Anderle (Italy) formally transferred the Presidency of the Union to Prof Lars Montelius (Sweden) by handing over the gavel in a symbolic gesture.

11 Elections for the Triennium 2016-2019

The new President introduced the proposed new Officers; the Executive Council's nomination for President Elect was Anouk Galtayries (France), there had been no other nominations. The General Meeting approved unanimously the Executive Committee's nomination by a show of hands. Anouk Galtayries was invited to take the seat of the President Elect.

The President then proposed that David Ruzic continue as Scientific Director, Andrej Vincze to continue as Scientific Secretary, François Reniers to continue as Treasurer and Prof Christoph Eisenmenger-Sittner to continue as Secretary General. There were no objections to the appointments.

12 Ratification of the framework budget for the Financial Years 2017-2019

François Reniers presented his framework budget for the new triennium explaining that the budget was an important issue determined by the Union's policy for the next triennium. Significant changes had been made to previous budgets with the introduction of new items; the level of subscription income was a little below the maximum but was realistic, additional new income from companies was shown although this had yet to be realised, there was also a significant transfer of resource from the General Fund. Expenditure was to be increased for educational activity and for Workshops; the costs of the IUVSTA Prize was to be increased to reflect the real costs of the award; there would be new expenditure for a Communications Plan. In total, expenditure for the triennium would be 191kEur, an increase over previous budgets of 70kEuro. The Hungarian delegation asked the Treasurer about the 35kEuro one-off expenses; it was explained that there would be a transfer of capital from the General Fund to pay for more activity but it was expected that this would be a virtuous circle with the increased activity creating more income. The Treasurer showed the increase in value of the General Fund from April 2009 to April 2016. The German delegation asked about the increase in expense in relation to the proposed IUVSTA Summit; Lars Montelius replied that he did not see this as expenditure but an investment in the future; whilst the Summit was not yet defined the intention was to increase interactions with society and politicians. The Treasurer called for a vote and the motion to accept the proposed budget was carried unanimously by a show of hands.

13 Approval of the subscription rates for each of the Financial Years 2017, 2018 and 2019

François Reniers proposed that the subscription rates remain at the same value as for the previous two triennia, 150Euro/share, for the Financial Years 2017, 2018 and 2019; the proposal was approved unanimously by a show of hands.

14 Ratification of National Committee Councillors and Alternates

Christoph Eisenmenger-Sittner presented a list of Councillors and Alternates as given in the Book of Reports. He thanked the Member Societies for responding to his request for nominations in a timely manner. He noted that the representatives of the new Member Societies have to be added and that two existing Member Societies remain in suspension. The Councillors and Alternate Councillors were approved by the General Meeting.

15 Recognition of retiring Officers and ECM Members

Mariano Anderle presented a list of retiring Officers, Councillors and Alternates and Division Chairs [GM-19-03-04]. He presented those present at the meeting with certificates and asked representatives of those not present to deliver their certificates on his behalf. He made special mention of the retiring Recording Secretary, David Sykes, presenting him with a rather magnificent quill pen.

16 Any Other Business

The President asked if there were any other items of business delegates wished to discuss; there were none.

Adjournment of GM 19 Opening of EGM 2016

The President adjourned General Meeting 19 and opened the Extraordinary General Meeting 2016. The meeting was declared quorate.

17 Retiring President's Report [GM-19-02-01]

The Retiring President, Dr Mariano Anderle, presented his Retiring President's Report [paper GM-19-02-01]. He expressed his thanks to all those who had helped him during his Presidency, in particular his predecessor Jean-Jacques Pireaux, the Secretary General, Christoph EisenmengerSittner and the Recording Secretary, David Sykes.

18 Report of the Secretary General [GM-19-03-06]

Christoph Eisenmenger-Sittner, the Secretary General, said his report on the previous triennium was given in the Book of Reports [paper GM-19-03-06] and he wished to keep his presentation short. He took the opportunity to thank all those who had helped him with his work over the preceding triennium, especially the National Vacuum Societies who had hosted ECMs and the Korean Vacuum Society for ECM123 and GM19. He highlighted the Union's interactions with other International Organisations. He thanked the University of Illinois for smooth operation of the Union's web site. He expressed his deep appreciation for all the help that his predecessor as Secretary General, Ron Reid, had given him.

19 Committee Reports

The President, Lars Montelius, invited the Retiring President, Mariano Anderle, to present a summary of the reports on work carried out by the committees during the previous triennium.

[These can be seen in full in the Book of Reports, http://iuvstaus.org/iuvsta2/assets/docs/GM19/GM19_Book_of_Reports_2016_08_29_V1_3.pdf].

He reported that: the Long Range Planning Committee determined the future strategies for the Union by identifying emerging areas of science and communities:

the Congress Planning Committee coordinates the conferences within the Unions remit and considers bids to host the IVC meetings; the next IVC in 2019, IVC21, will be held in Malmo, Sweden and IVC 22 in 2022 will be in Sapporo, Japan:

the Awards and Scholarships Committee is responsible for the IUVSTA Science Prize and the IUVSTA Technology Prize, administers the Elsevier Student Travel Awards with whom a new Memorandum of Understanding has been agreed, and co-ordinated the Welch Scholarship which continues to be suspended, a Working Group on Awards and Prizes has been established: the Publications Committee publishes the IUVSTA Bulletin, maintains the Directory (a searchable database of members expertise) and was working on the redesigning the web site to improve the visibility of the Union: the Emerging Societies Committee also was working to improve the visibility of the Union in potential new member countries:

the Education Committee had responsibility for the Visual Aids material which is freely available on the Union's web site, four Technical Training Courses, four Schools and two Short Courses had been funded, a review paper based on the Highlights Seminars had been published: the work of the Statutes Committee had been concerned with harmonisation of the guidelines for Workshops, Schools, Technical Training Courses and Short Courses. The Committee had scrutinised the applications for membership from the Bulgarian Union of Physicists and the Philippines Vacuum Society.

Mariano Anderle thanked all the committee chairs for their work throughout the triennium.

20 Scientific and Technical Director's Report

The Scientific and Technical Director, Prof David Ruzic, reported that a total of eight Workshops, four Schools, four Technical Training Courses and two Short Courses had been supported in the triennium. He commented on the Highlights Seminars, which had been held alongside an AVS meeting, saying that he hoped the Seminars could be held alongside scientific meetings in the future. He stressed the importance of the Scientific Divisions, the Chairs of which provided a link between the Union and the scientific community in 30+ member nations. He informed the meeting of the names of the incoming Division Chairs. He thanked the outgoing Division Chairs for their work and reminded the meeting that their reports on the work of the past triennium could be found in the Book of Reports.

21 Treasurer and Finance Committee Report

[GM-19-04-01]

The Treasurer, Prof François Reniers, commented that his full report was available on the web. He stressed that the role of the Treasurer was to collect and distribute funds, money that was generated from subscriptions, IVC, interest and increase in value of the General Fund. He thanked the Treasurers of the National Societies for paying their subscriptions promptly. When he became Treasurer six years earlier, he had been asked to invest funds to achieve a return of 4% per annum, however, in the present financial climate this was not possible and the value of the Union's assets could fluctuate by 30kEuro on a day to day basis. He asked for help with determining the Union's investment strategy, particularly from countries in the ASEAN region, weekly tracking of the financial markets was necessary to keep the budget on track.

22 Inaugural Address

[GM-19-02-02]

The President asked the meeting to rise to their feet and give the retiring President, Mariano Anderle, a standing ovation.

He then read his inaugural statement from the book of reports.

He reminded delegates that the first ECM of the new triennium, ECM124, would take place on the following day in room 214/15/16.

A motion to adjourn the meeting was proposed and seconded; the President closed EGM2016 at 15.10.

D E Sykes
Recording Secretary
September 2016

Report of the treasurer for the triennium 2016-2019

Introduction

Since the new IUVSTA statutes, the IUVSTA budget runs on a double time scale: the triennium, and on an annual base. Each year, the treasurer, with the finance committee, establishes a budget that must be accepted by the yearly AGM. The treasurer also establishes the final accounts of the previous calendar year, which are audited by a registered accountant, and are proposed to the AGM.

The annual budgets are prepared in the general framework of the triennium budget, which reflects the global policy of IUVSTA. Each annual budget, however, must reflect the expected income and expenses of the year, to the best of the finance committee and treasurer knowledge.

According to the wishes of IUVSTA, the triennium budget had exceptional lines dedicated to a “IUVSTA summit”, awards, and to new activities to be held during the triennium. Also, the GM voted an increase of the budget lines dedicated to the main IUVSTA activities, namely scientific and educational activities. To finance these new, and extraordinary (one shot for some of them) expenses, IUVSTA asked to have extra income coming from private societies (donations) and it was asked to solicitate the general fund to balance the budget. Regarding the investment policy, it is the wish of the vast majority of IUVSTA member societies to keep a rather conservative approach, through diversification of investments

1 Previous triennium budget

The status of the previous triennium budget was presented at the general assembly that took place in Busan, during IVC 20.

2. Current status of the 2016-2019 triennium budget

The status of the triennium budget, is presented in Table 1. This table shows the budgeted amounts, for the full triennium, per year. The columns “2017-realized” and “2018-realized” contains data which have been audited by the certified accountant, and already agreed by the annual AGMs.

Due to the accounting rules, expenses and income that are really taking place in the calendar year have to appear, no matter if they should still “belong” to a different calendar year or triennium.

The interest coming from the investments were slightly lower than expected at the beginning of the triennium, due to turbulences on the stock markets.

The member societies are paying they fees mostly in due time. Sometimes there are technical difficulties for bank transfer with some countries. The treasurer always tries to find a pragmatic solution when possible to help such societies. When a country does not pay its fees for more than 2 years in a row, despite the reminders of the treasurer, the situation is explained at the finance committee, which usually ask the president of IUVSTA to take action.

The budget line dedicated to the IUVSTA summit was used to celebrate the 60th Anniversary of the Union. Events were organized in Geneva, Cancun, Sidney and Malmö, and a flipbook was published. Many private companies support these events through donations. Despite this, the expenses dedicated to these events were above the budget line voted at the beginning of the triennium.

The IUVSTA Welch award was reactivated. The financial agreement is that, once a year, two American donators give each 7500 USD to IUVSTA, through AVS.

An agreement between IUVSTA and AVS has been signed by the two treasurers, to formally clarify the relationship between these two societies regarding financial issues. This agreement is transferred to the secretary general for archives.

Similarly, EBARA is making a donation for a new IUVSTA-EBARA prize dedicated to a young scientist, to be given every 3 years during the IVC conference.

Some expenditure will still occur before the end of the triennium, such as expenses for the officers, IUVSTA prize, payment of schools and short courses that will take place before the end of the calendar year.

IUVSTA Budget 2017-2019									
Euro	2014/2016	2017/2019	2017 - Budget		2017 realized	2018	2018 realized	2019- proposal	
			initial investment						
Income:									
Subscriptions (share value of 150 € per year)	65.250	65250		21750	20527,59	20000	19751,04		20000
Interest	24.784	25000		8333	8287,9	8333	6794,27		7000
Visual Aids	0								
Donation (Welch Award)*						13000	16713,85135		13000
Company engagements		10000		5000		10000	15900		6500
Donation (from IVC)	30.000	40000		0					40000
transfer from general fund		51150		24384		37.800			8479
Total income	120.034	191.400		59.467	28.815	89.133	59.159,16		94.979
Expenditure:									
Communication	6.000	6000		2000	1305,82	2000	2273,09		2200
Educational Activities	20.000	24000		8000	6400	6000	2000		8000
Workshops/Schools	60.000	80000		30000	20500	36000	24000		30000
World Transfer Program	10.000								
Officers discretionary expenses and travel	6.000	12000		4000	2537,41	6000	2605,83		6000
Scientific and technical directorate	2.000	3000		1000					
Liability insurance for IUVSTA president	984	1000		333	327,75	333	327,75		333
ICSU/NGO-UNESCO	2.000	2000		500	500	500	500		1000
Bank charges, taxes, commitments, miscellaneous	4.000	4000		1333	1079,64	1500	1143,13		1800
Accountant for tax fillings	2.250	2400		800	605	800	1149,5		645,5
IUVSTA Prize	6.800	10000		0					10000
transfer to general fund									
IUVSTA summit		20000		15000		20000	33575,49		2000
recruitment new societies		1000		1000		1000			
Website		6000		6000	1668,47	0	405,46		2000
Communication Plan		3000		3000	2000	2000			
Awards: Students, Graduates, Specific conf awards		15000		10000	5000	13000	0		29000
unexpected expenses		2000		500					2000
Total expenditures	120.034	191.400	35.000	59.467	34.924	89.133	67.980,25		94.979

Table 1: IUVSTA 2017-2019 triennium budget.

3. Accounts and investments

Since a few years, one significant trend of the global economy is volatility, which is characterized by strong increases of the stock exchange markets, followed by sudden drops. Slowing down of the Chinese economy, political crisis and wars, extreme volatility on the energy (oil) market, stagnation of the European economy, are impacting negatively the growth of the economy, and as a consequence for IUVSTA, they lead to a very small inflation, giving interest rates close to zero. Some countries (Germany, Japan,...) even have negative interest rates on their government bonds. The American economy has been performing very well until October 2018 but, since then, probably due to political tensions between USA and China, there are uncertainties about the future. As a consequence, the stock markets drop severely at the end of 2018, and have adopted a hectic behavior since the beginning of 2019. This affects the value of the fund, as well as the interest from the fund, which are listed in the income part of the budget. Taking all these aspects into account, it is not possible anymore for the IUVSTA treasurer to obtain a 4% net interest on fixed safe investments (such as Eurobonds), to cover the IUVSTA expenses. The UK decision to leave EU had also a negative impact on the IUVSTA assets invested in GBP Today IUVSTA has assets in USD, GBP, CHF and Euro. The IUVSTA accounts being established in Euro, positive and negative variations in the exchange rates also have an impact of the total value of the IUVSTA fund. Apart from Euro, our largest investments have been made in USD, to benefit from the strong US economy. Table 2 presents the value of the fund as of May 31, 2019.

IUVSTA GENERAL FUND				31 May 2019					
US Mutual Funds	# shares		value	currency	total value		EUR/USD	Total EUR	
DWS Global thematic fund	3227,215		32,83	USD	105949,5		0,89	94295,03	
Vanguard 500 index fund	545,094		254,81	USD	138895,4		0,89	123616,9	
cash	841,04		1	USD	846,96		0,89	753,7944	
Welch donation					33999,49		0,89	30259,55	
total US Funds					245691,8			248925,3	
EURO Mutual Funds and bonds									
Aberdeen Global European Equity Fun	1023,365		56,25	EUR				57565,23	
Aberdeen Global Dividend Europe Fun	229,798		198,09	EUR				45519,97	
Fidelity Eurobond Fund	1562,5		13,85					21640,63	
Fidelity Fund European High	1886,8		9,79					18475,55	
Invesco Pan Europe H.I.	1483,67		14,03					20815,89	
JPM Global I	136,2		132,33					18023,35	
Schroeder Europe DivMa	336,14		46,58					15657,2	
Schroeder ISF Euro	731,8		33,63					24606,99	
SISF Swiss equity	819,67	0	46,92	CHF			Eur	34341,83	
Tel Italia 5/34	SOLD	0	0						
5,3% fix int. Hellenic Republic (2026)		50000						16100,43	
Delhaize 2040 5,7%		50000	112	USD			Eur	50539,88	
5,625 Renault (2017)	ENDED							0	
Wienerberger 2020 4%		24000	103,73%					24896,3	
Bekaert 2019 5%		15000	102,12%					15318,56	
Ladbroke		18500	106,24	GBP				22184,16	
total Euro investments								385686	
Accounts									
Beobank CHF money market					2433,06		EUR/CHF	1,12	2172,375
Citibank EUR checking									36018,69
Citibank EUR Savings									72923,65
Citibank US Money Market					0				0
Citibank CHF current					168,26		1,12		150,2321
Citibank US current					547,84		0,89		487,5776
Total Accounts									111752,5
Grand Total									
IUVSTA Prize									743755
									-48270
									695485,3

Table 2 : IUVSTA General Fund, as of July 1st, 2016

Figure 1 presents the evolution of the general fund, since December 31, 2009.

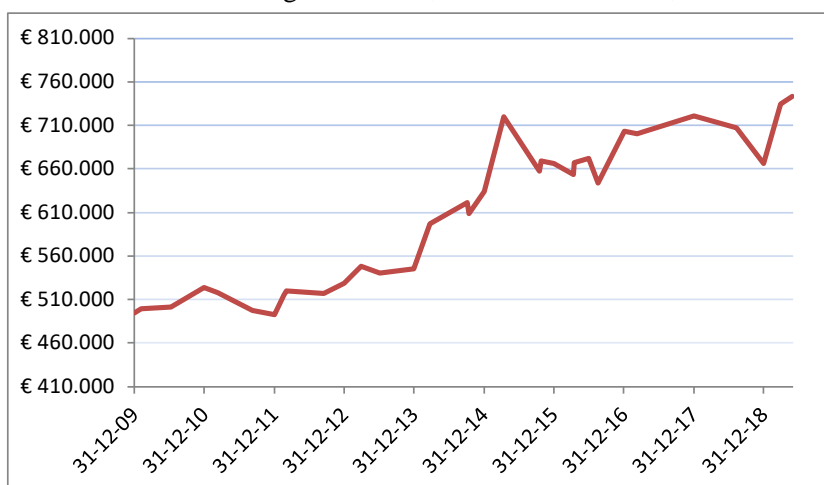


Figure 1: IUVSTA general fund (numbers include donations for IUVSTA prizes, which are no longer separated from other investments)

4. Annual budgets

The annual budgets for 2017 and 2018 have been voted at the AGM-4 in Rogla and AGM-5 in Cebu, respectively. The final accounts for the calendar years 2016 and 2017, after auditing by the registered accountant, were accepted by the same two AGM. The final accounts for 2018 have been audited and were presented at the finance committee and ECM-129 in Regensburg. It will be the role of the GM in Malmö to vote on this final acceptance. A provisional budget for 2019 was prepared and presented at the finance committee and ECM-129, although they will have to be approved at GM in Malmö.

5. Budget 2019

A provisional budget for 2019 was prepared and presented at the finance committee and ECM-129, although it will have to be approved at GM in Malmö. This proposed budget is highlighted in red in Table 1.

6. Proposed budget for the 2020-2022 triennium

The triennium budget should reflect the IUVSTA policy for the next triennium. It is prepared by the treasurer and the finance committee, after discussion with the president-elect and the officers. The most significant items of this budget are presented hereunder, and the budget is presented in Table 3

a) value per share: it is proposed to increase the value per share by 10%, putting it at a value of 165 € Then, every triennium, the value of the share will be increased according to the average inflation over 3 years of the OECD countries

b) number of shares by country: after a considerable change in the number of shares by country in the current triennium, it is proposed to keep these numbers unchanged in the current triennium. The Phillipine Vacuum Society which joined IUVSTA during this triennium has 1 share. Should the Cuban vacuum society join IUVSTA (to be decided at GM-Busan), it will have 1 share. The total amount expected from subscriptions is increased accordingly, while taking into account countries that are suspended.

c) donation from IVC Sapporo: the expected donation from IVC Sapporo is 45.000 €

d) the president-elect proposed to setup IUVSTA Highlights, to increase the communication budget to integrate modern tools, to integrate more clearly the Welch and Ebara awards. It is proposed to compensate the difference between expenses and income by sollicitating the general fund for an amount of 15,445 € Should the shareholders be reluctant to decrease the IUVSTA patrimony, ECM or (A)GM could precondition any new expense to new income. Also, this budget supposes the agreement on the increase of the share value. Should this option not be validated, an alternative budget based on current share values will be drawn, decreasing accordingly the expenses or precondition these expenses to new income.

IUVSTA Budget 2020-2022				
Euro	2014/2016	2017/2019		2020/22
Income:				
Subscriptions (share value of 150 € per year)	65.250	65250		68805
Interest	24.784	25000		18000
Visual Aids	0			
Donation (Welch Award)*				39000
Company engagements		10000		7000
Donation (from IVC)	30.000	40000		45000
transfer from general fund		51150		15445
Total income	120.034	191.400		193.250
Expenditure:				
Communication	6.000	6000		8000
Educational Activities/Webinars	20.000	24000		22000
Workshops/Schools	60.000	80000		80000
Officers discretionary expenses and travel	6.000	12000		14000
Scientific and technical directorate	2.000	3000		0
Liability insurance for IUVSTA president	984	1000		1000
ICSU/NGO-UNESCO	2.000	2000		2000
Bank charges, taxes, commitments, miscellaneous	4.000	4000		4000
Accountant for tax fillings	2.250	2400		2750
IUVSTA Prize	6.800	10000		10000
IUVSTA highlights				2000
Welch-IUVSTA award				39000
Ebara-IUVSTA award				4500
integration new societies				2000
communication plan		3000		
unexpected expenses		2000		2000
website		6000		
recruitment new societies		1000		
IUVSTA summit		20000		
Awards: students, graduates, conf.awards		15000		
Total expenditures	110.034	191.400		193.250
* within the AVS				

Table 3: proposed budget for the 2020/2022 triennium.

7. Concluding remarks:

The treasurer had the privilege to serve IUVSTA for the last 3 triennia. During this time, the value of the fund increased from 594 k€ to 744 k€. Help was given to the applicants for workshops and schools by establishing a model – example of budget for such activities. An agreement was signed with AVS to reinforce the long-term financial collaboration between the two societies. All the annual accounts were always validated by the accountant. The treasurer wants to thank the members of the finance committee for their help during all these years, as well as the IUVSTA officers and members of ECM for the always interesting discussions. He also wants to thank the treasurers of the national societies members of the Union for their cooperation during all these years. He did his best to serve the Union but, as nobody is perfect, he apologizes for the unavoidable bugs that sometimes occurred.

Election of Officers for the Triennium 2016-2019

The President will be Prof. Anouk Galtayries

The Past President will Prof Lars Montelius

The Executive Council nominee for President Elect is Prof. Francois Reniers

The President nominates the following Officers:

Scientific Director Prof Jay Hendricks

Scientific Secretary Prof Katsuyuki Fukutani

Secretary General Prof Christoph Eisenmenger-Sittner

Treasurer Prof Arnaud Delcorte

Short biographies/CVs are on the following pages

Prof Anouk GALTAYRIES PhD,
Habilitation



IUVSTA President

anouk.galtayries@chimie-paristech.fr

WORK EXPERIENCE

- ❖ 2018-today : **Academic Dean at Beijing Paris Curie Engineering School**
@ Beijing University of Chemical Technology (China) open in 2017
Sino-French Institute for a 6 year program in Chinese and in French in Chemistry (bachelor and master degrees), 220 students for the 3 first classes, supervision of a team of 1 Executive Director, 5 French professors, 1 Administrative assistant
- ❖ 1999-today : **Associate Professor** in Materials Chemistry
@ Ecole Nationale Supérieure de Chimie de Paris (Chimie Paristech)
(National Graduate School of Chemistry of Paris, F) <https://www.chimie-paristech.fr/en/chimie-paristech-english/>
@ Institut de Recherche de Chimie Paris (CNRS)
Research Group : **Physico-Chemistry at Surfaces** http://www.chimie-paristech.fr/fr/la_recherche/ircp/

NATIONAL RESPONSABILITIES 2013-2019:

- ❖ **President of the French Vacuum Society (SFV)** www.vide.org
 - 1 million turnover per year (non profit association)
 - Management of a permanent staff of 4 persons
 - About 5 scientific and technical events per year
 - About 200 participants to short courses per year

INTERNATIONAL RESPONSIBILITIES

- ❖ **IUVSTA** (International Union of Vacuum Science, Technique and Applications, 35 countries, www.iuvsta.org)
 - **President-Elect** (2016-2019)
 - **Chair of the Congress Planning Committee** (2013-2016)
 - **Councillor for France** (2013-2016)
 - **Vice-chair of the Program Committee IVC-19**, Paris, September 2013

- ❖ Vice-Chair of ECASIA'17 in Montpellier, F (2017)

EDUCATION

- ❖ **2008** : « Habilitation à Diriger des Recherches » (HDR), University Pierre et Marie Curie (Paris, F)
- ❖ **1996**: PhD Thesis in Spectrochemistry, Molecules, Solids, Reactivity, University of Science and Technology (Lille, F)
- ❖ **1992**: Master degree in Spectrochemistry, University of Science and Technology Lille
- ❖ **1989-1992**: Chemist degree, graduated from École Nationale Supérieure de Chimie de Lille (*National Graduate School of Chemistry of Lille, F*)

RESEARCH

- ❖ Surface characterisation under UHV (XPS, ToF-SIMS)
- ❖ Surface reactivity of model catalysts and passivated metals and alloys: oxidation, corrosion, biointerfaces, **h=28, more than 2500 citations.**

Leader of “Biointerfaces” thematic team in the Research Group @ Chimie ParisTech

- ❖ Member of the Editorial Board of the Biointerphases Journal (AVS)

Scientific responsibility of the XPS and ToF-SIMS platforms at IRCP/Chimie ParisTech

Supervision: 10 PhD students, 10 PhD students in collaboration, 25 master students

- 25 participations to PhD or HDR jurys (member, referee or president) from 2008 to 2018
- **author of 80 papers** (and 19 proceedings)
- **authors of 135 scientific communications** (oral or poster papers) in national and international conferences
- **18 invited conferences and seminars** since 2012 including 10 international ones.

ACADEMIC COLLABORATIONS

- ❖ Université de Bretagne Occidentale (Brest, F); Université de Technologie de Compiègne (F); Université Pierre et Marie Curie (Paris 6, F); École Normale Supérieure Paris (F); Université Paris Diderot (Paris 7, F); University of Cádiz (Spain) ; Politecnico Torino (Italy) ; University of Ferrara (Italy) ; Bulgarian Academy of Sciences (Sofia, Bulgaria) ; Romania Academy of Sciences (Bucarest, Romania); Federal University of São Carlos, (Brazil)

INDUSTRIAL COLLABORATIONS

- ❖ Rhodia; CEA; Areva; TOTAL; Saint-Gobain; EDF; Alveolev (start-up company)

MISCELLANEOUS

- ❖ Representative of Chimie Paristech at Fédération Gay-Lussac FGL (2011-today), **officer in the board of directors** (2015-2019), www.20ecolesdechimie.com
- ❖ **Chair of the Francophone ToF-SIMS (ION-TOF) users meeting** (9 meetings since 2011)

Member of the AVS since 2013; Member of the Société Chimique de France since 2014 Philately; Sports: basket-ball until 1996, Pilates & NIA (since 2015), running. Novels reader.



Curriculum vitae

Prof, Dr, Dr h c Lars Montelius

Head of Mission & Director General, International Iberian Nanotechnology Laboratory www.inl.int

H-index 36: 180 publications, 4.897 citations, last 5 years \approx 250 citations/year. Data from ISI Web of Knowledge 2019-06-17. More than 100 personally invited talks. 25

EPO patent applications.

Since Sept 1, 2014, Director General for INL, The International Iberian nanotechnology Laboratory located in Braga, Portugal. INL is the only intergovernmental nanotechnology RTO worldwide. Professor in Nanotechnology at Lund University, Sweden. His +30 years of work in nanotechnology have centred around lithography & processing applied to various nanodevices. Especially in the area of Nanoimprint Lithography, he and his research group have published several seminal articles. Most recent research interests are on exploratory nanotechnology in the life sciences, e.g. in the neuronanoscience. LM has published more than 180 articles, given more than 100 invited talks and has filed numerous patents. He was during 2003-2009 Dean of the Physics Department, Science and Engineering Faculties, Lund University. Between 2009–2011, he served as director for Øresund University & Øresund Science Region, being a cross-border cooperation between eleven universities, three regional authorities, two countries in the Øresund Region. LM is also the founder of several Swedish companies working with nanotechnology. Currently he is the President for IUVSTA: The International Union for Vacuum Science, Technique and Applications iuvsta-us.org/ with more than 150 000 members from **34** countries and he is Working Group Chair of the two European Technology Platforms NANOFutures: The European initiative for sustainable development by Nanotechnologies www.nanofutures.eu and EuMat: The European Technology Platform for Advanced Engineering Materials and Technologies: eumat.eu.

National and international assignments of importance

Commissions of trust: Appointed as special advisor to Vice-Chancellor, Lund University, 2011-2015. Appointed as Dean Physics Department (50%) 2003-07-01—2008-12-31. Numerous appointments as Faculty opponent for PhD thesis and appointment committees, evaluator for EU, ERC and many national funding organisations. Member of several International Conference committees and has served as Chair for many large international

organisations. President Elect of IUVSTA 2013-2016, Chair IUVSTA Long Range Planning Committee 2013-2016. Chair IUVSTA Nano-division 2007-2010, Chair Swedish Technical Standardization Committee on Nanotechnology 2007-2014. He is a member of the ETPs EuMat (Chair of NanoMaterials and Quantum Materials WGs), NanoFutures (Chair Skills & Education) and is coordinator for several EU programs. Honorary Doctor at Tartu University 2013.

Entrepreneurial achievements Director of the board & part founder of SciMont AB, ENI AB SwedNanoTech AB, Compacta AB, WaterSprint AB, Cellevate AB and Embedded Nano AB. Part founder and Advisor of Obducat AB and BrainLit AB. LM has filed 25 EPO patent applications.

Lars Montelius
Prof, Dr, Dr h c
Head of Mission
Director General

CV
François Reniers

Personal and contact details

Name: Reniers

First name: François Amand Baudouin

Born: 07th September 1965, Ixelles, Belgium

Citizenship: Belgian

Phone: +32 498 10 30 62

Professional email: frniers@ulb.ac.be

Home address: Clos des chênes 5, 1170 Bruxelles, Belgium Professional address:

Plasma group of the Analytical and Interfacial Chemistry (CHANI)

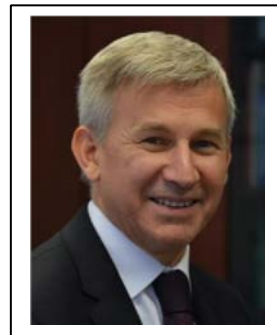
Department of Chemistry /Faculty of Sciences, cp 255

Université libre de Bruxelles

Avenue F. D. Roosevelt 50

1050- Brussels, Belgium

Phone: +32-2-6503116



Education

1996-1997 **Post-Doctoral Fellowship,**
University of California, Berkeley,
USA

1987-1991 **Ph.D. degree in Sciences**
(Chemistry)
Université libre de Bruxelles, Belgium

1983-1987 **Master of Science in Chemistry**
Université libre de Bruxelles, Belgium

Languages : French: mother tongue

English: fluent

Dutch: good

Professional Experience

Since 2011: Vice-President of the Greenwin competitiveness cluster (Walloon region), dedicated to the green technologies (www.greenwin.be)

2011-2015 : Dean, Faculty of Sciences, Université libre de Bruxelles
(<http://www.ulb.ac.be/facs/sciences/index-uk.html>)

2008-2010 : Vice-rector for research, Université libre de Bruxelles

2006-2008 : Vice-rector for academic policy, Université libre de Bruxelles

Since 2008 : Full professor, Université libre de Bruxelles

2004-2008 : Professor, Université libre de Bruxelles

1999-2004 : Associate Professor, Université libre de Bruxelles

1997-1999 : Assistant professor (chemistry), Université libre de Bruxelles

1996-1997 : Fulbright Post-doctoral researcher at the University of California, Berkeley

1992-1996 : Teaching assistant (Université libre de Bruxelles)

1991-1992 : National (military) service : IR analysis of chemical warfare gases derivatives :
Officer in the Belgian Army

Research Record

- **>130 publications** in peer-reviewed journals; **5** book chapters
- Holder of **12 patents** related to atmospheric plasma processes
- **30** research grants for more than **11 M€** since 1999. Funding agencies are European Union, Belgian funding agencies (regions, FNRS, Belspo), private companies.
- Promotership of **26 PhD** students and supervision of **21 post-doctoral** fellows
- More than **320 oral/poster presentations** at international conferences and workshops focused on surface analysis (past) and atmospheric plasma processes, >30 Invited talks
- Chairman of the ECASIA 2007 conference (European conference of the applications in Surface and Interface Analysis), Brussels, 800 participants; Program chair of the IVC-19 Conference (International Vacuum Congress), Paris, France, 2013, 2500 participants; Co-chair of the IVC-20 Conference (International Vacuum Congress), Busan, Korea, 2000 participants
- Membership of scientific committees: Member of the International Steering Committee of the ECASIA series of Conference; Member of the scientific committee and member of the executive committee of the Plasma Science and Technology Division (PSTD) of the American Vacuum Society (in charge of the Students awards)

Awards and Recognition

- Fellow of the American Vacuum Society, 2018
- President-Elect of the Plasma Science and Technology Division (PSTD) of the AVS, 2019
- Member of the FNRS scientific committee, funding natural science research projects, ongoing
- President of a FRIA jury for chemistry and materials (for funding PhD research), 2016-2017
- Member of the executive board of IUVSTA, as treasurer, ongoing
- Member of the international steering committee of ECASIA, ongoing
- Former President of the Belgian Vacuum Society (BELVAC)
- Member of the program committee of the symposium “Nanomaterials, nanoparticles and nanostructures produced by plasmas: synthesis, characterization and applications”, MRS 2017
- Co-chair of the International Vacuum Congress, Busan, Korea, 2016
- Program chair of the International Vacuum Congress, Paris, France, 2013
- Chairman of the ECASIA 2007 Conference, Brussels, Belgium
- First Socrate award of the Université libre de Bruxelles, 2005 (best professor).
- Fulbright Award (1996)
- Stas Award of the Royal academy of Art, Letters and Sciences of Belgium (1991) - Officer of the association of King’s Leopold II

Other

- Expert for the French funding agency ANR
- Expert for the promotion of professors (University of California, Los Angeles, University of California Santa Barbara)
- Expert for the Paris University Research Foundation
- Expert for the French Higher Education Council (Evaluation of universities)
- Scientific and Technology consultancy for private companies



Curriculum Vitae Jay H. Hendricks

National Institute of Standards

and Technology

100 Bureau Drive, Stop 8363
Gaithersburg, MD 20899-8363
(301) 975-4836
jay.hendricks@nist.gov

A world-class expert in low pressure and vacuum metrology, Dr. Hendricks currently leads the activities of the NIST Thermodynamic Metrology Group. Jay received his M.A. and Ph.D. in physical chemistry from Johns Hopkins University, and his B.S. in chemistry from Penn State University. In 1996, he started his career at NIST as a post-doctoral fellow conducting research on a novel low-temperature CVD that resulted in a US patent.

Jay has over 28 years of vacuum science and technology experience and has worked on many aspects of vacuum technology and metrology. He leads the Thermodynamic Metrology group, which is responsible for temperature, pressure, vacuum, humidity and helium leak calibrations (currently, on Detail, serving as the Deputy Chief for the Sensor Science Division of NIST's Physical Measurement Laboratory. He was team lead for a 5-year Innovation in Measurement Science project aimed at re-inventing the realization and dissemination of pressure, temperature, and length using optical Fabry-Perot interferometer cavities. The research has resulted in a US patent, 12 publications, 4 invited talks and aims to fundamentally change the way pressure and temperature and length measurements and standards are realized and disseminated with high potential for technology transfer to the private sector. His current research interests focus on development novel photonic methods for realizing traditional vacuum gauging and temperature metrology, dynamic measurements, and extreme vacuum production and measurement.

Dr. Hendricks has authored over 60 papers on vacuum science/ technology/ surface chemistry/ ion-beam laser spectroscopy. He has presented invited papers at both domestic and international vacuum symposia and has been a seminar instructor for the Measurement Science Conference six times over the past 13 years. He is regularly sought out as invited/ key-note speaker (8 times over the past 5 years). Recent awards include the being named a Fellow of the AVS for exceptional contributions to vacuum science, developing new and revolutionary vacuum standards and methods, and mentorship to early career scientists and engineers and the NIST French Award for development of a new NIST calibration service. In 2017, he received the US Commerce Department Gold Medal group award for revolutionizing pressure-measurement technology by invention of the Fixed-Length Optical Cavity (FLOC) that redefines gas pressure in terms of fundamental constants.

Dr. Hendricks has demonstrated leadership and chairs national and international vacuum standards meetings and symposia. He is an active member of the CCM Pressure and Vacuum working group piloting international key comparison, AVS-Mid Atlantic Chapter Executive Committee, where he organizes annual chapter meeting at NIST for the past 10 years, he is active on the ISO TC112 Vacuum Standards Committee where he reviews documents and standards, and is the incoming Chair for IMEKO TC-16, an international technical committee for pressure and vacuum metrology. His leadership is nationally and internationally recognized is sought out on a variety of vacuum standards meetings and symposia program committees. He is the outgoing Chair of VSTD (Vacuum Science and Technology Division) and is the incoming Director for Science and Technology for IUVSTA (International Union of Vacuum Science, Technique and Application) an organization representing nearly 15,000 physicists, chemists, materials scientists, engineers, and technologists who are linked through their common use of vacuum. He currently has active leadership roles in the AVS (American Vacuum Society), and IVC (International Vacuum Congress), and EVC (European Vacuum Congress) program planning committees.

Links to Latest Publications

- [Quantum-based vacuum metrology at NIST](#)
- [Recent Developments in Surface Science and Engineering, Thin Films, Nanoscience, Biomaterials, Plasma Science, and Vacuum Technology](#)
- [Recommended practice for calibrating vacuum gauges of the ionization type](#)
- [Perspectives for a new realization of the pascal by optical methods](#)
- [An integrated and automated calibration system for pneumatic piston gauges](#)
- [Performance of a dual Fabry-Perot cavity refractometer](#)
- [In Search of Better Pressure Standards](#)
- [Metrology for comparison of displacements at the picometer level](#)
- [Recent advances in vacuum sciences and applications](#)

Education

1996	PhD Physical Chemistry Advisor: Dr. K H Bowen, Jr.	Johns Hopkins University Baltimore, MD
1992	MA Chemistry Advisor: Dr. K H Bowen, Jr.	Johns Hopkins University Baltimore, MD
1990	BS Chemistry Advisor: Dr. A W Castleman, Jr.	PennState University State College, PA

Professional Experience

2015-2019	NIST, Group Leader, Thermodynamic Metrology Group United States Department of Commerce National Institute of Standards and Technology, Gaithersburg, MD	<ul style="list-style-type: none"> • Responsible for managing a team of 15 full time and 5 to 10 temporary staff consisting of Scientists, Engineers, Technicians, and Guest Researchers. • Responsible NIST for calibrations of temperature, pressure, vacuum, humidity, and helium leaks. • Currently on Detail, serving as the Deputy Chief for the Sensor Science Division of NIST's Physical Measurement Laboratory.
2012-2015	NIST Thermodynamic Metrology Group Team Lead, IMS-PTL United States Department of Commerce National Institute of Standards and Technology, Gaithersburg, MD	<ul style="list-style-type: none"> • Team Lead of innovations in measurement science project to reinvent pressure, temperature and length metrology • Development of a photonic, quantum-based pressure standard • Pilot of international key comparison in low pressure • Maintain best-in-world low pressure Manometry standards program at NIST
1998-2012	NIST Pressure and Vacuum Group	
2005	Leader, Low Pressure Manometry Project United States Department of Commerce National Institute of Standards and Technology, Gaithersburg, MD	<ul style="list-style-type: none"> • Developed new ultrasonic interferometer manometer electronics • Developed of a new high-stability transfer standard package for international key comparisons for the range 100 Pa to 130 kPa. • Development of a new NIST Comparison Method Calibration Service for vacuum gauges spanning the range of 0.65 Pa to 130 kPa. • Developed and conducted temperature programmed desorption (TPD) studies of water and hydrogen from stainless steel surfaces. • measured the effect of gas on the density of octoil-s. • Technical expert for a project by the Library of Congress to re-encase the historically significant Waldseemuller Map. • Technical expert for the development of leak tight enclosures for National Archives Project to Re-encase the Charters of Freedom including the Declaration of Independence.

- Expert with NIST 140 Pa, 160 kPa, 13kPa, 360 kPa UIM Primary Standards
- Participated in a low pressure bilateral comparison with the Czech Republic
- Capacitance Diaphragm Gauges (CDGs) and Piston Gauge measurements
- Quartz Bourdon Gauges (QBGs) and MEMS RSG measurements and research
- Spinning Rotor Gauges (SRGs) research
- Ion Gauges (IGs), He Leak measurements from 3×10^{-4} scc/sec to 1×10^{-10} scc/sec
- RGA mass spectrometers

1996-98

NIST Reacting Flows Group

Postdoctoral Fellowship, NIST /National Research Council

CVD Reactor Development: Successfully designed, implemented, and developed a low-pressure co-flow sodium / metal-halide reactor process for the production of **metal** and **ceramic thin films**. **US Patent # 6,113,983** awarded for this novel process. The nanostructured thin-films were investigated by XPS, XRD, EDS SEM, TEM, WDS, SAED, and Raman spectroscopy. Low Pressure Chemical Vapor Deposition (CVD and LPCVD) Titanium and titanium nitride thin film growth (Ti, TiN).

Curriculum Vitae

Katsuyuki Fukutani

Personal:

Name: Katsuyuki Fukutani
 Sex: Male
 Date of Birth: May 1, 1962
 Place of Birth: Tokyo
 Marital Status: Married
 Citizenship: Japanese

Education:

1985 B. Sc., Physics Department, The University of Tokyo
 1990 D. Sc., Physics Department, The University of Tokyo
 (A Study of Homoepitaxial Growth on the Clean and Metal-covered Surfaces of Ge and Si)
 Supervisor: Prof. S. Ino

Profession:

1990 – 1995 Research Associate (Prof. Y. Murata)
 Institute for Solid State Physics, The University of Tokyo
 1994 - 1996 PRESTO Researcher, Japan Science Technology Corporation
 1995 - 1996 Lecturer Institute of Industrial Science, The University of Tokyo
 1996 - 2006 Associate Professor
 Institute of Industrial Science, The University of Tokyo
 2000 - 2000 Visiting scientist
 Fritz-Haber-Institut der Max-Planck-Gesellschaft, Germany
 2000 - 2001 Visiting scientist
 Department of Chemistry, Cambridge University, UK
 2005 - 2011 Chief researcher
 CREST, Japan Science and Technology Agency
 2005 - present Professor
 Institute of Industrial Science, The University of Tokyo
 2010 - 2011 Department Head, Institute of Industrial Science, The University of Tokyo
 2018 - present Deputy Director, Institute of Industrial Science, The University of Tokyo
 2018 - present Japan Atomic energy Agency, Advanced Science Research Center
 Nanoscale
 Research Group, Group Leader

Academic service:

1996 - 2005	Editorial board, Journal of Vacuum Society of Japan
2005 - 2007	Chief editor, Journal of Vacuum Society of Japan
2007 - 2012	Advisory member, PRESTO project Japan Science and Technology Agency
2007 - present	Board member, Vacuum Society of Japan
2007 - 2014	Editorial board, Journal of Physics: Condensed Matter
2007 - 2017	Editorial board, Journal of Physical Society of Japan
2009 - 2012	Board member, Surface Science Society of Japan
2016 - present	Chair of Congress Planning Committee, International Union for Vacuum Science, Technique and Applications
2018 - present	Vice president, Japan Society of Vacuum and Surface Science

Katsuyuki Fukutani,

May 2019

CURRICULUM VITAE

Christoph Eisenmenger-Sittner

Personal Data:

Christoph Eisenmenger-Sittner, born on 21st July 1965 in Mödling, Austria

Professional Background:

2002 – now: Permanent position as Assistant Professor at the Vienna University of Technology, Institute of Solid State Physics

10/2001: Habilitation and achievement of the permission to teach "Applied Physics"

1991 - 2001: Assistant at the Institute of Applied and Technical Physics at the Vienna University of Technology

Education:

1990 – 1994 PhD student at the Vienna University of Technology, Institute of Applied and Technical Physics, supervisor Professor Peter Skalicky

subject: *Roughness Induced Phase Separation in Multicomponent Systems*

1989 – 1990 Physics (Diploma) Vienna University of Technology, Institute of Applied and Technical Physics; supervisor Professor Alfred Wagendristel; subject:

Gesputterte Gleitlagerbeschichtungen auf Cu-Basis

1984 - 1990 Study of "Technical Physics", Vienna University of Technology

Memberships:

Deutsche Physikalische Gesellschaft

Materials Research Society

European Materials Research Society

Austrian Vacuum Society

International Union of Vacuum Science, Technique and Application (IUVSTA)

Referee Activities:

Deutsche Forschungsgemeinschaft

Croatian Ministry of Science

Institute for the promotion of Innovation by Science and Technology in Flanders (IWT Flanders)

Applied Physics Letters

International Journal of Materials Research

Journal of Applied Physics

Journal of Physics D

Journal of Testing and Evaluation

Langmuir

Materials Chemistry and Physics

Physica B
Surface and Coatings Technology
Surface and Interface Analysis
Thin Solid Films
Vacuum

Meeting Activities:

Co-organizer ECASIA 05
Co-Organizer E-MRS Spring Meeting 2007, Symposium Q "Protective coatings and thin Films"
Membership Programme Committee JVC 12, 2008
Membership International Programme Committee IVC 18, 2010
Membership International Programme Committee ICTF 15, 2011
Membership International Organizing Committee JVC 14, 2012
Membership International Organizing Committee VASSCAA 6, 2012
Membership International Programme Committee IVC 19, 2013
Organizer Joint Vacuum Conference 15 (JVC-15), Vienna, 2014
Programme Chair International Programme Committee ICTF 16, 2014
Membership International Programme Committee IVC 20, 2016

Functions in National and International Bodies:

2004-2013 Secretary General of Austrian Vacuum Society
2004 Austrian Councillor at IUVESTA
2005 Appointment to coordinator of "IUVESTA Technical Training Courses" (ITTC)
2007 Appointment to IUVESTA Scientific Secretary
2013 Appointment to IUVESTA Secretary General

Number of publications in refereed journals: 91

More details:

http://static.ifp.tuwien.ac.at/homepages/Personen/duenne_schichten/german/index_g.htm

Prof Arnaud DELCORTE
arnaud.delcorte@uclouvain.be



IUVSTA Treasurer

HEAD OF THE SURFACE ANALYSIS GROUP (2013-) INSTITUTE OF CONDENSED MATTER AND NANOSCIENCES AT UCLOUVAIN

I have been active in Surface Science and Ion Beam Analysis (SIMS) for more than 20 years. My current research activities encompass the theoretical and experimental study of energetic cluster-solid interactions, with an emphasis on soft molecular emission, and of plasma-surface interactions, as well as the 2D/3D molecular characterization of surfaces. Recent developments from my research team concern the use of large gas cluster beams to retrieve physical information from organic surfaces (glass transition of polymers, structural effects) and to transfer non-volatile molecules for the solvent- and matrix-free fabrication of novel biological and hybrid surfaces (soft and reactive landing).

SCIENTIFIC CAREER

- ❖ 2016- FNRS Research Director
- ❖ 2004- Professor at University St Louis (USL-Brussels <http://www.usaintlouis.be/>)
- ❖ 2004- Professor at Université catholique de Louvain (UCLouvain <https://uclouvain.be/en/index.html>)

Previous positions: - FNRS Senior Research Associate (2012-16); FNRS Research Associate (2004-12)

- FNRS postdoctoral fellow at UCLouvain (2000-03)
- Postdoctoral fellow of the Pennsylvania State University (1999-2000)
- Research Assistant at UCL (1994-99)

EDUCATION

- ❖ 1999 PhD in Applied Sciences (Surface Science) at UCLouvain (Director: P. Bertrand)
- ❖ 1993 Master degree in Materials Science: Orientation Physics at the Louvain School of Engineering

INVOLVEMENT IN THE INTERNATIONAL COMMUNITY

- Elected European member (2015-) and Secretary (2017-) of the International SIMS Conference Committee. Co-chair of the 21st SIMS conference (Cracow, Poland, 2017)
- Committee Member of the International conference on Ion-Surface Interactions (ISI) (2015-)

- Committee Member of the European Conference on Applications of Surface and Interface Analysis (ECASIA) (2017-)
- Member of the Advisory board of the SIMS Europe conference (2013-)
- Member of the International Scientific Board of the 15th, 16th and 18th and 19th International Conferences on Secondary Ion Mass Spectrometry (Manchester, England, September 2005 / Kanazawa, Japan, November 2007 / Riva del Garda, Italy, 2011 / Jeju, Korea, 2013)
- Member of the organizing committee of the 19th International Conference on Ion Beam

Modification of Materials (Leuven, Belgium, September 2014)

PUBLICATION AND CONFERENCES

- ❖ **150 articles in peer reviewed journals (>3100 Citations; Current Hirsch index: 28)**
- ❖ **5 book chapters**
- ❖ **54 invited talks at conferences**

SUPERVISION OF PEOPLE AND PROJECTS

- ❖ 14 PhD theses (11 defended)
- ❖ 10 post-doctoral fellows
- ❖ 21 undergraduate/master theses
- ❖ Member of 22 other PhD thesis jurys

- ❖ >20 research projects (incl. EU-FP7, Federal Belgian Science Policy, FNRS, Wallonia-Brussels Federation, Wallonia Region, etc.) for a total cumulated budget of approx. 6 M €

OTHER RESPONSIBILITIES

2011- Head of the management board of the Surface Characterization (SUCH) technological platform at UCL.

2007-2010 Head of the PCPM laboratory, UCL (~45 people; ~6 technical and staff).

MAIN COLLABORATIONS

Academia The Pennsylvania State University, USA; Texas A&M University, USA; The National Physical

Laboratory, UK; University of Surrey, UK; University of Manchester, UK; Jagellonian University, Poland; University of Catania, Italy; University of Yaoundé, Cameroon; Université Pierre et Marie Curie, France; Free University of Brussels, Belgium; Catholic University of Leuven, Belgium; University of Mons, Belgium; University of Namur, Belgium; University of Hasselt, Belgium.

Companies and Research Centers Ion-ToF GMBH, Germany; AGC glass, Belgium; AGFA, Belgium; UCB, Belgium; IMEC, Belgium; LIST, Luxemburg; Materia Nova, Belgium; Aquatic Science, Belgium; Nanocyl, Belgium.

**National Committee Councillors and Alternates
Triennium 2019-2022**

Society	Councillor	Alternate
Argentina	Miguel Darío Sánchez	Alfredo Juan
Australia	Anton Tadich	Jennifer MacLeod
Austria	Manfred Leisch	Wolfgang Werner
Belgium	Diederik Depla	François Reniers
Brazil	Pedro A. P. Nascente	Macrelo Juni Ferreira
Bulgaria	Milena Damyanov	Ivan Petrov
Croatia	Maja Mičetić	Ivana Capan
<i>Cuba*</i>	<i>María Sánchez Colina</i>	<i>Arbelio Pentón Madrigal</i>
Czech Republic	Stanislav Novák	Karel Mašek
Finland	Jari Koskinen	Timo Sajavaara
France	Sylvie Bourgeois	Didier Bergé
Germany	Ute Bergner	Dietrich Zahn
Great Britain	Timo Gans	Deborah O'Connell
Hungary	László Óvári	András Berkó
India		
Iran	Farhad Masoumian	Abdolmohammad Ghalambor Dezfouli
Israel	Tatyana Bendikov	Sidney Cohen
Italy	Fabrizio Giorgis	Enrico Maccallini
Japan	Yasunori Tanimoto	Katsuyuki Fukutani
Korea	Geun Young Yeom	Yong Min Kim
Mexico	Emmanuel Haro-Poniatowski	Francisco S. Aguirre-Tostado
Netherlands	Ingmar Swart	Ad Ettema
Pakistan	Javaid Ahsan Bhatti	Suleman Qaiser
Philippines	Christian Lorenz S. Mahinay	David Ruzic
P.R. China	Ningsheng Xu	Hongjun Gao
Poland	Ryszard Czajka	Leszek Markowski
Portugal	Carlos Jose Macedo Tavares	Orlando M.N.D. Teodoro
Romania (in suspense)		
Russia (in suspense)		
<i>Serbia*</i>	N/A	N/A
Slovakia	Andrej Vincze	Peter Šiffalovič
Slovenia	Janez Kovač	Miran Mozetič
Spain	Jose Angel Martin Gago	Miguel Manso
Sweden	Pär Omling	Ulf Karlsson
Switzerland	Jörg Patscheider	Martin Wüest
Ukraine (in suspense)		
USA	Joe Greene	Gregory Exarhos

**Subject to acceptance by GM 20*

Certificates of Recognition
Presented at GM-20 to
Executive Council Members and Division Chairs who are demitting office

Name	Latin	English
	praeses	
	MMXIII - MMXVI	President
Mariano Anderle	propraeses	
	MMX - MMXIII	Vice President
	MMXVI - MMXIX	
Deborah O'Connell	perscriptor	Recording Secretary
Anton P. Stampfl	consilarius	Councillor
Jamie Quinton	consilarius	Alternate Councillor
Rogério P. Mota	consilarius	Alternate Councillor
Slobodan Milosevic	consilarius	Councillor
Vladimír Matolín	consilarius	Alternate Councillor
Antti Korhonen	consilarius	Alternate Councillor
Daniel Vernière	consilarius	Alternate Councillor
László Kövér	consilarius	Councillor
Morteza Zargar Shoushtari	consilarius	Councillor
Seyed Mohammad Rozati	consilarius	Alternate Councillor
Shachar Richter	consilarius	Alternate Councillor
Paolo Manini	consilarius	Alternate Councillor
Sander Otte	consilarius	Alternate Councillor
Magdaleno R. Vasquez Jr	consilarius	Councillor
Marek Godlewski	consilarius	Councillor
Jozef Novák	consilarius	Councillor
Francisco Tabarés	consilarius	Councillor
David Ruzic	director scientiae et artis	Scientific Director
Andrej Vincze	secretarius scientiae et artis	Scientific Secretary
Deborah O'Connell	praeses divisionis	Division Chair
Miguel Manso	praeses divisionis	Division Chair
Francesco Fracassi	praeses divisionis	Division Chair
Jay Hendricks	praeses divisionis	Division Chair

Report of the Retiring President

Lars Montelius: triennium 2016-2019

When I took up the position as President of IUVSTA three years ago, we had already started our journey to further develop IUVSTA to become a very good professional organization. An overarching goal was to initiate the development of the identity of IUVSTA as an inspiring, competent, engaging, well known and influential international organization that proudly serve society. A further goal was to continue to enlarge IUVSTA by attracting new members and helping new members to form national organizations. In addition, the aim was to continue the discussions about developing the role of IUVSTA as an organization with a clear orientation towards sustainability. And lastly, but not least, the goal was to start the process to bring IUVSTA into the international dialogue by active engagement in important science policy actions and discussions.

Now after my three years as President, I am very happy to be able to conclude that we in many aspects have been able to deliver results well aligned to the above goals. In particular, I have noticed the strong commitments from many of the officers and others for rolling out this strategic dimension. Furthermore, we have managed, mainly thanks to the President Elects excellent work, to bring in an additional Award specifically devoted to young researchers and dedicated to sustainability.

Besides activities aligned to the goals above, we have also during this triennium successfully celebrated the 60 Years anniversary of IUVSTA. Furthermore, our homepage has been re-designed and is now much more appealing. Further, as was outspoken already three years ago, we have witnessed how digitalization has become a buzz-word in society and we have embraced several changes internally at IUVSTA, although I must admit, that in this context, we have so far just taken a few initial steps.

An interesting aspect to note is that we during this period have been able to further articulate our role in problems that the younger generation is interested in, i.e. to convey the importance of Vacuum Science in relation to social innovation and societal development, i.e. enabling students and post-docs to become more interested in the subject of Vacuum Science. Here our new initiatives for awards and prizes for younger scientists has been and will be instrumental. I believe from the bottom of my heart that IUVSTA has a very important role to play in the research, technology and innovation areas enabling a sustainable societal development.

I would also like to thank all officers for a fantastic good teamwork that has been instrumental. Especially, a big THANK YOU to the officers that are now stepping down, giving over their roles to new officers: the STD Chair David Ruzic, the Scientific Secretary Andrej Vincze, and the past president Mariano Anderle. Also to the Treasurer Francois Reniers, who will step down from this position, but will serve the Union as President Elect, and last, but not least to Deborah O'Connell, who acted as Recording Secretary during this triennium.

And, I would also like to say THANK YOU to all members that are engaged with IUVSTA, it is through your dedicated work we will be able to continuously develop the organization.

I am very happy to now be able to hand over to the new President for the next triennium, Prof Anouk Galtayries, an organization that has been vitalized and show several signs of being able to prosper and I sincerely wish you all the best and a big GOOD LUCK for further work together with all members of IUVSTA, specifically with the team of officers, to develop IUVSTA to become an influential entity that students and professionals in the vacuum community worldwide will be proud of being a part of.

Report of Secretary General to GM-20
on
Triennium 2016-2019
Malmö, Sweden, 3rd July 2019

1 Period and activities

This report covers the period from, Wednesday, 24th August 2016 till the official end of the triennium on Wednesday, 3rd July 2019. It should be noted that the Financial Triennium (on which the Treasurer will report) covers the three financial years 2017, 2018 and 2019.

The major activities of the Secretary General during this period were:

- general administration and correspondence
- organization of the Executive Committee Meetings with the assistance of the host National Societies
- organization of GM20 in conjunction with the organizing agents for the International Vacuum Congress
- updating and maintaining various parts of the web site
- keeping track of procedural changes and updating the procedures manual
- interactions with UNESCO, ICSU, ISO, and other organizations

Some of the main points are presented below. More detailed and complete information is available in the reports to the various Executive Council Meetings, which are all available on the website.

2 Relations with other Bodies

2.1 UNESCO

IUVSTA is a corresponding member of UNESCO, and an associate member of the NGO-UNESCO Liaison Committee.

There are reports on many meetings and conferences but essentially none are of interest to the IUVSTA community.

We also receive invitations to meetings, which, when relevant, are passed to IUVSTA members, but as far as I am aware, none have been attended this triennium.

2.2 ICSU

IUVSTA was an associate member of the International Council of Science (ICSU). In 2018 ICSU merged with the International Social Sciences Council (ISSC) to form the International Science Council, ISC. The relations of IUVSTA with this new entity remain unchanged. Again, most material is now disseminated by email. The ISC aims to promote international scientific and technological activities that contribute to the benefit and well-being of society but ISC will not normally support travel grants to attend standard scientific meetings and conferences, nor support fellowship programmes.

2.3 ISO

IUVSTA has liaison status with ISO, and is represented on two Technical Committees: TC201 on surface analysis and TC112 on Vacuum Technology.

TC201 is quite active, and during this triennium the relations to TC112 have been revived by the Vacuum Science and Technology Division of IUVSTA. The relevant IUVSTA Divisions maintain contact and contribute on behalf of the Union. The weekly newsletter STADIST which lists information on newly issued, revised and withdrawn standards is distributed by email. Members interested in the work of ISO are referred to the website www.iso.ch.

2.4 Commercial Bodies

I receive copious quantities of literature and invitations from Congress Centres, meetings organizers and hotels around the world.

3 National Vacuum Societies

I maintain correspondence with National Vacuum Societies. I am grateful to those Societies which promptly inform me of changes in Officers so that correspondence goes to the relevant persons. It was with pleasure that we received an application for membership from Cuba.

4 Communications and Documentation

4.1 Communications

The vast bulk of communication is now by email, but I am trying to put a more active role to the web site for documentation and sharing of information.

4.2 Procedures Manual, Statutes and By Laws

The Procedures Manual, Statutes and By-Laws are available on the website.

4.3 Web Site

The web site which is hosted by the University of Illinois now plays a major role for our communication and the distribution of information. Thanks are due to Ivan Petrov, Chair of Publications and John Koudelka, the webmaster, for their hard work in maintaining and improving the site.

The ECM Minutes and Papers are placed in the Records Area of the Members' part of the web site by the Recording Secretary as soon after each ECM as the material is available. Information on current matters is put into the Members' part of the web site, Meantime area, by the Secretary General.

5 Executive Council Meetings

The following Executive Council Meetings have been held during the Triennium

- ECM 124 Busan, Korea, 25 August 2016
- ECM 125 Rogla, Slovenia, 30 March 2017
- ECM 126 Sofia, Bulgaria 1 October 2017
- ECM 127 Cebu Island, the Philippines, 11 February 2018
- ECM 128 Sydney, Australia, 12 August 2018
- ECM 129 Regensburg, Germany, 31 March 2019
- ECM 130 Malmö, Sweden, 30 June 2019

In each case (apart from ECM 124) the meeting was preceded by two days of Committee and other meetings.

I would like to offer my personal thanks to all those who made arrangements for all these meetings; this requires considerable effort to coordinate travel and meetings information in a timely fashion. Thanks are also due to those societies which made offers to host the meetings and for their hospitality.

6 Conclusion

In conclusion, I would like to thank all those who have helped to make my task easier on the past Triennium. Although serving in this position not for the first time, some actions may not run completely smooth and may seem on shor notice. However, I cannot remember any case where my counterparts were un-cooperative or non-responsive in urgent matters. I would like each person within the Union with whom UI worked closely together for their help. Finally, I would like to thank Deborah O'Connell for her important work as Recording Secretary. To provide consistent minutes from our Executive Council Meetings is an essential task for all legal matters concernin g the Union and therefore a vital part of our collaborative work.

Christoph Eisenmenger-Sittner
June 2019

**Awards and Scholarship Committee (ASC)
Report for the Triennium 2016-2019**

Chairman: Martin Wüest, Vice-Chairman: Timo Gans

Members: Mariano Anderle, Maria Carmen Asensio, Sidney Cohen, Christoph Eisenmenger-Sittner, Anouk Galtayries, Jay Hendricks, Janez Kovac, José A. Martín-Gago, Slobodan Milosevic, Lars Montelius, Pedro A. P. Nascente, François Reniers, Frank Richter, David Ruzic, Anton Stampfl, Andrej Vincze

The Awards and Scholarships Committee (ASC) is set up by the President and is responsible for administration and organization of international awards and prizes in the scientific and technical areas covered by the Union.

ASC meetings were held in conjunction with all ECM meetings between the International Vacuum Congresses in Busan and Malmö.

IUVSTA Prizes

IUVSTA Prize for Science is awarded to recognize and encourage outstanding internationally acclaimed research in the fields of interest to the Union. IUVSTA Prize for Technology is awarded for outstanding experimental and/or theoretical research in vacuum science, technique or its applications.

Endowment for the Prizes is provided by generous donations from Canon Anelva Corp., Funai Electric, Intevac, Inc., Kratos Analytical, Oerlikon Balzers, Oerlikon Leybold Vacuum, Omikron nanotechnology, Osaka Vacuum, Physical Electronics, SAES Getters, TAV S.p.A., Ulvac Inc., VAT vacuum valves AG, IOP Publishing, and Varian Associates.

The 2019 IUVSTA Prize for Science was awarded to David Phillip Woodruff, Professor Emeritus, Department of Physics, University of Warwick, United Kingdom for his outstanding contributions to deepening our understanding of the structure of surface through the development and application of broadly applicable tools now widely available to the surface science community.

The 2019 IUVSTA Prize for Technology was awarded to Reshef Tenne, Research (Emeritus) Professor, Department of Materials and Interfaces, Faculty of Chemistry, Weizmann Institute of Science, Rehovot, Israel for the discovery, synthesis, and characterization, of novel closed inorganic nanostructures, and enabling their implementation in tribological and mechanical technologies.

Welch Scholarship

The M.W. Welch International Scholarship supports younger scientists working abroad in vacuum science and technology. The scholarship was made possible since the late 1960ies by support from M.W. Welch and the Welch family. After a hiatus for several years (the last award was given in 2013) due to the probate process, Mr. Kenneth M. Bro (grandson of M.W. Welch) and his sister Beth Howard agreed to continue to fund the Welch Scholarship from their inheritance. The administrative process for the scholarship selections was altered a bit from the one before the hiatus. A new call for a Welch Scholarship was published in 2017 and the first Awardee after the restart was selected in the person of Dr. Abdul Wasy Zia, a Senior Research Associate at the City University of Hong Kong who will spend two months at the Case Western Reserve University in Cleveland (USA).

IUVSTA-Elsevier Student Awards

The aim of these awards is to give partial financial support to younger research students to help them to attend IUVSTA meetings and conferences at which they are presenting a paper. (“Young scientist” means that the date when the young scientist has received her/his first academic degree shall be within seven years before the start date of the conference.) During the 2016-2019 triennium the following conferences have been selected for support: 2017: ECOSS 33 (Szeged, Hungary), ICTF-17 (New Delhi, India); 2018: EVC-15 (Geneva, Switzerland), VASSCAA-9 (Sydney, Australia); 2019: IVC-21 (Malmö Sweden). However, no awards were given at ICTF-17 and VASSCAA-9. Some of the money could be transferred to IVC-21.

A new MOU for 2019-21 has been prepared und will be signed during the IVC in Malmö, Sweden. Students need not be from developing countries any longer. However, gender equality between the awardees should be reached. The support by the publishing house Elsevier will remain EUR 12000 within the triennium.

IUVSTA EBARA Award

A new award was established this triennium. Every three years in conjunction with the International Vacuum Conference the award is given to a young scientist that contributed in the development of environmentally friendly vacuum technologies. The award is sponsored by the Japanese vacuum company EBARA. The first recipient of this award is Waqas Hassan Tanveer, Research Associate at Heriot Watt University, Edinburgh, UK.

Martin Wüest
Chairman

Congress Planning Committee Report for the 2016-2019 Triennium

K. Fukutani, chair of CPC 2016-2019

The committee members:

Chair: Katsuyuki Fukutani

Vice-chair: Ute Bergner, Jay Hendricks, Anouk Galtayries

Members:

Anton Stampfl, Manfred Leisch, Christoph Eisenmenger-Sittner,
 Francois Reniers, Stanislav Novák, Maria Carmen Asensio
 Manini Paolo, Mariano Anderle, Giacomo Ceccone,
 Mario Rocca, Geun Young Yeom, Haiming Guo
 Janez Kovac, Miran Mozetič, Marcelo Juni Ferreira,
 Martin Wüest, Andrej Vincze, Sylvie Bourgeois
 David Ruzic

The Congress Planning committee is responsible for the following matters:

- to monitor the progress of the IUVSTA-supported conferences and give necessary advice
- to monitor the topics, dates and locations of the IUVSTA-related conferences
- to arrange the bidding process for IVC

1. IUVSTA-supported Conferences in 2016-2019

The table below summarizes the IUVSTA-related conferences organized in the triennium of 2016-2019. Five conferences except ICN+T are supported by IUVSTA, and prior to the conferences, the chairs of the conferences or related-division chairs made progress reports at ECM's, and final reports were given in ECM's. Brief summaries of the conferences are given below.

	IVC (CPC)	EVC (VST)	ICTF (TF)	ECOSS (SS)	VASSCAA (SS)	ICN+T (NS)
2016	Korea, Aug. 22-26	Slovenia June 6-10	-	France 28 Aug -2 Sep	J/IVC	J/IVC
2017	-	-	India Nov 13-17	Hungary Aug 27 -Sept 1	-	-
2018	-	Switzerland June 17-22	-	Denmark August 26-31	Australia August 12-16	Czech Rep. July 22-27
2019	Sweden July 1-5	-	-	-	-	J/IVC

1-1 IVC

IVC-20 was organized in Busan, Korea as chaired by H. J. Kang.

Attendance: 2370 participants, 153 exhibitors
1356 presentations (8 plenary, 23 keynote, 104 invited speakers)

IVC-21 is organized in Malmö, Sweden chaired by Pär Omling.

Attendance: 6 plenary, 85 invited speakers (as of May, 2019)

1-2 EVC

EVC-15 was organized in Geneva, Switzerland chaired by Martin Wüest.

Attendance: 292 participants, 32 exhibitors
275 presentations (5 plenary, 10 invited speakers)

1-3 ICTF

ICTF-17 was organized in New Delhi, India chaired by S. Kumar.

Attendance: ~480 presentations from 18 countries
(2 plenary, 2 keynote, 77 invited speakers)

1-4 ECOSS

ECOSS-32 was organized in Grenoble, France chaired by Roberto Felici.

Attendance: 439 participants, 13 sponsors, 27 exhibitors
423 presentations (5 plenary, 25 invited speakers)

ECOSS-33 was organized in Szeged, Hungary chaired by András Berkó.

Attendance: 314 presentations (7 plenary, 5 keynote, 28 invited speakers)

ECOSS-34 was organized in Aarhus, Denmark chaired by Liv Hornekær.

Attendance: 533 presentations (6 plenary, 27 invited speakers)

1-5 VASSCAA

VASSCAA-9 was organized in Sidney, Australia chaired by

Attendance: 139 participants (9 plenary, 13 keynote, 35 invited speakers)

2. Time schedule of future conferences

The time schedule of the conferences in the next few years is presented in the table below.

An important change in EVC, which was held every other year so far, is that it will be held every three years. With this change, IVC, EVC, and ICTF will take place in turns in three years.

As in previous trienniums, there was intensive discussions on how we can avoid any conflicts with other conferences and thereby strengthen the IUVSTA conferences. For this purpose, the time schedule has been updated and shared among IUVSTA society members (possible future conference organizers). A possible competition within IUVSTA is that between IVC and ECOSS/VASSCAA, and there was a suggestion that ECOSS and VASSCAA should be skipped in the year of IVC, which will be discussed with the ECOSS board and the VASSCAA steering committee in the near future.

	IVC (CPC)	EVC (VST)	ICTF (TF)	ECOSS (SS)	VASSCAA (SS)	ICN+T (NS)
2020	-	-	ICTF-18 Budapest June	ECOSS-35	VASSCAA- 10 Shanghai	Vancouver
2021	-	EVC-16 Marseille May 30-	-	ECOSS-36	-	-
2022	IVC-22 Japan Sep	-	-	-	J/IVC	J/IVC
2023	-	-	ICTF-19	-	-	-
2024	-	EVC-17	-	-	-	-
2025	IVC-23	-	-	-	-	-
2026	-	-	ICTF-20	-	-	-
2027	-	EVC-18	-	-	-	-
2028	IVC-24	-	-	-	-	-

3. Bid for IVC-23 in 2025

The call for bid to organize IVC-23 was announced in September 2018, and four bids were received from four national societies, Australia, Poland, Portugal, and UK, by the deadline of January 17, 2019. The proposals were carefully evaluated by the committee members prior to ECM129, and discussion was held within the committee members after the bid presentations in CPC of ECM129. Following this discussion, some questions as to the organization of IVC were sent to the four societies. After re-evaluation of the bids, the final decision will be made in ECM130 in Malmö.

June 2019, K. Fukutani

EDUCATION COMMITTEE
Report for the triennium 2016 – 2019

Chair: Miran Mozetič

Vice-chair: Manfred Leisch

Members: Lars Montelius (IUVSTA president), Anouk Galtayries (president-elect), Mariano Anderle (past-president), Christoph Eisenmenger (secretary general), David Ruzic (STD director), Francois Renoirs (treasurer), Anton Stampfl, Maja Buljan, Slobodan Milošević, Stanislav Novak, Maria Carmen Asensio, Sylvie Bourgeois, Pedro Nascente, Geun Young Yeom, Yong Min Kim, Javaid Ahsan Bhatti, Ute Bergner, Ana Gomes Silva, Martin Wüest, Joe Greene, Ivan Petrov, Jay Hendricks.

The following briefly reports on the activities of the IUVSTA Education Committee during the Triennium 2016 – 2019.

Committee activities:

1. Technical training courses
2. Short courses
3. Schools
4. Review papers

1. **Technical training courses (TTCs).** The Union supports National Vacuum Societies, which are members of IUVSTA, in organizing Technical Training Courses locally, in the local language for the principle benefit of technicians, production engineers and students. IUVSTA helps for the organisation and with a small subsidy for attendees. The IUVSTA grants are primarily intended to be used for travelling/accommodation subsidies within their own national borders for participants and lecturers at the Technical Training Courses.

- Technical Training Course #19 was entitled “Modern Trends in Microscopy” and organized during May 24-26, 2016 in Islamabad, Pakistan. A total of 84 participants were registered for participation in the course from all over Pakistan. These include 12 from industries, 18 from research organizations and 54 from universities.

- Technical Training Course #20 entitled “Vacuum, Plasma, Surfaces, and Thin Films” was organized during October 8-11, 2018 in conjunction with the XXXIX Brazilian Congress of Vacuum Applications in Industry and Science (CBrAVIC), and occurred in Joinville, Santa Catarina, Brazil. Seven lecturers gave courses on Introduction to Vacuum Science and Technology, Plasma Surface Treatments, Deposition Methods and Surface Characterization of Thin Films and Surface Analysis by XPS. The courses were divided into 4 sessions and attended by 82 students.
2. **Short courses.** The program of IUVESTA Short Courses (IUVESTA SC) is intended to teach the current state of the art of a technique or scientific field within the fields covered by IUVESTA. Such courses are held in conjunction with a major scientific meeting. A typical Short Course lasts 1 - 2 days and attracts all groups of specialists like students, technicians and full academics. Top notch experts of the field intensively teach the current state of the art of a technique or scientific field. An ISC is typically organized by a National Vacuum Society in conjunction with a major scientific meeting in a field covered by IUVESTA divisions. In general, IUVESTA will not financially support a series of ISC's taking place in the same country in consecutive years. A second ISC organized by a National Vacuum Society may be financially supported by IUVESTA if the previous ISC had a completely different topic. However, first time applicants have priority for support if otherwise all requirements for organizing a successful ISC are satisfied.
- A Short Course entitled “Thin films: Deposition methods and surface characterization” was organized by Brazilian vacuum society in Sao Jose dos Campos on 20th August 2017, just before 38th Brazilian Congress of Vacuum Applications in Industry and Science, 21st – 25th August 2017. Three lecturers from Brazilian Center for Research in Energy and Materials, National Institute for Space Research and Federal University of Sao Carlos gave the courses. 17 technicians and students of engineering, physics, and chemistry attended the course. After the short course, a visit to laboratories was organized.
 - French vacuum society organized a short course entitled “XPS Workshop” in Montpellier, France, during 24th and 25th September 2017, in conjunction with 17th European Conference on Application of Surface and Interface Analysis (ECASIA-2017, 24th – 29th September 2017). The instructor was dr. John Grant. 15 participants attended this short course, among them 9 students.

- Slovenian Vacuum society organized a short course “Recent advances in plasma techniques for tailoring surfaces and thin films” on 27th May 2019 in conjunction with the 8th Central-European Symposium on Plasma Chemistry (26th – 30th May 2019 in Gozd Martuljek near Kranjska gora, Slovenia). Tutorials were given on Recent advances in tailoring electron dynamics and chemical kinetics in atmospheric pressure plasmas, Challenge of atomic layer and molecular processes for future plasma chemistry, Radical probes in challenging environments and Progress and prospects in synthesis and processing of high performance energy storage/conversion nano-assemblies using plasmas by prominent scientists from UK, Japan, USA and Singapore.
3. **Schools.** The IUVSTA Schools program was established to provide education in a scientific topic within the fields covered by IUVSTA. The school is intended to provide an opportunity for students, particularly those who would not normally have such an opportunity without some support, to attend lectures and discussions with experts in the field. Schools will typically comprise 40-80 delegates. They will normally last 4-6 days. In order to guarantee the financial stability of such a meeting these meetings are supported by a contribution from the IUVSTA STD Discretionary Fund. They are organized by one or more of the Scientific Divisions.
- 14th IUVSTA School on “Nano Optics: from Principles to Basic Research and Applications”, was organized by Portuguese vacuum society and International Iberian Nanotechnology Laboratory in Braga, Portugal, from 11th till 15th April 2016. The school was organized under the leadership of Ana G. Silva (Secretary of Nanoscience Division) together with Christian Teichert, (Chair of the Division). Local organizers were Carlos José Macedo Tavares and Jana Nieder.
 - 15th IUVSTA School on “Lasers for the Nano Engineering of Surfaces” was organized by Italian vacuum society during 10th and 17th July 2016 at Isola di San Servolo, Venice, Italy. The School encompassed several activities including a set of lectures imparted by 18 international experts in the field of laser-materials interaction and vacuum science and technology and was attended by 32 students. The main purpose of the School has been to provide graduate students, PhD students and young research scientists working in the field of laser engineering of surfaces with robust fundamental roots that are often lacking in their formation, so that they could profitably interact with colleagues working in areas neighboring, although not coincident, with their own research field.

- 16th IUVSTA Summer School on “Physics at Nanoscale” was organized by Czech vacuum society at Devet Skal, Czech Republic during 12th – 18th June 2017. 14 distinguished speakers gave lectures and the School was attended by 150 people from 18 countries. Among them, there were 14 lecturers, 112 students and 24 participants from industry. The School represented a major event in the interdisciplinary field of nanomaterials, solar cells and energy convertors, non-linear plasmonic, bionanotechnology, catalysis, novel magnetic materials and surface physics and chemistry.
 - 17th IUVSTA School on “nano-optics” was organized by Portuguese vacuum society at the International Nanotechnology Laboratories in Braga, Portugal during 18th – 22nd February 2019. The topics included Plasmonics (Nano, nonlinear, Bio-plasmonic), Super-resolution imaging/nano-imaging (microscopy) techniques, Ultrafast nano-optics and nonlinear optical spectroscopy, Single-molecule techniques and manipulation, Nano-biophotonics. Applications in biophysics and medicine, Novel nanolithography and Terahertz sensing and Attosecond nano-nonlinear optics. 12 renowned experts from various countries presented state-of-the-art in nano-optics as well as trends.
4. **Review papers.** IUVSTA visibility in the international scientific community is enhanced by publication of review papers. The papers are organized by the Chair of Education Committee who encourages Divisions’ representatives to prepare their contributions on the base of IUVSTA Highlights Seminars. The review paper published within this period is MOZETIČ, Miran, VESEL, Alenka, PRIMC, Gregor, EISENMENGER-SITTNER, Christoph, BAUER, J., EDER, A., SCHMID, G.H.S., RUZIC, David Neil, AHMED, Z., BARKER, D., DOUGLASS, K.O., ECKEL, S., FEDCHAK, James A., HENDRICKS, J., KLIMOV, N., RICKER, J., SCHERSCHLIGT, J., STONE, J., STROUSE, Gregory F., CAPAN, Ivana, BULJAN, M., MILOŠEVIĆ, Slobodan, TEICHERT, Christian, COHEN, S.R., SILVA, A.G., LEHOCKÝ, Marián, HUMPOLÍČEK, Petr, RODRIGUEZ, C., HERNANDEZ-MONTELONGO, J., MERCIER, D., MANSO-SILVÁN, M., CECCONE, G., GALTAYRIES, A., STANA-KLEINSCHEK, Karin, PETROV, Ivan, GREENE, Joseph E., AVILA, José, CHEN, C.Y., CAJA-MUNOZ, B., YI, H., BOURY, A., LORCY, S., ASENSIO, Maria C, BREDIN, J., GANS, T., O’CONNELL, D., BRENDIN, J., RENIERS, F., VINCZE, Andrej, ANDERLE, M., MONTELIUS, L., **Recent developments in surface science and engineering, thin films, nanoscience, biomaterials, plasma science, and vacuum technology.** *Thin solid films*, 2018, vol. 660, p. 120-160. The next review paper will be published on the base of the materials presented at IUVSTA Highlights Seminar in Sydney, Australia in 2018 in the journal Bioiterphases.

Committee chair:

Miran Mozetič

Committee vice-chair:

Manfred Leisch

IUVSTA Emerging Society Committee Report for the 2016-2019 Triennium

This was an active triennium for the IUVSTA Emerging Society Committee with considerable progress. Participating committee members during this triennium include Mariano Anderle, Sylvie Bourgeois, Christoph Eisenmenger-Sittner, Anouk Galtayries, Lars Montelius, Miran Mozetic, Francois Reniers, Anton Stampfl, and Geun Young Yeom. In addition, important contributions were made by observers in attendance including David Ruzic, Andrej Vincze, Nikola Radic, and Martin Wuest.

Primary topics of discussion and areas of progress are summarized below.

1. The triennium began with a broad discussion of approaches for enhancing the visibility of IUVSTA in worldwide scientific and technological communities and increasing the membership in our union. It was clearly recognized that this is not a job for a single individual, but requires the active participation of a broad cross-section of IUVSTA members (officers, committee chairs, councilors of member countries, and other active participants). That is, it is up to all of us to discuss the benefits of IUVSTA membership with our colleagues.

In fact, IUVSTA offers a wide range of professional services appropriate for interested persons across all educational levels: graduate students, post-doctoral students, scientists, technologists, managers, etc. Joe Greene developed the following (incomplete) list of activities as points for discussion with colleagues:

- Triennial IUVSTA congresses
- Co-sponsored conferences (ICTF, ECOSS, EVC, VASSCAA)
- Short courses
- Workshops (designed for experts in the field)
- Schools (designed primarily for students and those moving into a new field)
- Technical Training Courses
- Visual aids
- Technical material available on the IUVSTA website
- News Bulletins
- Welch Scholarship Awards
- IUVSTA is a member of ICSU and UNESCO
- IUVSTA participates in setting ISO standards
- IUVSTA provides multiple opportunities for interacting with international colleagues.

2. Another important mechanism for familiarizing colleagues with IUVSTA is the use of a few PowerPoint slides, describing the benefits and functions of IUVSTA, shown as introductory information at meetings and workshops or at the beginning of lectures and invited talks at conferences and other venues. Ron Reid has prepared information which can be used to construct appropriate slides. It is available on the IUVSTA website under: Member services/Meantime/Wiki/A simple guide to IUVSTA. Several ESC members and observers have reported using such slides and successfully generating new interactions.

3. Emerging Society Committee members as well as interested IUVSTA officers, committee chairs, and councilors agreed to develop a network of contacts in non-member countries. This program has been successful in raising the visibility of IUVSTA and has led to several countries expressing interest in joining or rejoining, after having allowed membership to lapse, our union.

Two triennia ago, Argentina joined our union and last triennium Bulgaria (thanks to Ivan Petrov) and the Philippines (thanks to David Ruzic and Joe Greene) joined. This triennium, Cuba (thanks to Anouk Galtayries and Joe Greene) have completed the necessary paperwork and is set to join the union at the General Meeting in Malmö, Sweden, in July, 2019. Turkey was also expected to join this triennium (thanks to Anouk Galtayries and Joe Greene), but political instability has delayed their application.

The evolving list of countries in which IUVSTA members have established contacts and initiated dialog, with the corresponding IUVSTA member names, includes the following.

- Algeria: Daniel Verriere
- Baltic Countries: Laszlo Kover and Lars Montelius
- Bangladesh: Javaid Bhatti
- Bosnia: Monica Jenko
- Chile: Pedro Nascente
- Cuba: Joe Greene and Anouk Galtayries
- Denmark: Lars Montelius, Ulf Helmersson
- Greece: Miran Mozetic
- Ireland: Laszlo Kover
- Luxembourg: Miguel Manso/Joe Greene/Sivashankar Krishnamoorthy
- Nepal: Mark Kushner
- Norway: Lars Montelius, Laszlo Kover, Joe Greene
- Saudia Arabia: Bill Rogers
- Singapore: Joe Greene
- Serbia: Miran Mozetic, Zoran Petrovic
- South Africa: Jean-Jacques Pireaux
- Turkey: Anouk Galtayries and Joe Greene
- Vietnam: David Ruzic, Mariano Anderle.

In summary, this triennium has been a lively and exciting one due to the active volunteer participation of many IUVSTA members who believe in, and have worked hard to, further the goals of the Emerging Society Committee. It was a privilege to work with such an enthusiastic group.

Respectfully submitted,



J.E. Greene

D.B. Willett Professor of Materials Science and Physics, University of Illinois

Tage Erlander Professor of Physics, Linköping University, Sweden

University Professor of Materials Science, National Taiwan Univ. Science & Technology

3-year report for Long Range Planning Committee

A. Galtayries, chair of LRPC 2016-2019

Executive summary: this committee has been very active during the 3 years.

Two major events:

- Organization of the 60th anniversary of IUVSTA at different places with a major event at Geneva on June 18, 2018
- Edition of an IUVSTA book (paper and electronic versions) by updating existing descriptions of IUVSTA and of its member societies until 2002.
- Donations: up to about 18 keuros were obtained from 9 companies (including 1 group of companies) from 8 countries around the world.

To conclude in this summary, I want to tell the great pleasure I had to work for this committee, with many interaction to other committees, as expected, and with many other persons for all the actions. My satisfaction for the obtained results is proportional to the time and work invested, many actions for next triennium will result from this 3-year work.

All my presentations at LRPC followed a general scheme that was originally presented in my application for the position of President-Elect: IUVSTA visibility, IUVSTA value. IUVSTA visibility was including 5 sub-items which were:

- links with national societies and scientific divisions
- a modern and responsive web site
- citizens of the world: diversity in age, physical ability and gender
- improved links with the participants to the IUVSTA events
- tutoring new societies entering IUVSTA,

while IUVSTA value was including interaction with industrial partners, and IUVSTA short courses. [I am organizing this report differently to emphasize not only a program but the results which were obtained during this 3-year work.](#)

IUVSTA 60th anniversary:

This was a unique way to work at IUVSTA for 2 years, implying all participants and member societies, as well as scientific divisions who also produced 6 posters.

We made also an IUVSTA roll-up summarizing what we are and what we do, which is travelling from meeting places (2 rolls-up were printed).

Very nice white tee-shirts have also been produced and distributed both in Geneva and in Sydney (with the additional logo of IUVSTA).

1) Events: Half-day free access meetings: invited talks on societal and scientific challenges

@ EVC15 on June 18, 2018, Geneva (Switzerland)

Working group with Jörg Patscheider (Program chair), Martin Wuest (Chair), Mauro Taborelli (vice-Chair), and Sylvie Bourgeois (Concilor for France).

CERN/IUVSTA partnership obtained with Dr Jimenez (CERN)

- Guided tour of CERN installatiosn in the morning
- 4 invited talks in the afternoon

Joe Greene (Illinois, US), Anne L'Huillier (Lund, Sweden), Christoforo Benvenuti (CERN, Switzerland), Claude Nicollier (NASA, US)

- Exclusive access to the *Universe of Particles* exhibition from 5 pm @Globe of Science and Innovation in Geneva
- IUVSTA party @Globe of Science and Innovation in Geneva
 - Alberto Tagliaferro (Torino, Italy) and Cedric Egger (Nestlé Waters, Switzerland)
 - buffet

@ Sydney, August 12, 2018 (before VASSCAA) @ SMC

Working group with Anton Stampfl (VASSCAA Chair),

- 1 invited talk from John O'Connor (NewCastle, Australia)
- Buffet

@ International Conference of Surfaces, Materials and Vacuum at Playa Del Carmen, Mexico, on September 24, 2018

Working group with Emmanuel Haro Poniatowski (councilor for Mex Vac Soc),

- IUVSTA session in the program, chaired by Joe Greene and David Ruzic
- 3 invited talks in the afternoon from Maria Sanchez Colina (Havana, Cuba), Karen Volke-Sepulveda (Mexico), and Marina Elizabeth Rincon-Gonzales (Mexico)
- buffet

Founded in 1958, IUVSTA is an interdisciplinary union which represents several thousands of physicists, chemists, materials scientists, engineers and technologists who are active in basic and applied research development, manufacturing, sales and education. IUVSTA finances advanced scientific workshops, international schools and technical courses, worldwide.

IUVSTA comprises member societies from the following countries: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, China, Croatia, Czech Republic, Finland, France, Germany, Hungary, India, Israel, Iran, Italy, Japan, Korea, Mexico, Netherlands, Pakistan, Philippines, Poland, Portugal, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and USA.

The main purposes of the IUVSTA are to organize and sponsor international conferences and educational activities, as well as to facilitate research and technological developments in the field of vacuum science and its applications.

IUVSTA has nine technical divisions:

- Applied Surface Science
- Biointerfaces
- Electronic Materials and Processing
- Nanometer Structures
- Plasma Science and Technique
- Surface Engineering
- Surface Science
- Thin Film
- Vacuum Science and Technology



The poster is a vertical graphic with a blue and teal color scheme. At the top left is the logo of the Sociedad Mexicana de Ciencia y Tecnología de Superficies y Materiales A.C. (SMCSM). The central part features the IUVSTA logo, which includes a globe and a stylized red figure. Below the logo, it reads '1958-2018' and '60 years of the Union'. A circular inset shows a landscape with a stone structure. The text 'XI International Conference on Surfaces, Materials and Vacuum' is written in a stylized font. At the bottom, it says 'Come to the 60th year IUVSTA celebration' and provides the date and time: 'Monday September 24th 2018 17:00- 19:30'. The location is 'September 24 - 28, 2018, Playa del Carmen Quintana Roo, México.' and the website 'http://iuvsta.org/' is listed.

@ IVC21 on July 1, 2019, Malmö (Sweden)

Working group with Pär Omling (Chair),

IUVSTA session in the congress program with a talk from the winner of the 1st IUVSTA EBARA Award, Dr Waqas Hassan Tanveer (Edinburgh, UK) and another invited talk from Ellen Moons (Karlstad University, Sweden).

To conclude, 3 events in 2018 were organized covering 3 different parts of the IUVSTA world, and 1 event in the frame of IVC21. The invited speakers were mixed in gender, age and backgrounds. That composed really nice and friendly programs in which IUVSTA could be also systematically presented. The Pakistanese and Japan societies also organized items in the national programs of meetings about the IUVSTA anniversary, this is a very good point.

It gave me the idea to transform the IUVSTA highlights for next triennium into IUVSTA summits with a program which is organized differently (invitations for science and technology around a common thematic).

2) IUVSTA Book



The objective was to publish an updated version of « History of IUVSTA », collaboration with Nikola Radic and MG Barthes-Labrousse, to be distributed in the member societies but also to partners or participants to our events. The existing texts of up to 2002 of the History of IUVSTA, as well as of the Short Stories of the member Societies were completely revised and implemented, illustrated with photos and organized in an unique text

This text is including 8 advertisements from 8 companies, all around the IUVSTA world. It has been a huge work of about 8 months with 3 persons. The cost of this IUVSTA book has been covered by the sponsorship.

1000 were printed books and 1 electronic version as flipbook is also available at www.iuvsta.org/flipbook

The result is really great and we have there a very good tool for communication on IUVSTA, that we plan to update in the second semester of 2019, at the beginning of the new triennium (for a new electronic version as flipbook).

3) Financial support by companies

In the frame of the Anniversary of IUVSTA and of the making of the IUVSTA book, I proposed to companies to make donations for print advertising in the book. It was a success, we obtained 17.6 keuros with 9 sponsors (8 countries): **Inficon, Neyco, SAES getter, Vacom, Plasmadis, SPECS, WaterSprint, EBARA and JVIA** (Japanese group of societies associated to the Japanese Member Society).

In about 4 months, the success of these donations was really important, I am really thankful to all companies participating and all colleagues helping for the successful contacts. I plan to start another campaign among a larger number of companies, for supporting the new edition of the IUVSTA 2019 flipbook.

4) IUVSTA EBARA new Award

As a very positive side effect of the search for financial support of the anniversary, I developed very fruitful discussions with Dr Manfred Schroeder, representing EBARA in Europe, in view of the co-branding of an IUVSTA Award for young researchers.

In association with the AS Committee, the call was organized (and published in different media, with the help of IOP). The dedicated jury received 8 on-line applications from which the application of Waqas Hassan Tanveer was selected. This young researcher has an excellent international curriculum which wonderfully representing this new Award, to be proposed again in 3 years, for another Award ceremony during IVC22 in 2022 in Japan.



5) IUVSTA webinars

This is a new idea proposed by Alberto Tagliaferro (past Chair of the TFD), to be developed both in collaboration with AIV, and with Politecnico Torino. 2 Webinars have been organized as first tests:

Alberto Tagliaferro, March 1, 2017, in collaboration with NSD

Ginesa Blanco Montilla, July 20, 2017, in collaboration with ASD.

A dedicated email was also created: iuvstaseminar@iuvsta.org.

This experience will be reconducted under the supervision of Alberto as Chair of the Education Committee during next triennium.

6) IUVSTA new website

A working group meeting was organized in Korea and the project was conducted by the Communications Committee, with the services of John Koudelka. This is largely satisfactory, the home page is much friendly with different agendas of what is going on at IUVSTA, updated regularly. To help the building of the website, an image contest was organized at the beginning of the triennium. Dr Carla Bittencourt (Mons, Belgium) was the winner of this contest, and she had the opportunity to present her work linked to her image in the frame of the ECM in Rogla (Slovenia).

7). Miscellaneous:

On-line IUVSTA data survey: 33 answers from all member societies

- About 30,000 members of Member Societies
- About 100,000 participants to our events
- 102 company names from A to Z
9 companies frequently quoted: Pfeiffer, Leybold, Agilent, Edwards, Busch, Inficon, Kurt J. Lesker, Oerlikon, Ulvac

These data were used to produce the IUVSTA roll-up.

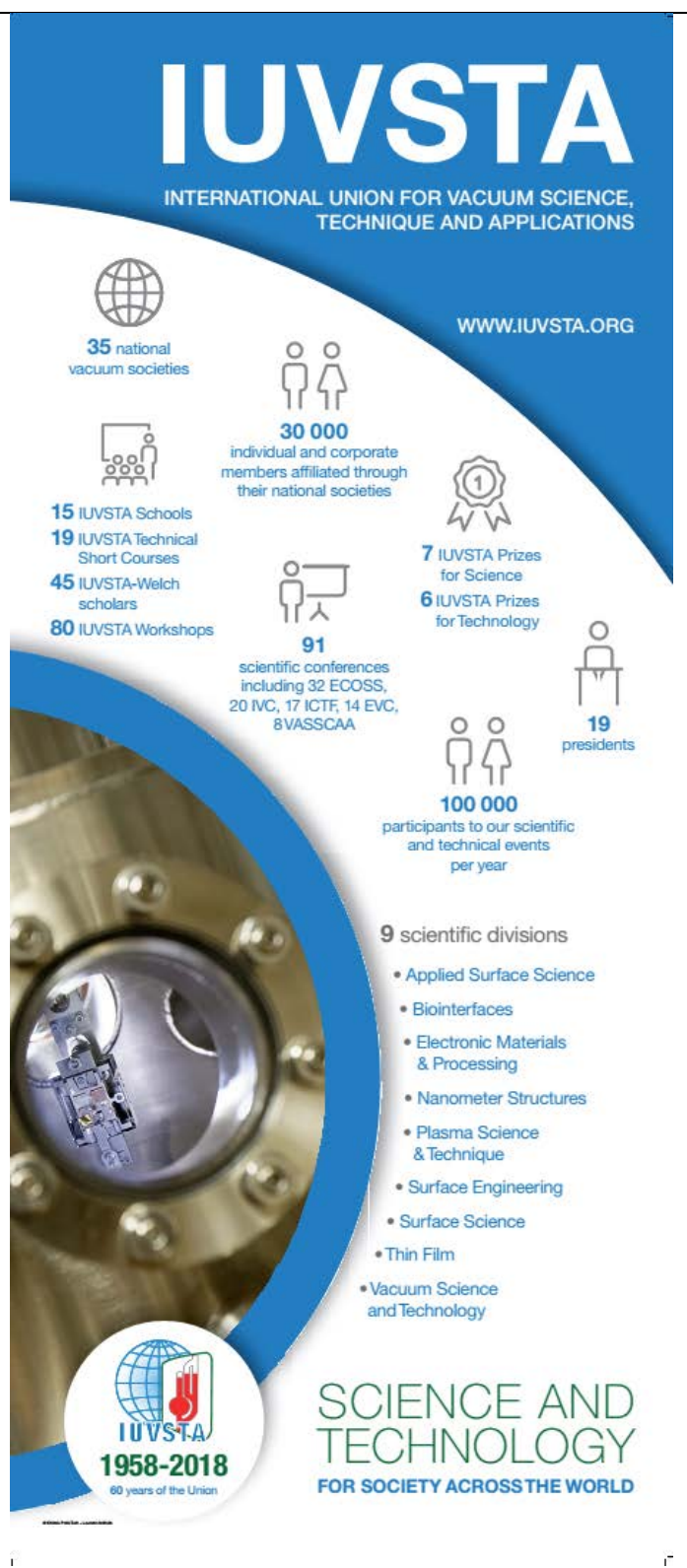
IUVSTA short courses:

- at IVC20 in Korea: 4 IUVSTA courses/5 days – collaboration with CPC, Treasurer, professors, IVC20 organizers

A vacuum international year

Martin Mc Coustra (BVC) has noticed that that most of the big international unions have had international years in the past decade or so. IUPAC, IUPAP and IAU especially.

So in the frame of the « International Year programme », linked to UNESCO, we have tested the idea to go to an **International Year of Vacuum in 2022** (including Auger Spectroscopy Centenary!). This has been discussed at an early stage with a French representative in an UNESCO committee. This topic should be worked further in the next triennium.



IUVSTA Communications Committee Report Triennium 2016-2019

Communications Committee members: Ivan Petrov (chair), Lars Montelius, Anton Stampfl, Christoph Eisenmenger-Sittner, Ute Bergner, Diederik Depla, Francois Reniers, Anouk Galtayries, Maria Carmen Asensio, Mario Rocca, Mariano Anderle, Javaid Ahsan Bhatti, Haiming Guo, Marcelo Juni Ferreira, Martin Wüest, Jay Hendrick

1. Change of the committee name

At the Executive Council Meeting 125 in Slovenia the Council voted to rename the "Publication Committee" to "Communications Committee" in order to better reflect the goals and activity of the Committee.

2. IUVSTA News Bulletin

Eight News Bulletin issues with numbers from 174 to 181 were published during the 2016-2019 triennium. One New Bulletin is published following each Executive Council Meeting and two additional ones. The Bulletin is gaining popularity not only with the organizers of IUVSTA events, but also with Member Societies and IUVSTA endorsed conferences.

3. IUVSTA News Flash

The IUVSTA News Flash was developed as means of rapid communication. The latest one, #15, announces the winner of the EBARA/IUVSTA award:

<http://iuvsta.org/main/wp-content/uploads/2019/05/News-flash-15-May-2019.pdf>

4. IUVSTA Website design

A considerable amount of work was done on the new website by the Chair of the Ad Hoc Committee Anouk Galtayries, Ivan Petrov, and primarily by the web-master John Koudelka. The task proved to be time consuming as our old web-site has been developed over the decades in to many sublevels in a somewhat random fashion.

In response to recommendations from the last ECM 129, the web-master is working on reducing the number of click to get to the posted information, such as News Flashes and News Bulletins. He is also creating an opening slide show with up-to-date information, which is aimed at making the web-site more dynamic and interesting.

Ivan Petrov

Ivan Petrov
IUVSTA Communications Committee Chair

IUVSTA Statutes Committee Report for the 2016-2019 Triennium

Chair: Christoph Eisenmenger-Sittner

Secretary: Deborah O'Connell

Ex Officio: Lars Montelius

Members: Anton Stampfl, Francois Reniers, Anouk Galtayries, Daniel Verniere, Mariano Anderle, Andrej Vincze, Jay Hendricks, David Ruzic

Although the Statutes and By – Laws of the Union remained unchanged, which is a sign of their general validity, and also flexibility, the Triennium 2016 – 2019 featured many modified and new items which are also reflected in the procedures of the Union. Also, changes were implemented in some of our member societies and the outside connections of IUVSTA. The Japanese Vacuum Society merged with the Japanese Society of Surface Science, to form the "The Japan Society of Vacuum and Surface Science", JVSS, and the Brazilian Vacuum Society changed their alternate Councillor from Rogerio P. Mota to Macrelo Juni Ferreira. In the outside world, ICSU merged with the ICSS to form the "International Science Council", ISC which now covers the broad range of natural and social sciences. So far, however, the relations of the Union with ISC remained unchanged.

Updated guidelines for the four scientific and educational items which are financially supported by the Union, i. e. workshops, schools, technical training courses and short courses were incorporated in the procedures manual and are now consistent in themselves. Outdated items were removed from the manual and it was checked for consistency. However there still may be inconsistent or unclear passages which will incrementally be clarified in on going work. Concerning the guidelines for officers, a passage was added which clarifies the circumstances under which the treasurer of the Union can make discretionary expanses.

An important issue was the restructuring and inception of several awards of the union. This concerned:

- the Welch Scholarship
- the IUVSTA awards of Science and Technology
- the ELSEVIER student awards
- the newly incepted IUVSTA EBARA award

In close Co-operation with the Awards and Scholarships Committee and with the Scientific and Technical Directorate the guidelines for these items were re-designed and adapted to new situations. After a long period of uncertainty, the ongoing financial support of the Welch Scholarship by the Bro family could be secured. The structure of the scholarship was changed and these changes were included in the procedures manual. The scholarship is now active again and was well received with 9 applicants in 2018. The guidelines for the IUVSTA prizes were modified so that the whole evaluation of the applicants now rests in the hands of the Awards and Scholarships committee which significantly simplifies the selection procedure. Minor changes were also made concerning the ELSEVIER student award to simplify the application and to broaden the circle of possible applicants

As a fully new item, guidelines were developed for the newly incepted IUVSTA EBARA award which will be given for the first time at IVC 21. These guidelines will be included into the procedures manual in due time.

Finally, along with the re-design of the website, considerable work was devoted to updating and streamlining the information on the web with the aim to make it consistent with the procedures manual of the Union.

Vienna, May 2019



Christoph Eisenmenger-Sittner, Chair

**STD Report for book of reports Triennium 2016 – 2019,
IUVSTA ECM 124 – ECM 130**

The IUVSTA Scientific and Technical Directorate was lead by prof. D. Ruzic as STD Director and supported by A. Vincze as Scientific Secretary of IUVSTA. Beside them the STD members are the division chairs, vice-chairs or secretaries of the 9 IUVSTA divisions, and also the IUVSTA Educational committee chair/vice chair holds the right to vote.

As the name of the scientific directorate suggests, the most important in the agenda of the STD is the Workshop and Schools proposal evaluation form the scientific point of view. The STD director D. Ruzic after the Paris IUVSTA ECM 117 in 2013 addressed a request toward the divisions chairs/vice chairs and through them to all division members to be active in the specific fields in the divisions. As a response, a large number of proposals were submitted to all IUVSTA ECM meetings, from which the more appropriate after presentations and discussions were awarded by the IUVSTA Workshop or School, typically by 6000 eur support. The 2016-2019 triennium budget was increased for STD, so more activities can be supported.

Beside this, also the conferences running and organized by various divisions were commented, directed or another way supported by IUVSTA, also endorsements and ideas were supported. Some new or emerging countries, where the national vacuum society were most likely to form, were supported by the IUVSTA flag/logo and also the vacuum science and technology knowledge was spread to the audience (mostly for students of local universities). In this way and manner, the Technical Training Courses (TTC) also supported by the less developed countries (Brazil), were supported by lectures from the vacuum science and technology knowledge in local language and is awarded typically by 2500 eur. Finally yet importantly, a new item called IUVSTA Short Course, which is awarded typically by 2000 eur were supported for e.g. in Brazil, Slovenia, Poland and France.

The STD sponsored 11 workshops, 2 schools, 1 technical training courses and 4 short courses during the triennia. All these supported events were to help to increase the visibility of the IUVSTA, also to get more information about vacuum science and techniques.

The periodical IUVSTA Highlight seminar was organized by the STD director in Sydney, Australia as a joint event with the VASSCAA 9 conference, where all 9 IUVSTA divisions presented the highlights in the field and from which again a review paper will be published with a cooperation of the Educational Committee chair Miran Mozetic. The following list contains the places of the IUVSTA workshops as calendar events, held in the triennium or supported/discussed in the triennium 2016 - 2019.

2016 :

80th IUVSTA Workshop

“Ultra Low Emittance Light Source Vacuum Systems”

Hsinchu, Taiwan

October 24-28, 2016

Web: <http://www.taiwanvacuum.org/index.php/en/ws80>

2017 :

81st IUVSTA Workshop

“Response of Biological Materials to Plasma Treated Medium”

Rogla, Slovenia

March 12-16, 2017

Web: <http://www.plasmadis.com/wp/iuvsta-workshop/>

79th IUVESTA Workshop

“3D chemical imaging from fundamentals to advancing applications”

Sardinia, Italy

May 15-19, 2017

Web: <http://www.npl.co.uk/science-technology/surface-and-nanoanalysis/79th-iuvsta-workshop/>

82nd IUVESTA Workshop

“Plasma-based Atomic Layer Processes”

Bankoku Shinryokan Okinawa, Japan

December 4-7, 2017

Web: <http://officepolaris.co.jp/JSPP2017/IUVSTA17Workshop/>

2018 :

86th IUVESTA Workshop

“Nanoscale Oxides systems in Physics and Chemistry”

Avila, Spain

July 1-5, 2018

Web: <http://asevaconferences.com/>

83rd IUVESTA Workshop

“New Horizons in Boron-Containing Coatings: Modelling, Synthesis and Applications, ”

Vadstena, Sweden

September 2-5, 2018

Web: <http://boronliu.com/>

84th IUVESTA Workshop

“Workshop on Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of Electronic Interfaces and Related Transport”

Phenomena, Rehovot, Israel

September 2-6, 2018

Web: <http://www.weizmann.ac.il/conferences/SMSEP2018/>

85th IUVESTA Workshop

“Nanoporous materials for green energy conversion and storage”

Seggau, Austria

October 14-18, 2018

Web: <http://iuvsta85.unileoben.ac.at/>

2019

88th IUVESTA Workshop

“Towards Reality in Nanoscale Materials”

12 – 14 February, 2019

Levi, Finland

Web: <http://trnm.aalto.fi/>

89th IUVESTA Workshop

“Biological and soft matter sample preparation for high-resolution imaging by high vacuum techniques“

19 – 24 May 2019

Zakopane, Poland

Web: <http://www.npl.co.uk/science-technology/surface-and-nanoanalysis/89th-iuvsta-workshop/>

87th IUVESTA Workshop
 “9th International Workshop on Surface Physics”
 24 -28 June, 2019
 Trzebnica, Poland
 Web: <http://www.iwsp2019.ifd.uni.wroc.pl/>

SCHOOLS

The IUVESTA Schools program was established to provide education in a scientific topic within the fields covered by IUVESTA. The school is intended to provide an opportunity for students, particularly those who would not normally have such an opportunity without some support, to attend lectures and discussions with experts in the field. Schools will typically comprise 40-80 delegates. They will normally last 4-6 days. The following list contains the places of the IUVESTA schools as calendar events, held in the triennium or supported/discussed in the triennium 2016 - 2019.

2017

16th IUVESTA School
 on IUVESTA School on Physics at Nanoscale
 July 12 – 17, 2017
 Devet Skal, Czech Republic

2019

17th IUVESTA School
 on IUVESTA School on Nano-Optics
 February 18 – 22, 2019
 Braga, Portugal

The Union supports National Vacuum Societies, which are members of IUVESTA, in organizing Technical Training Courses locally, in the local language for the principle benefit of technicians, production engineers and students. IUVESTA helps for the organisation and with a small subsidy for attendees. The IUVESTA grants are primarily intended to be used for travelling/accommodation subsidies within their own national borders for participants and lecturers at the Technical Training

TTC`s

Technical Training Course #20
Vacuum, Plasma; Surfaces and Thin Films
 October 7th – 11th, 2018
 Joinville, SC, Brazil

The new item in a form of Short courses was introduced and supported for those events in the triennium 2016-2019:

2017

Short Course on Surface characterisation by SIMS organised before SIMS 21, Krakow, Poland, September 9, 2017
 Short Course on Thin Film deposition methods and surface characterisation, Sao Jose dos Campos, Brazil, August 21-25, 2017
 Short Course on XPS in connection to ECASIA 2017, Montpellier, France, September 24-25, 2017

2019

Short Course on Recent Advances in Plasma Techniques for tailoring surface and thin films, Gozd Matulje, Slovenia, May 26-30, 2019

Applied Surface Science Division
Triennial Report (2016-2019)

Leszek Markowski - Chair, Mladen Petracic - Vice chair, Wolfgang Werner - Secretary

Division Representatives: Gustavo Ruano, Jamie Quinton, Rony Snyders, Mauricio A. Algatti, Vladimir Matolin, Jari Koskinen, Olivier Renault, Michael Kopnarski, David Scurr, Laszlo Ovari, D.K. Aswal, Yaron Paz, Francesco Ghezzi, Daisuke Fujita, Jeong Won Kim, Pierre Giovanni Mani-González, Zafar Iqbal, Zhen-Chao Dong, Carlos Jose Macedo Tavares, Alexey K. Rebrov, Lubomir Caplovic, Janez Kovač, A. Gutierrez, Edvin Lundgren, John T. Grant, Katja Vutova

Conferences:

- 1. IVC-20 (with ICSS-16, ICN+T 2016, VASSCAA-8, 25th KVS, ITC 2016, ISPB 2016) which has been held in Busan, Korea (South) in August 22-26, 2016 (<http://www.ivic20.com/>)**

The abstract submission results with 133 papers assigned to the ASS section (among them 1 keynote and 8 were invited, 56 contributed and 67 posters). The ASSD members have been acted as the members of International Programme Committee of IVC-20: Y. Park (Korea), B.J. Tyler, L. Markowski, J.T. Grant, C. J. Tavares, F. Reniers.

- 2. SIMS21 - 21st International Conference on Secondary Ion Mass Spectrometry, 10-15 September 2017, Kraków, Poland (<http://sims.confer.uj.edu.pl/>)**

This conference (collected over 400 participants) was supported by IUVSTA and the Polish Vacuum Society and sponsored by the ASSD, and also supported by others IUVSTA Divisions (BI, NS and SS). A IUVSTA Short Course was also organized which has the IUVSTA financial support of **2 400 €**

- 3. The ASSD support the SIMS-22 conference (<http://siss-sims.com/sims22/>), it will be held in Kyoto, Japan (20-25 October 2019). This conference is organized by Japan Society of Vacuum and Surface Science. During the SIMS-22 the IUVSTA-sponsored (2 000 €) Short Course will also take place.**

Other Conferences:

- 1. 10-th Symposium on Vacuum based Science and Technology, November 28-30, 2017, in Kołobrzeg, Poland (<http://itie.dev.tu.koszalin.pl/svbst/index.php/book-of-abstracts-2017>)**

The Symposium was attended by 80 participants, including 7 invited speakers, 24 oral presentations and 21 posters, and 10 companies. During the Clausius Session, 2 lectures on modern science and technology attracted audience of 150 pupils and students from the region. A short presentation of IUVSTA has been given by A. Galtayries and two invited talks by J.E. Greene and I. Petrov.

- 2. Twentieth International Summer School on Vacuum, Electron and Ion Technologies (VEIT 2017), 25 – 29 September 2017, Sozopol, Bulgaria (<http://www.veit.ie-bas.org/>)**

The scientific program included 3 tutorial reviews, 4 topic and 12 contributed lectures, 25 progress reports, and others during 3 poster sessions. VEIT 2017 (20th in a series) was organised by Institute of Electronics, Bulgarian Academy of Sciences, Dutch Institute for Fundamental Energy Research.

3. The ASSD co-support the **8th International Conference on Hard X-ray Photoemission Spectroscopy (HAXPES 2019)** organized by SOLEIL Synchrotron, which will take place in Paris, 2-7 June 2019. Further details are at the website: <https://www.synchrotron-soleil.fr/en/events/haxpes-2019>
4. The ASSD co-support **the International conference on Applied Surface Science (ICASS 3)** which will take place in Pisa, Italy, between 17-20 June 2019. This conference (<https://www.elsevier.com/events/conferences/international-conference-on-applied-surface-science>) is organised by Elsevier Publishing.

IUVSTA Workshops:

1. **The IUVSTA Workshop No 80** (co-supported by ASSD) entitled “**Ultra Low Emittance Light Source Vacuum Systems**” (<https://aseva.es/prueba/>) has been held in Hsinchu (Taiwan), October 24 -28 2016, and organised and sponsored by Taiwan Vacuum Society and VSTD of IUVSTA.
2. The ASSD co-supported **85th IUVSTA Workshop** entitled "**Nanoporous materials for green energy conversion and storage**" (<https://iuvsta85.unileoben.ac.at/>). The workshop was held at Schloss Seggau near Leibnitz, Austria between October 14 th – 19 th, 2018.
3. The ASSD co-support **IUVSTA-86-ASEVA-28 Workshop** (together with NSt, TF and SS divisions) the Workshop “**Nanoscale Oxides systems in Physics and Chemistry**” which was held in Ávila, Spain (July 1-5, 2018) <https://aseva.es/conferences/previous-conferences/ws-iuvsta/>
4. **The 9th International Workshop on Surface Physics - Nanostructured surfaces, IWSP-2019** (24-28 June, 2019) (<http://www.iwsp2019.ifd.uni.wroc.pl/>) (**87th IUVSTA Workshop**) is organised by Institute of Experimental Physics (Wroclaw, Poland) with a strong support of the ASSD and IUVSTA financial support of **6 000 €** This Workshop is also a satellite conference to the IVC-21 (which will be held just next week after) and one of the 60th anniversary of IUVSTAcelebration event.
5. The ASSD co-support the **89th IUVSTA Workshop: Biological and soft matter sample preparation for high resolution imaging by high vacuum techniques** (Flyer: http://iuvsta.org/main/wp-content/uploads/2019/01/89th-IUVSTA-workshop-flyer_2019-01-11.pdf) which was held between 19 – 24 May, 2019 in Zakopane, Poland.

Other Workshops:

1. The ASSD division of SOPORVAC (Portuguese Vacuum Society) organised a Vacuum workshop VACUO 2016 (September 8, 2016, at the University of Minho in Braga, Portugal) together with together with the 20th National Physics Conference: <https://eventos.spf.pt/fisica2016/pt/workshop>.

2. VACUO 2017 Workshop, July 21, 2017, Instituto Pedro Nunes, Coimbra, Portugal

The VACUO 2017 Workshop, organized by SOPROVAC (www.soporvac.pt). The program consisted exclusively of 8 invited talks regarding applied surface science, thin films, vacuum technology and applications. 45 people were present and the workshop was a success.

Other events:

1. On the occasion of the IUVSTA 60th anniversary a poster of ASSD has been prepared (authors: L. Markowski, Olivier Renault, John T. Grant), and it has already been presented on the European Vacuum Conference EVC-15 in Geneva and during the 9th Vacuum and Surface Science Conference of Asia and Australia (Sydney, Australia).
2. During the ECM-129 the bid proposal for the **IVC-23** was presented by the chair of the ASSD (local organiser - Institute of Experimental Physics, University of Wrocław and the Polish Vacuum Society).

Elections of the ASSD officers for the triennium 2019-2022

The number of National Representatives in the Applied Surface Science Division for the triennium 2019-2022 counts 29 scientists from 29 countries – members of IUVSTA. The ballot was conducted within the members of the new ASSD Electoral College through E-mails. The result of the election is as follows: Chair: Leszek Markowski, Vice Chair: John T. Grant, Secretary: vacant.

Proposed goals for the Applied Surface Science Division for the next triennium

To sponsor a IUVSTA School and Workshops in a non-member country (preferably with intention to be a member country) and to enhance the Applied Surface Science related information available at the IUVSTA website (e.g. to make accessible the ISO Vocabulary on Surface Chemical Analysis).

Acknowledgements

I would like to express my thanks to the members of the ASSD Divisional Committee and ASSD Divisional College, as well as to the officers of IUVSTA for their continuous support over the past triennium.

Respectfully submitted, June 3rd, 2019

Leszek Markowski - Chair of the Applied Surface Science Division of IUVSTA

3 Years Activity Report from IUVSTA BI division: 2016- 2019

In this triennium, the activities of the BI division included:

- Organization of 89th IUVSTA Workshop
- COST proposal
- Conference proposals, organization and follow up
- Preparation of a topical paper
- Support to IUVSTA 60th anniversary
- Reply to IUVSTA internal survey

1) During the triennium BID has promoted scientific activities in the field of biological sample preparation. After submission to IUVSTA ECM, BID has co-organized the 89th IUVSTA Workshop on “Biological and soft matter sample preparation for high resolution imaging by high vacuum techniques” chaired by Paulina Rakowska (NPL, UK) that took place in Zakopane (Poland), 19-24th May 2019.

- Brought together 58 international researchers and analysts for scientific debate (13 invited + oral and poster contributions).

- Financial contribution from five sponsors (CAMECA, Ionoptika, IONTOF, Leica and Tescan).

- Diverse communities gathered to discuss interdisciplinary collaborations towards innovations in methodology and instrumentation.

- Very positive feedback (waiting for survey results).



2) BID has submitted during the triennium three COST proposals incorporating most of EU and COST associated countries within BID. The proposals tried to emphasize the leading role that vacuum techniques play in the development of therapeutic and diagnostic techniques. Further applications will follow.

3) During the triennium the BID has participated in different ways in conference organization and follow-up. This includes collaboration with IVC 21 in organization of Bio related symposia (for which the higher-than-average interest from the invited speakers had been noted by the organizers), organization of Biointerfaces session at RIVA-X (Joint Portuguese-Spanish conference), follow up of Biointerfaces activities at EVC-Geneva, invited topical presentation at VASCAA and scientific committee activities at IBERTRIVA XI.

Additionally, we have expressed our opinion on convenience or not of endorsement to proposed workshops and conferences sent by IUVESTA secretaries.

4) BID has proposed a topical article on projections of vacuum science and technology to Biointerface science. The list of authors has been completed and writing launched. The article will appear during NEXT triennium.

5) BID has actively participated in IUVESTA 60th anniversary activities during EVC-15 and VASCAA-9 conferences with preparation of dedicated poster and topical presentation, respectively.

6) BID activities and inter-relationships. Survey on IUVESTA request to gain a perspective on our dedication to scientific/technical activities. Results in % time dedication to research (N=6).

Surface engineering/micro nano-structuring (not thin films).

Coatings & thin films.

Biointerface analysis (structure/chemistry).

Biomolecular assays and Diagnostics.

Cellular assays, Tissue/organ engineering.

Instrumentation for vacuum compatible bioanalysis.

Nanomaterial bioassays, Nanomedicine.

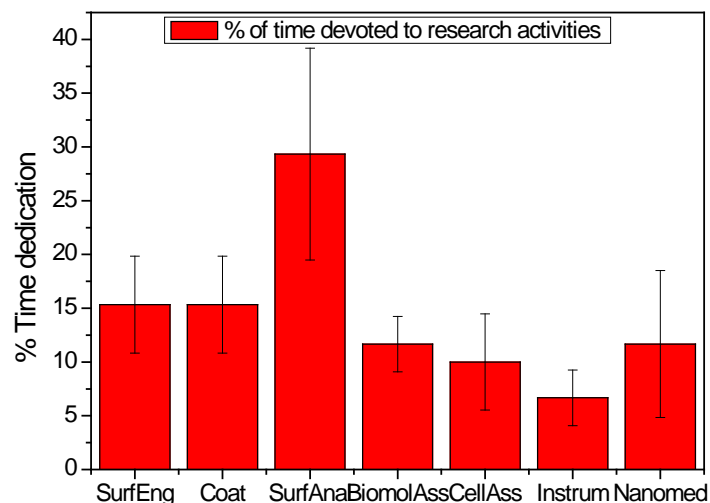


Figure: Time dedication of BID researchers to different scientific and technical activities.

3 Years Activity Report from IUVSTA EMPD division: 2016- 2019

- Regular email correspondence among EMP division members has been established. The members gave their opinions on different subjects, from IUVSTA Endorsements to new triennium elections.
- The main activity was related to the IVC-21 which will be held in July 2019 in Malmo, Sweden. The plenary and invited lecturers has been nominated. Once the abstract submission was closed, all EM related abstracts were sent to the EMP Division members for grading, and the average score has been uploaded and send to the organizers.
- Elections for the new triennium by e-voting was held in April 2019. The new Division officers are: Ivana Capan (Chair), Monika Kwoka (Vice Chair) and Reinhard Schwarz (Secretary).

Respectfully submitted, June 2019.

Ivana Capan
EMPD Chair (trienium 2016-2019)

Triennium Divisional Report 2016-2019 - IUVESTA Nanometer Structures Division (NSD)

This report covers the period between ECM 124 (Busan)-ECM 129 (Malmö). The Officers of the NSD in the triennium 2016-2019:

Chair: Ana G. Silva, Portugal
Vice-chair: Christian Teichert, Austria
Scientific Secretary: Sidney R. Cohen, Israel

NSD COMMITTEE MEETINGS

- There was a divisional committee meeting at in Aug. 2016 at IVC-20 in Busan, Korea, where the present National Representatives of NSD met.
- A second meeting was during the ICN+T 2018 meeting in Brno, Czech Republic, on 26th July 2018. The officers had a strong interaction during this Triennium and have been actively involved in preparation of activities and activity reports.

ACKNOWLEDGEMENTS

The Chair of NSD division for this triennium, Ana G. Silva, would like to acknowledge both, the Vice-chair, Christian Teichert, and the Secretary, Sidney Cohen, for their valuable and constant support. It has been a great pleasure and I feel privileged to work with them. Moreover, the NSD officers thanks to all NSD members of the triennium 2016-19 which contributed to the visibility and activities of NSD division.

NSD WORKSHOPS AND SCHOOLS

- 16th IUVESTA summer school on “Physics at Nanoscale” Devet Skal, Czech Republic, between 12-17 June 2017, co-chaired by Antonin Fejfar, member of NSD, national representative of Czech Republic Vacuum Society, and Tomáš Šikola of Institute of Physical Engineering, Brno, Czech Republic.
- 84th IUVESTA workshop on “Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of Electronic Interfaces and Related Transport Phenomena” in Weizmann Institute of Science, Rehovot, Israel, between 2-5 September 2018, co- chaired by the Secretary of NSD, Sidney Cohen and Hagai Cohen from Weizmann Institute. The NSD Chair and Vice-chair both served on organizational committees and attended the workshop.
- 86th IUVESTA workshop on “Nanoscale Oxides Systems in Physics and Chemistry” July 1-5, 2018, Avila, Spain, organized by Spanish Vacuum Society. The NSD Chair Ana G Silva was member of the organizing committee and, Yves Huttel, member of NSD as national representative of Spanish Vacuum Society, was member of the international programme committee of the 86th IUVESTA workshop.
- 88th IUVESTA workshop on “Towards reality in Nanoscale Materials”, Aalto University, Finland, between 11-15 February 2019, chaired by Carla Bittencourt, member of NSD, national representative of Belgium Vacuum Society.
- 17th IUVESTA school on “Nano-Optics: From principles to basic research and application” in International Iberian Nanotechnology Laboratory (INL), Portugal, between 18-22 February 2019, chaired by Ana G. Silva (Chair of NSD). Sidney Cohen, Secretary of NSD division, attended the School and actively participated in the School activities.

EDUCATION – 1st IUVESTA WEBINAR

1st IUVESTA webinar on “An introduction to Nanoparticles: Basic Characteristics and Preparation”, on 1st March 2017: 2pm CET, presented by Alberto Tagliaferro, member of NSD, national representative of Italian Vacuum Society.

REVIEW PAPER

Officers of NSD, Christian Teichert, Sidney Cohen and Ana G Silva, contributed with a chapter on “Recent Advances in Nanoscience” in the IUVESTA paper “Recent developments in surface science and engineering, thin films, nanoscience, biomaterials, plasma science, and vacuum technology, published in Thin Solid Films, Volume 660, 30th August 2018, Pages 120-160 (2018).

NSD POSTER for IUVESTA 60th Anniversary Celebration

The officers of NSD, Ana G. Silva, Sidney Cohen and Christian Teichert, prepared a poster focusing on the NSD activities and Nanoscience history, its context and purpose as a scientific division of IUVESTA, and as a driving force for the contribution of the development for the societal benefits. The poster has been presented in several international conferences.

NSD HIGHLIGHTS - Invited talk

Highlight Invited talk on “Nanoscience as a discipline and its impact on the modern society”, prepared by the officers of NSD division, Ana G Silva, Christian Teichert and Sidney Cohen and presented by Lars Montelius, President of IUVESTA, on behalf of Ana G Silva. The highlight included contributions from Nancy A. Burnham,

Carla Bittencourt, José Garcia-Martin, Yves Huttel, Nikolay Nedyalkov, Sasha Sadewasser, Takayuki Uchihashi, Christian Teichert, Sidney Cohen and Ana G. Silva. Talk presented in Sydney, Australia, August 2018, in the Vacuum and Surface Science Conference of Asia and Australia (VASSCAA) program.

CONFERENCES**ICN+T July 22-27, 2018, Brno, Czech Republic**

- Conference with co-organization of IUVESTA NSD division. The officers of NSD division actively participate in its organization, suggesting invited and plenary speakers and reviewing abstracts. The members of the NSD committee, Ana G Silva, Christian Teichert and Sidney Cohen, attended the full conference. Ana G Silva represented IUVESTA at the opening ceremony, introducing IUVESTA (5 min). A. Silva chaired the opening 2nd Conference day, while S. Cohen and C. Teichert, chaired Scientific sessions. Moreover, S. Cohen and C. Teichert chaired the best Poster competition on both days of poster sessions.
- ICN+T steering committee meeting on 25th July 2018. A. G. Silva, C. Teichert and S. Cohen participated in the meeting, where a report of the ICN+T 2018 was presented by T. Sikola and the venue for the ICN+T 2020 was approved, among other topics. Ana G. Silva reported on the preparation of IVC-21 to be held in Malmö, regarding the programme and the topics to be posted on the website of IVC – 21 related to Nanoscience and Technology.

IVC-21, July 1st-5th, 2019 - 21st International Vacuum Congress, Malmö, Sweden

- Ana G Silva reported, at the ICN+T Steering Committee meeting on 25th July, regarding the preparation of IVC-21 to be held in Malmö, in particular regarding the programme and the topics to be post on the website of IVC-21, since NSD (Ana G Silva) and ICN+T Steering committee chairs (Joseph Strocio and Sander Otte) will co-chair the program of nanoscience and technology at IVC-21.
- The officers of NSD, Ana G Silva, Christian Teichert and Sidney Cohen, have supported the organization suggesting, invited, plenary and keynote speakers and actively contributed in discussions regarding the scientific programme. Moreover, they were involved in the abstract selection process. The chair of NSD division, Ana G Silva, as co-chair of the program of nanoscience and technology at IVC- 21, attended the “Program meeting” chaired by Heiner Linke, held in Lund, Sweden, on 4th March 2019.
- A ranked list with suggestions for invited and plenary speakers has been proposed by NSD together with the ICN+T Steering committee Co-chairs. The ranked list has been proposed jointly (NSD and ICN+T Steering committee co-chairs).

ENDORSEMENTS – Events Nanometer structures division related.

- 13th Interregional Workshop on Advanced Nanomaterials (IWAN13), November 15-16, 2017, Poznan, Poland, Chaired by Ryszard Czajka, member of NSD, national representative of Polish Vacuum Society.
- 77th IUVESTA Workshop on “International Workshop on surface physics. Nanostructured Surfaces,” June 24-28, 2019, Poland.



Ana G. Silva
Chair of the NSD for the Triennium 2016-2019
Lisboa, 3. June 2019

Divisional triennium report 2016 - 2019
Plasma Science and Technique Division

The division has had an active and productive triennium. Summaries of activities are given in the individual divisional reports for ECMs. Below are some specific highlights:

- Satoshi Hamaguchi, Osaka University, organizing an IUVSTA funded workshop on '*Plasma-based Atomic Layer Processes*', in December 2017, in Okinawa, Japan.
- The Chair of the division delivered an invited talk on '*Recent Highlights and Trends in Plasma Science and Technology*' at the IUVSTA Highlight Seminar in Sydney on August 13th 2018.
- The division supported and organised a Technical Training Course on 'Vacuum, Plasma, Surfaces and Thin Films' during October 7th – 11th, 2018 in Joinville, SC, Brazil
- Recently funded JSPS Core-to-Core project between different members of the division, includes networking opportunities between and Osaka University, University of York, Ruhr-University Bochum and Aix-Marseille University.
- IUVSTA endorsed the 7th International Conference on Advanced Plasma Technologies (ICAPT-7), which was held in Hue in Vietnam from 24th February until 1st March 2019.
- A Short Course on 'Recent advances in plasma techniques for tailoring surfaces and thin films' will be organized at the CESPC 2019 – 8th Central-European Symposium on Plasma Chemistry, in Kranjska gora, Slovenia, Tuesday 3rd – Friday 6th September 2019.

An important part of activity has also been the preparation of the divisional programme for the IVC-21 in Sweden. Details of the final programme are available at <https://mkon.nu/IVC21>.

Deborah O'Connell, 24th June 2019

Chair of the Plasma Science and Technique Divisional Committee

**3 years Divisional Report 2016-2019:
IUVSTA Surface Engineering Division
Ivan Petrov**

1. The Division organized two IUVSTA workshops:

- *83rd workshop “New Horizons in Boron-Containing Coatings: Modeling, Synthesis, and Characterization” Vadstena, Sweden, September 2-6, 2018.* The workshop took place in the Vadstena Klosterhotell, Vadstena, Sweden, situated on the grounds previously held by the nuns of the Bridgettine Order. The workshop attracted a large number of participants, 74, from 17 countries: Sweden, China, Germany, Austria, USA, France, Israel, Czech Republic, Bulgaria, Taiwan, Lebanon, Hungary, Japan, Slovakia, Mexico, UK, and Liechtenstein. The program included 16 invited speakers and 21 contributed talks. A very lively poster session included 13 presentations. There was plenty of discussion time after each presentation and in two separate sessions.

The report of the workshop can be found here:

http://iuvsta.org/iuvsta2/assets/docs/pdf/Final_Report_IUVSTA83.pdf

- *85th workshop on the “Nanoporous Materials for Green Energy Conversion and Storage” Schloss Seggau Castle near Graz, Austria, from 14 – 19 October 2018.* The 85th IUVSTA Workshop was held in the wine region of southern Styria in Austria. It attracted 31 attendees from 12 countries. The workshop addressed all issues and challenges encountered in the implementation of nanoporous materials, such as carbons, metals, polymers, metal-organic frameworks, and novel composites, for energy conversion and storage purposes combined with a minimal carbon footprint for the environment. The workshop was focused mainly on the synthesis, characterization and performance evaluation of such materials in emerging fields. 17 leading scientists from Austria, Czech Republic, Cyprus, Germany, France, Serbia, Spain, U.A.E., U.K., and Taiwan accepted invitations to present their recent achievements in this rapidly growing field. Additional 12 attendees presented their work in contributed talks and poster presentations. Ample time was planned and used for discussions during these presentations.

The report of the workshop can be found here:

http://iuvsta.org/iuvsta2/assets/docs/pdf/Final_Report_IUVSTA85.pdf

2. The Division participated in the preparation of the scientific program of IVC21

The traditional IUVSTA SE and TF division programs are put together in a cluster with two new sections Organic Materials and Materials for Energy Storage; the latter two are led by Swedish Chairs.

- Hard coatings
- Advanced coating technologies
- Advanced sputtering techniques
- Mechanical Properties of thin films
- Advanced Thin Film Technology
- Structural and electrical properties of thin films
- Oxide thin films

3. The SED presentation for the highlight seminar was prepared and delivered in Sidney.

4. SED contributed a section in the IUVSTA review article entitled “Recent developments in surface science and engineering, thin films, nanoscience, biomaterials, plasma science, and vacuum technology” Thin Solid Films 660 (2018) 120–160

5. SED supported three IUVSTA endorsed conferences

Taiwan Association for Coating and Thin Film Technology - TACT 2017, in Hualien, Taiwan, Oct. 15-18, 2017

11th Asian-European International Conference on Plasma Surface Engineering, AEPSE2017 in Jeju island, Republic of Korea, Sept. 11-15, 2017

9th International Conference on Technological Advances of Thin Films & Surface Coatings (ThinFilms2018) Shenzhen, China, 17 - 20 July 2018

6. Election for SED officers for 2019-2022 were conducted, and the leadership was reelected:

Ivan Petrov, Chair

Peter Schaaf, Vice-Chair

Monica Jenco, Secretary

Surface Science Division

Triennial Report (2016-2019)

During the Triennium 2016-2019, the elected division officers were:

Chair: Prof. Maria C. Asensio

Vice-chair: Prof. Mario Rocca

Secretary: Prof. Fumio Komor

The Surface Science Division has carried out a very active and fruitful scientific program during this Triennium. The main activities of the SSD have been centered on the promotion of IUVSTA's Workshop and School as well as on the supervision of a wide range of scientific actions realized by its members. A detailed list of Workshops and Schools approved during the Triennium has been addressed in separate partial reports of the Division. For more information of each scientific event sponsored and supported by the SSD, please see the Website: <http://iuvsta.org/scientific-activities/>.

In particular, the SSD members have contributed to the following actions:

➤ **IUVSTA Highlights seminar and review article**

The SSD has effectively contributed to the Highlights seminar of this Triennium as well as to the content of the scientific article associated to the review of this event, published in Thin Solid Films in 2018:

IUVSTA Highlights review citation: Mozetič, M.; et al. Recent Developments in Surface Science and Engineering, Thin Films, Nanoscience, Biomaterials, Plasma Science, and Vacuum Technology. Thin Solid Films 2018, 660, 120–160. <https://doi.org/10.1016/j.tsf.2018.05.046>.

➤ **Update the current Scope and the main Topics of the Division**

The Topics of the SSD have been discussed and redefined taking into account highly prosper new scientific research areas as surface states in topological material, nano-structured surfaces and surfaces in quantum materials. A formal document has been prepared and sent to the IUVSTA STD officers with the main Topics of the Division in order to be discussed together with similar documents produced by the other IUVSTA Divisions.

A new poster describing the main SSD activities has been produced and advertised

A poster dedicated to describe the main activities of the SSD has been transmitted to the IUVSTA officers and STD in order to divulgate and to increase the visibility of the Division, advertising its involvements.

➤ **Important scientific contribution and expert advice to the programs to the IUVSTA general conferences**

Also, the SSD has actively contributed since the beginning to the discussions related to the scientific programs of the following general conferences: VASSCAA, ECOSS, EVC and IVC held during the past Triennium.

Main goals developed by the Surface Science Division during the triennium 2016-2019.

- Promotion of IUVSTA Schools in non-member countries (preferably with intention to be a member country)
- Organization and sponsoring of Workshops on fundamental problems and applications related to Surface Science related knowledge.
- Provide the latest and more valuable Surface Science related information to the IUVSTA community throughout diverse contributions to its website, giving a precious advise for specialized strategic meetings.

Elections of the SSD officers for the triennium 2019-2022

The SSD officers, have participated and supervised the Chair, vice-chair and secretary electoral process of the SSD division for the next triennium. A particular effort has been realized in order to contact and provide the necessary guide to all new members of the Electoral College.

The ballot was conducted within the members of the new SSD Electoral College through E- mail. The results indicate that the SSD officers for the next Triennium (2016-2019) are

SSD Chair : Maria C. Asensio
SSD Vice-chair: Maro Rocca
SSD Secretary : Fumio Komori

Acknowledgements

All the SSD officers would sincerely thank to the members of the SSD Divisional Committee and SSD Divisional College, as well as to the officers of IUVSTA for their continuous support and very positive contributions over the past triennium.

Respectfully submitted by Prof Maria C. Asensio,
Chair of the Surface Science Division
Madrid, 12th June 2019.

Report Thin Film Division Triennium 2016-2019

1. Elections

For the triennium 2016-2019, the election procedure was started with a call for representatives. D. Depla expressed his interest to continue his function as secretary. Two candidacies were received for chair (or alternatively vice-chair) : F. Frascassi (It.) and P. Hovsepian (GB.). 18 (out of the 27 votes) were received. The members supported the candidacy of the secretary (D. Depla) to continue his function. Both colleagues interested in the function as chair received the same number of votes (9). After a short discussion among F. Frascassi, P.Hovsepian and D. Depla, F. Frascassi was proposed to become chair of the TFD, and P. Hovsepian vice-chair. The TFD agreed with this proposal.

For the triennium 2019-2022, the election procedure was initiated with a call to the country representatives to submit their candidacy. Prior to this call, P. Hovsepian (GB) and D. Depla (Belgium) expressed their interest to continue their position of co-chair, and secretary respectively. The call was repeated three times. Only 5 (out of 30) representatives didn't respond (N. Haberkon, R. P. Mota, A.Ghalambor Dezfouli, T. Hasegawa, F. Servando Aguirre-Tostado). Three possible candidacies for chair were received. After a short discussion amongst the candidates Joe Greene preferred younger people to step in, and he withdrew his candidacy. Mile Ivanda (Croatia) and Francisco Yubero (Spain) submitted a short CV, and the election procedure was started. After three calls to vote, the secretary (D. Depla), the former TFD chair (F. Frascassi), and the scientific secretary (A. Vincze) received the votes of 23 representatives. A vote in favor of one candidate was counted as 3 points. One point to each candidate was given when the representative didn't had a preference. Mile Ivanda received 37 points, while Francisco Yubero received 28 points. The result of the election was announced on June 8th 2019.

2. International Conference on Thin Films (ICTF)

ICTF2017

ICTF-2017 took place in India (November 14th to 17th 2017). The conference had 83 invited speakers: Key note Speaker: Prof. David Cahen, Plenary Speakers (Prof. Ivan Schuller, Prof. Ronan McGrath, Prof. S.B.,Krupanidhi and Prof. Norbert Koch, Evening Lecture: 1 (Prof. K.L. Chopra), and 77 topical invited speakers). More than 350(+) abstracts were received for oral and poster presentations which results in 98 oral presentations, and 246 poster presentations (2 sessions). Two conference workshops were organized prior to the conference (Thin Films & Coating Technology: Science and Industry, and Thin film solar cells).

ICTF2020

The selection for the venue of ICTF-18, to be organized in 2020, was completed. The procedure had started in October 2017 with an e-mail sent to all the TFD members. Four bids arrived before the deadline. The TFD secretary handled the entire procedure and submitted the bids to the TFD members. The four proposals arrived were:

1. Spanish Vacuum Society
The Spanish Vacuum Society proposes to organize ICTF 2020 in Burgos (Spain) in September 28 - October 2, 2020 The conference chair will be Prof. Francisco Yubero.
2. German Vacuum Society
The German Vacuum Society proposes to organize ICTF 2020 in Berlin (Germany) in September 2020 (no specific data given). The conference chair will be Prof. Norbert Esser.
3. Hungarian Vacuum Society
The Hungarian Vacuum Society proposes to organize ICTF 2020 in Budapest (Hungary) from June 14 – 18, 2020. The conference chair will be Prof. Jozsef Gyula.
4. French Vacuum Society
The SFV proposes to organize ICTF 2020 in Biarritz (France) from 04 to 08 October 2020. The chair of the conference will be Prof. Jean-François Pierson.

21 votes were received, corresponding to 77.8% of the total votes available. Each vote was composed by a maximum score of 5 to the preferred bid, while the other three bids were placed in

decreasing order, and received a score of 3, 2 and 1. With 21 completed ballots, a total of 231 points were distributed amongst the bids. The following scores were obtained per bid:

Hungary : 78 points, Spain : 53 points, Germany : 52 points, and France : 48 points.

The bid of Hungary received the highest score and, therefore, ICTF18 will be organized in Hungary, June 14 –18, 2020. The conference chair will be Prof. Jozsef Gyula. The conference venue is the ELTE Conference Center.

ICTF20 will be organized together with the Joint Vacuum Conference which is a meeting of the established series of Joint Vacuum Conferences, organized at two-year periods by the Austrian, Croatian, Czech, Hungarian, Slovak and Slovenian national vacuum societies.

Additional information can be found on the conference website (<https://ictf-jvc.akcongress.com/>).

4. Supported workshops

The TFD have received several requests to endorse workshops suggestion in the framework of another division. Some comments were sent to the Scientific-Secretary Andrej Vincze. We refer for more details on these workshops to the reports of the other involved divisions.

5. Other topics

- A poster of Thin Film Division was prepared according to the request of elected IUVSTA President. The poster is intended to be displayed in the different spots for the anniversary celebrations of IUVSTA, starting by the session at Geneva in June 2018 (EVC-15).
- At the highlight seminar (organized in 2018, VASCAA), the Spanish TFD representative F. Yubero presented the some new trends in the thin film community. The material was selected by F. Yubero and D. Depla (TFD secretary) based on the input of some TFD members (Schneider (Germany), Depla (Belgium), Pierson (France) Csik (Hungary), Biederman (Czech Republic), Conde (Portugal), and Foester, Yubero (Spain)). The presentation was entitled "Near future challenges and recent scatter highlights."

VSTD Report Triennium 2016-2019

Jay Hendricks, Chair; Manfred Leisch, Vice-Chair; Joe Herbert, Secretary

First activity of VSTD in the triennium was the IUVESTA was ECM125 where the first order of business was to establish a working contact list of active VSTD members along with functioning emails. Regular (~monthly) email has been exchanged among the members. Due to changes and reorganization of the divisional structures of IUVESTA, VSTD is now a larger committee currently consisting of 30 members and representing 30 countries! As chair, I welcomed this change and invited more participants into the work that we do as a committee, and engage a wider audience from which we draw new ideas for VSTD.

VSTD has developed goals for the next triennium been defined and were circulated to the members. Goals for the triennium included:

- Serve as an international communication “hub” that connects vacuum science and technology scientists around the world.
- Program development of IVC-21 VSTD (Malmo, Sweden 2019).
- Organize call for European Vacuum Conferences (EVC-15, and EVC-16) proposals and selection.
- Organize call for Workshops in Vacuum Technology.
- Organize call for education and Schools in Vacuum Technology.

A summary of activities is outlined below:

August 2016

Aug 12-21, 2016: 77th IUVESTA Workshop in conjunction with IVC20: “Surface Processes, Gas Dynamics, and Vacuum Technology of Cryogenic Vacuum Systems” Ichiro Arakawa, Katsuyuki Fukutani,

Oleg B. Malyshev, Paolo Chiggiato “was held as a satellite meeting of IVC-20 Aug. 17-21 in 2016 Korea.



77th IUVSTA Workshop “Surface Processes, Gas Dynamics, and Vacuum Technology of Cryogenic Vacuum Systems” organized by Ichiro Arakawa was a big Success and IUVSTA support was greatly appreciated, covering 28% of the total cost.

October 2016

80th IUVSTA Workshop for the Ultra-low Emittance Light Source Vacuum Systems: VSTD supported a workshop proposal entitled “Workshop for the Ultra-low Emittance Light Source Vacuum Systems” was held **24-28 October 2016** NSRRC, Hsinchu, Taiwan. <http://www.taiwanvacuum.org/index.php/en/ws80>.



80th IUVSTA Workshop for the Ultra-low Emittance Light Source Vacuum Systems

80th IUVSTA Workshop underwritten by Taiwan Vacuum Society (TVS) was organized by **International Organizing Committee (Chair*)** Gao-Yu Hsiung* (NSRRC, Taiwan), Hsiao-Chaun Hseuh (BNL, USA), Yoshio Saito (ICRR, Univ. Tokyo, Japan). Joe Herbert (ASTeC, UK), Tohru Honda (KEK, Japan), and Jay Hendricks (NIST, USA).

Brief Report: About 50 participants from 26 organizations of 15 countries have attended the 80th IUVSTA Workshop and enjoyed the fruitful presentations and technical discussions on vacuum systems for the ultra-low emittance light source. Four-day program covers 34 presentations, a visit to the TPS light source, a reception, excursion, and workshop dinner etc. activated the brainstorming on those critical issues of vacuum design for the new or upgrade projects. The photographs and the program book can be downloaded for a good memory and the reference. All the participants can contact each other via the e-mails listed in the program book for further collaborations. The organizers wish the participants all the best and complete their projects with great achievement.

March 2017

EVC-15 Planning 2018 Meeting!

VSTD coordinated the selections international program committee

(Swiss Bid Champions: Prof. Dr. Hans-Arno Synal synal@phys.ethz.ch ; Martin.Wuest@inficon.com Mauro.Taborelli@cern.ch)

The members of the committee are:

Jörg Patscheider, EMPA, Dübendorf, Switzerland (chair)

Janez Setina, IMT, Ljubljana, Slovenia

Ulf Helmersson, Linköping University, Linköping, Sweden

Maria C. Asensio, SOLEIL, Gif-sur-Yvette, France

Jacek Szuber, Silesian University of Technology, Gliwice, Poland

Diederik Depla, University Ghent, Ghent, Belgium

Anouk Galtayries, IRCP-CNRS, Paris, France

Andrej Vincze, International Laser Centre, Bratislava, Slovakia

Paolo Chiggiato, CERN, Geneva, Switzerland

Ana Gomes Silva, New University of Lisbon, Lisbon, Portugal

Jay Hendricks, NIST, Gaithersburg, MD, USA



The Swiss Vacuum Society is organizing the 15th European Vacuum Conference in Geneva to be held 17-22 June 2018.

The EVC-15 web page can be found at www.evc15.org

Jörg has proposed the following as our kick off email: Items 1-4f have been completed.

1. We will have five plenary speakers and ten invited speakers as landmarks in the program. Plenary speakers will start the day with a 50 min presentation, invited speakers will be offered 40 minutes (incl. discussion).
2. Next year we will have IUVESTA's 60th birthday. Monday afternoon of the conference program will be devoted to a special session to appropriately celebrate this anniversary.
3. On Thursday afternoon we will have a visit to CERN, which will be followed by the conference dinner.
4. The important timelines for us as the Scientific Committee are the following ones:
 - a. March 10: propositions for plenary and invited speakers sent to me.
 - b. March 20: consensus reached on plenary and invited speakers
 - c. April 1st: Proposal for Plenary and Invited speakers available to the Organizers
 - d. May 1st: All proposed Plenary and Invited speakers have been contacted
 - e. Abstracts open: Now September 2017.
 - f. Dec. 15: Abstract deadline
 - g. March 1st, 2018: First sketch of program available and abstract notification to submitters

EVC15 Invited Speakers--Accepted

Maya Kiskinova	Elettra Trieste		ASS
Uros Cvelbar	Jozef Stefan Institute		BI
Oliver Ambacher	Univ Freiburg	EMP	
Lars Montelius	INL Braga		NT
Daniel Lundin	Univ Paris-Sud		PSS
Asim Aijaz	Univ Uppsala		SE
Pascal Ruffieux	EMPA		SS
Philippe Djemia	Univ Paris 13	TF	
Carmine Maletta	Univ Calabria		VA
Irina Graur	Univ Aix Marseille		VT

Draft Schedule is now being developed

12:40	
13:00	Lunch
13:20	
13:40	60 y. IUVSTA A.Galtayries/L.Montelius
14:00	60 years IUVSTA N. Radic
14:20	
14:40	60 y IUVSTA Invited 1
15:00	
15:20	60 y IUVSTA Invited 2
15:40	
16:00	Coffee Break
16:20	
16:40	60 y IUVSTA Invited 3
17:00	

Start time	Monday	Tuesday	Wednesday	Thursday	Friday
8:30	Registration	Registration	Registration	Registration	Registration
9:00	Opening Ceremony	Primary Aerosol Synthesis work	Primary Marlin Optical films	Primary Nanobond Ion Impact	Primary Walker Heritage conservation
9:40	Primary Tachert 3D materials	Tu-1-1 YSL Inv Tu-1-1	We-1-1 We-1-1 SS Inv	Th-1-1 Th-1-1 Th-1-1	Fr-1-1 Fr-1-1 Fr-1-1
10:00	PSI Inv Mo-2-1 Mo-3-1	Tu-1-2 YSL Inv Tu-1-2	We-1-2 We-2-2 SS Inv	Th-1-2 Th-2-2 Th-2-2	Fr-1-2 Fr-2-2 Fr-2-2
10:20	PSI Inv Mo-2-2 Mo-3-2	Tu-1-3 Tu-1-3	We-1-3 We-2-3 We-3-3	Th-1-3 Th-2-3 Th-3-3	Fr-1-3 Fr-2-3 Fr-3-3
10:40	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:00	Mo-1-3 NI Inv Mo-3-3	Tu-2-4 TIC Inv Tu-2-4	We-2-4 TIC Inv We-2-4	Th-2-4 Th-2-4 Th-3-4	Fr-1-4 SS Inv Fr-3-4
11:20	Mo-1-4 NI Inv Mo-3-4	Tu-2-5 TIC Inv Tu-2-5	We-2-5 TIC Inv We-2-5	Th-2-5 Th-2-5 Th-3-5	Fr-1-5 SS Inv Fr-3-5
11:40	Mo-1-5 NI Inv Mo-3-5	Tu-2-6 TIC Inv Tu-2-6	We-2-6 TIC Inv We-2-6	Th-2-6 Th-2-6 Th-3-6	Fr-1-6 SS Inv Fr-3-6
12:00	Mo-1-6 NI Inv Mo-3-6	Tu-2-7 TIC Inv Tu-2-7	We-2-7 TIC Inv We-2-7	Th-2-7 Th-2-7 Th-3-7	Fr-1-7 SS Inv Fr-3-7
12:20	Mo-1-7 NI Inv Mo-3-7				
12:40		Lunch	Lunch	Lunch	Closing ceremony
13:00					
13:20	60 y. IUVSTA A.Galtayries/L.Montelius	Tu-4-1 Tu-4-1 SS Inv	We-4-1 YSL Inv We-4-1		
13:40	60 years IUVSTA N. Radic	Tu-4-2 Tu-4-2 SS Inv	We-4-2 YSL Inv We-4-2		
14:00		Tu-4-3 Tu-4-3	We-4-3 SS Inv We-4-3		
14:20	60 y IUVSTA Invited 1	Tu-4-4 Tu-4-4	We-4-4 SS Inv We-4-4		
14:40		Tu-4-5 Tu-4-5	We-4-5 SS Inv We-4-5		
15:00	60 y IUVSTA Invited 2	Coffee Break	Coffee Break		
15:20		Coffee Break	Coffee Break		
15:40	60 y IUVSTA Invited 3	Tu-5-6 Tu-5-6	We-5-6 SS Inv We-5-6		
16:00		Tu-5-7 Tu-5-7	We-5-7 SS Inv We-5-7		
16:20	60 y IUVSTA Invited 4	Tu-5-8 Tu-5-8	We-5-8 SS Inv We-5-8		
16:40	60 years IUVSTA A.Galtayries/L.Montelius	Tu-5-9 Tu-5-9	We-5-9 SS Inv We-5-9		
17:00	60 years IUVSTA A.Galtayries/L.Montelius				
17:40	60 years IUVSTA A.Galtayries/L.Montelius	Poster Session	Poster Session		
18:00	60 years IUVSTA A.Galtayries/L.Montelius				
18:20	60 years IUVSTA A.Galtayries/L.Montelius				
18:40	60 years IUVSTA A.Galtayries/L.Montelius				
19:00	60 years IUVSTA A.Galtayries/L.Montelius				
19:20	60 years IUVSTA A.Galtayries/L.Montelius				
19:40	60 years IUVSTA A.Galtayries/L.Montelius				
20:00	60 years IUVSTA A.Galtayries/L.Montelius				
20:20	60 years IUVSTA A.Galtayries/L.Montelius				
20:40	60 years IUVSTA A.Galtayries/L.Montelius				
21:00	60 years IUVSTA A.Galtayries/L.Montelius				

IUVSTA 60 Special Session

- Joe Greene, History of Materials Science since the Big Bang;
- Anne L’Huillier, Exploring Matter at Ultrashort Time Scales;
- Cristoforo Benvenuti, Getter Pumping for Accelerators
- Claude Nicollier Working in vacuum - Extravehicular Activities around the ISS.

June 2018



15th European Vacuum Conference, EVC-15

Surrounded by its magnificent natural landscape of lake and mountains and according to its tradition in science and international relations, the city of Geneva welcomes the participants to the European Vacuum Conference EVC-15 for an exciting and creative week. The conference will offer the opportunity to scientists from all over the world to present and discuss their recent advances in vacuum science and technology and related fields.

Topics:
Applied Surface Science, Biointerfaces, Electronic Materials and Processing, Nanotechnology, Plasma Science and Technique, Surface Science and Engineering, Thin Films and Coatings, Vacuum Science and Technology, Vacuum in accelerators.

17 – 22 June 2018
Geneva, Switzerland



The successful EVC15 hosted by the Swiss Vacuum Society and held in Geneva, June 17th to 22nd. The 292 registrants represented 35 different countries with 280 abstracts submitted. A big thanks to the efforts of Martin Wuest, and Jörg Patscheider! There were 10 invited talks, 138 contributed oral presentations, 122 posters and 32 exhibitors representing the strongest numbers over a period of the past 5 EVCs! The top 5 divisions were: Vacuum Science and Technology with >70 abstracts, followed by Thin Films and Surface Engineering (60), Surface Science (43), Vacuum for Accelerators (40) and Nanometer Structures (30). A highlight of the event was IUVESTA 60th year celebration with a special session kicked-off by Joe Greene, with “A history of Materials Science since the Big Bang”. Anouk Galtayries did a fantastic job of organizing the IUVESTA 60th Anniversary talks and organized a special CERN Globe event for IUVESTA members and delegates. A tour of CERN was the extended to all meeting participants, a feat of human engineering given that 3 tour buses and multiple break-out tours were handled without any scientist being left behind!



Early Planning for EVC16. The first call for bids was developed for EVC16, which will be held in 2021. European members of IUVESTA are notified of the following submission deadline set for this spring!

EVC-16 (2021) Call For Bids!

The IUVESTA Vacuum Science and Technology Division is soliciting a call for bids to host the 16th European Vacuum Conference (EVC-16) planned for 2021

- 1st Call for Bids: *Now through 15 Jan 2019*
- 2nd Call for Bids: 15 Jan 2019 to 15 Feb 2019
- Deadline for Bid Submission: *1 month before Spring 2019 ECM meeting: ~ 15 March 2019*
- Bid selection done by vote within IUVESTA VSTD European delegates
- Announce Winning Bid after 2019 ECM spring meeting
- Decision Winner no later than 15 May 2019 (gives 2 years of planning)

If your European national vacuum society is interested in hosting the next European conference contact IUVESTA VSTD Chair, Jay Hendricks at jayh@nist.gov



60
IUVESTA
June 18, 2018

August 2018**August 12th, 2018 Highlight Seminar**

A highlight seminar was held at the close ECM-128. VST presented on the quantum-based pressure measurements.



August 30th 2018 Highlight Seminar Published! The previous highlight seminar was published 3 ½ years after the presentation in during the last triennium. This highlight seminar can be found in **as a critical review in Solid Thin Films** “Recent developments in surface science and engineering, thin films, nanoscience, biomaterials, plasma science, and vacuum technology”, Thin Solid Films 660, 120-160, 2018.

<https://www.sciencedirect.com/science/article/pii/S0040609018303730>



Thanks to James Fedchak at NIST for corralling the authors to complete the submission that was initially put together by Miran Mozetic. This manuscript underwent extensive NIST review at NIST. It was submitted to Thin Films and the result is that additional editing needed to be completed for it to be accepted. Also, a thank you to Joe Green, editor of Thin Solid Films for shepherding this through the review process.

March 2019**VSTD coordinated bids to host the next EVC16 Voting Instructions:**

1. Voting is open to VSTD delegates and officers of VSTD only, one vote per delegate or officer or country.
2. Votes from European Region Delegates are the Primary voters
3. Votes from non-European Delegates are welcome, but these are noted and only used in the event of a tie from the Primary voters.
4. Votes are to be sent to VSTD Chair who will reply that the vote has been received and will simultaneously carbon copy the VSTD Secretary and Vice Chair (as an independent validation step).
5. All votes must be placed between March 7th and March 21st. Votes after the deadline may or may not be counted.
6. Final decision will be announced at the ECM129 held in Regensburg, March 29-31st, 2019.

The Voting started on March 7th and continued through March 21st. The instructions allow last minute votes to arrive up to the time that the VSTD report is given in Regensburg at ECM129 by the Chair on March 30th during the Science and Technology Division Report.

At this time of writing this report, votes that have been received have been tabulated and are currently undergoing validation by the VSTD Secretary, Joe Herbert. At the writing of this report the voting was very close! If you have not yet voted, you can still cast your vote up to the March 29th! Contact me

(jayh@nist.gov) with cc to joe.herbert@stfc.ac.uk. Below is a very brief summary of the bids. The full bids were circulated in email earlier and will not be fully reproduced here.

GERMAN VACUUM SOCIETY BID SUMMARY:



**PROPOSAL TO HOST
THE EUROPEAN VACUUM CONGRESS EVC-16
13 June-18 June 2021
Dresden, GERMANY**

15.02.2019

1

Final Bids Received:

**German Vacuum Society:
Feb.15th 2019**

German Bid highlights:

Location: Dresden, Germany

Dates: June 13-18th 2021

Venue: The Wyndham Garden Dresden
provides one large conference room (up to
350 participants) 3 rooms for parallel sessions
(50 – 150 participants each) Regular Rate
Registration: 500 €

FRENCH VACUUM SOCIETY BID SUMMARY:

Hotel Room Cost: currently €50 - €100

**Final Bids Received:**

**French Vacuum Society:
Feb.28th 2019**

French Bid highlights:

Location: MARSEILLE, France

Dates 30 May - 4 June 2021 or 27 June - 2 July 2021

Venue: The convention center: Marseille Chantot

2 auditoriums: 1205 seats & 426 seats

12 breakout rooms (1450 m2 modular space) Regular Rate Registration: 600 €

Hotel Room Cost: many choices 1-star through 5-star hotels

The French Vacuum Society Bid Wins!

EVC-16 (2021) Announcement

The Vacuum Science and Technology Division of IUVSTA is pleased to announce the winning bid to host EVC-16 to be held in 2021.

With strong voter turnout (70% of eligible voters) the French Vacuum Society Bid was declared the winner at the ECM-129 in Regensburg.

The main strengths of the proposal is the location, Marseille in the south of France with its large scientific and industrial community, and also the partnership with ITER Organization as one of the largest and most complex international scientific project ever built.

In addition to the usual EVC topics, this edition will focus on *energy, hot plasma and materials*.

The event will combine with EVC, a parallel conference on *Surface Treatments* and a large exhibition on *vacuum technologies and materials*.

We are confident that this program will attract valuable scientists, engineers and students to make this conference a success.

Look for updated information from the programing committee and please remember to save the dates shown on the flyer announcement below. Looking forward to seeing you in Marseille in 2021!

SFV

EVC16@ITER: support from ITER

Best Regards
Jean Louis BERSIER
Vacuum Engineer
IUVSTA VST division

Jay Hendricks
VSTD Chair 2016-2019





Winning Bid Highlights:

Location: MARSEILLE, France

Dates: 30 May - 4 June 2021

Venue: Marseille Chanot Convention Center

Registration: 600 €

Local point of interest: Being held in conjunction with ITER.

May 2019

Program Finalized for IVC21



The KEY DATES

VST is located within the “Technology” Division with Jay Hendricks (USA), Deborah O’Connell (UK) and Ivan Maximov (Sweden) serving.

IVC-21 VSTD Extended International Program Committee

Hendricks, Jay H., USA, Chair	jay.hendricks@nist.gov
Chong-Do Park, Korea	cdp@postech.ac.kr
Fedchak, James A., USA	james.fedchak@nist.gov
Jean Louis Bersier, France	jeanlouis.bersier@iter.org
Joe Herbert, United Kingdom	joe.herbert@stfc.ac.uk
Manfred Leisch, Austria	m.leisch@tugraz.at
Marcelo Juni Ferreira, Brazil	Marcelo.JuniFerreira@esss.se
Martin Wuest, Switzerland	Martin.Wuest@inficon.com
Maximo Lopez Cinvestav, Mexico	mlopez@fis.cinvestav.mx
Per Eklund, Sweden	per.eklund@liu.se
Ute Bergner, Germany	Ute.Bergner@vacom.de

The ABSTRACT call was successful with IVC getting ~ 600 abstracts and VST getting 104 abstracts. For VST, 50% of these are going to oral presentations and 50% going to posters. At last count there were 54 oral presentation and 12 invited speakers are scheduled over 12 sessions, 3 of which are women in science. We received and scored 9 additional abstracts as late-breaking abstracts bringing the total abstract count for VST to 113. We anticipate an additional 3 or 4 speaker slots will be awarded based on late-breaking abstract turn out with the remainder going to posters.

Abstract voting was done by the listed IVC-21 VSTD Extended International Program Committee (see above) with each member being assigned about 20 to 30 abstracts to score by the Chair (Jay Hendricks). The Chair set up a spread sheet and logged all reported scores. A 5-point scoring system was used. 1-exceptional (oral, invited speaker possible), 2-very good (oral definitely recommended), 3-good (oral if space available), 4-poster, 5-reject or move to another division. The chair then calculated the average score and used a web-site link to upload the final scores. I thank the committee above for their work in performing the scoring. I than Marcelo for attending the abstract sorting and program planning meeting that was held in Sweden where final selections of invited speakers was made.

Confirmed PLENARY SPEAKER FOR VT: The committee has input on the selection of a high-profile key note speaker, Dr. Carl Brockmeyer. Unfortunately, Carl was unable to attend, but an excellent substitute will speak on the hyperloop-Tom Kammermeier. This represents an high profile industry talk and adds to program diversity.



Tom Kammermeier Tom Kammermeier leads the Global Application Development Team for Industrial Vacuum within the Leybold GmbH, a member of the Swedish Atlas Copco group.

Confirmed Invited Speakers

- ◇ Michael Krystek, PTB Braunschweig - Fundamental Basis and Philosophy of the Revised SI
 - ◇ Karl Jousten, PTB – Towards Standards for Ion Gauges
 - ◇ Julia Scherschligt, NIST Gaithersburg - Quantum Based Cold-Atom Vacuum Standard+
 - ◇ Felix Sharipov, U Parana, Ab initio modelling of rarefied gas flows
 - ◇ Shinjae You, Chungnam Nat. U. Cutoff Probe Modeling for Precise electron density Diagnostics*
 - ◇ Katharina Battes, KIT, Systematic study of the outgassing behavior of different ceramics+
 - ◇ Eshraq Al-Dmour, MAX IV, The vacuum system of MAXIV 3 GeV storage ring+
 - ◇ Michael Elsen, U. Bremen, UHV System for the MAIUS-2/3 Sounding Rocket
 - ◇ Koichi Takaki, Iwate U, Pulsed-Power Applications for Farming and Food Processing*
 - ◇ Marcelo Juni Ferreira, ESS, Updates on European Spallation Source TARGET monolith Vacuum
 - ◇ Lars Westerberg, Uppsala U Teaching vacuum science and the Professor Vacuum Show +Women
- *in conjunction with plasma physics

Comment for future IVC planning: It was noted that it was difficult to have VST combined in a

“technology track” along with plasma sciences. While the number of VST abstracts was strong, it may have suppressed the abstract count for other areas (plasma science). Also, since VST was put into two parallel track “technology sessions” there are times when VST talks compete directly with one another, and then other times where there are no VST talks scheduled at all. The up-side is that there is a better mixing of scientists, from different fields, so I’m hoping that this has a positive impact, by creating new collisions with people that would have otherwise not occurred. Finally, since we put out the abstract call with only 3 invited speakers, it was difficult for the external committee to get excited about soliciting abstracts. Luckily this was changed, and we eventually got the 12 invited speakers that is more typical for VST (10 if you don’t count the 2 that are shared with Plasma Science Division). For future IVC planning, it is suggested that 60% to 70% of the anticipated slots be awarded up-front based on past performance, and that classical descriptors be used in the abstract call.

June 2019

VSTD has agreed to co-sponsor with Surface Science Division a workshop application entitled **"Surface**

Chemistry of Catalytic Systems". The workshop will be held in Israel at the Weizmann Institute between **June 7-11 2020**.

June 2019

Voting for New VSTD Officers Completed

**VSTD is pleased to announce the following officers for the 2019-2022:
CONGRATULATIONS!!!**

Chair VSTD:	<input checked="" type="checkbox"/> Marcelo Ferreira	Elected 100% OF THE VOTE (unopposed)
Vice-Chair VSTD:	<input checked="" type="checkbox"/> Martin Wuest	Elected 94 % OF THE VOTE
Secretary VSTD:	<input checked="" type="checkbox"/> Joe Herbert	Elected 100% OF THE VOTE (unopposed)

Voter turnout: 53% of the eligible voters

An email ballot was circulated to the IUVSTA Vacuum Science and Technology Division Member for the upcoming triennium 2019-2022. A sample of the ballot is shown below:

_____SAMPLE BALLOT AND
INSTRUCTIONS_____

Ballot:

Vote for one of each: by placing a (x) by the name

- Chair VSTD: Marcelo Ferreira
- Vice-Chair VSTD: Martin Wuest OR Manfred
- Leisch Secretary VSTD: Joe Herbert

To cast ballot: Hit reply all (email will automatically be sent me, Christoph, and Andy)
Votes are due June 11th

Here is the list of eligible voters

Members 2019-2022

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Switzerland	Martin Wüest	martin.wuest@inficon.com
USA	Jay Hendricks	jay.hendricks@nist.gov

June 2019

ISOTC112 Liaisons Activities: Since IUVSTA has the opportunity to give Liaison status to IUVSTA members an ISO TC112 subcommittee has been organized by VSTD. Karl Jousten has been able to provide access to documents that have come before the committee.

VSTD ISO TC 112 sub-committee

- Karl Jousten, Germany
- Martin Wüest, Switzerland
- Janez Šetina, Slovenia
- Marcelo Juni Ferreira, Brazil
- Jay Hendricks, US

Activity: Notice of TC 112 WG 2 meeting Date of document 2017-09-07 Expected action Info
Background

In the afternoon of Nov 28 there will be a joint meeting with the European project EMPIR 16NRM05 "Ion Gauge". This project is performing research towards development of an ionization gauge suitable to be standardized. WG2 of ISO TC 112 is acting as advisory group for this project as decided by

Recommendation 2017-06 Berlin (February meeting). The regular WG 2 meeting will take place in the afternoon of Nov 29. The 5th international CCM meeting was held in Pereira Colombia in May 2017. The highlighted new technology was methods of realizing the pascal using optical methods. The Quantum SI is a big push at NMI's especially NIST and workshop is being held at the BIPM to coordinate world efforts in development in this fast-moving area.

This concludes activities of VSTD 2016-2019

VSTD Chair

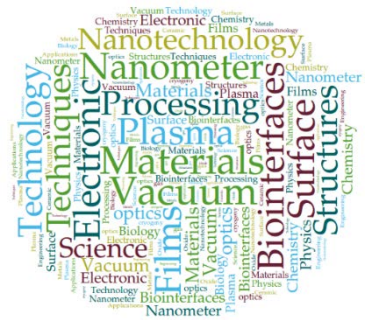
Jay H. Hendricks

Jay H. Hendricks, VSTD chair

President Inaugural Statement: Anouk Galtayries

“ *Vacuum technologies and Society (-ies): how to meet in the 21st century?* ”

Shifting now from President-Elect to President of IUVSTA, I want to take the time to thank all people trusting in my challenge and supporting my candidacy in 2016. Now I take a front position at IUVSTA, an activity which is closely linked to my professional life; I am very thankful and... lucky: you have made it a simple story, my motivation relied on my career in research and higher education, as well as in the different responsibilities and exchanges that I have had at university, with companies and from a 6-year term as the President of the French Vacuum Society (SFV). All this experience was an asset for my immediate efficiency at the work of President-Elect.



3 years ago, I raised the **question of the visibility of the Union** and I offered to make my own. My choice was very pragmatic: to use all our strengths. We have **the strength of a network** of about 35 national member societies, **the strength of all IUVSTA committees** works, **the strength of the composition of our member societies:** technicians, engineers, academic researchers and professors, directors of companies, all in direct relationship either with fundamental knowledge or innovation and economy, and **the strength of the friendship of voluntary people** meeting to work at the Union’s objectives. To fuse of all these strengths in a concrete act, I needed a great motto and I found it in the roots of IUVSTA: the 60th Anniversary of our Union. This was the perfect bridge between IUVSTA and its member societies, its divisions and committees, its people, mixed in generations and genders, its world culture.

Now starts the term of President, in strong collaboration with a team of officers, a recording secretary and division & committee chairs reflecting the real world of IUVSTA in the 21st century.

IUVSTA is closely linked to Research and Innovation at its highest level, and thus cannot avoid to question its role in today's world and society. Education, Education by Research are necessary to work both in Academic Research Centers and in Companies dealing with cutting edge technologies. Reading about what is called in Europe "lost generation"ⁱ of young researchers, looking for positions after a high number of years of education, training and working at very high level, I want IUVSTA to take some responsibilities in improving at least the background, knowledge and curriculum of the young students of our disciplines: the Education Committee will have a centered role to actively disseminate knowledge and know-hows. Given the new possibilities of spreading information through internet and digital programs, it will organize several Webinars per year, using existing university facilities at Politecnico Torino in Italy and with the help of AIV. This will be a major project for me, as attractive as possible also for the persons giving the seminars. Co-branding Awards for young researchers or co-branding Grants to undergraduate students, in some cases, are excellent opportunities to increase curricula and post our interest for societal topics. This has been done this triennium, I would like to build another new Award of this kind. Another central activity is the one organized by the Scientific and Technique Director. Starting from our 9 scientific divisions, I would like to cross our expertise and high level skills with two multidisciplinary topics: Photonics and Sustainable development, including Energetic Mix and quality of life. This is also our responsibility to take part in these discussions. These large and flexible topics can be used for special calls for our workshops, schools, but also in the frame of building a nice scientific program at about mid-term of the triennium, an IUVSTA summit which should be associated to a regular IUVSTA scientific congress.

And why not, while working in a dedicated task committee to obtaining an International Year of Vacuum, in 2025 (year of IVC23), organizing a specific event for the centenary of the discovery of Auger Electron Spectroscopyⁱⁱ in 2022 (year of IVC22 in Sapporo, Japan).

Last but not least, IUVSTA has to defend diversity in scientific carriers of all types and I would like us to monitor, with company and academic partners, gender fair practices in our Conferences.

"The real success comes from a common sharing".

Paris, June 2019.

i What's next for the 'Lost Generation' of academics? Marie Curie Alumni Association in the Marie Curie Alumni Association blog

ii Initially reported in the journal Zeitschrift für Physik in 1922.

A short introduction to IUVSTA

This short introduction aims to give a brief survey of the IUVSTA background, particularly for those delegates who have little knowledge of the functioning mechanisms of the Union.

IUVSTA (International Union for Vacuum Science, Technique and Applications) is a Union of national member vacuum societies whose role is to stimulate international collaboration in the fields of vacuum science, techniques and applications and related multi-disciplinary topics including solid-vacuum and other interfaces.

General operational decisions and the associated discussions take place at meetings of the **Executive Council**, typically every 6 months. The Executive Council comprises the Officers (President, Past President, President Elect, Scientific Secretary, Scientific and Technical Director, Treasurer and Secretary General) and one representative of each member society, either the Councillor or the Alternative Councillor.

Associated with the Executive Council meeting there are meetings of several **Committees** where much of the debate takes place and a meeting of the **Scientific and Technical Directorate (STD)**.

The **Scientific and Technical Directorate** has its own Director and Secretary, provides a forum of discussion for the general scientific and technical activities of the Union and is responsible for the programme of IUVSTA Scientific Workshop and Schools, selecting topics and venues from the proposals made by the Divisions. STD also makes decisions on endorsement and sponsorship of Conferences and supervises the scientific organization of the IUVSTA Vacuum Congress. The STD comprises eight **Divisions: Applied Surface Science, Electronic Materials & Processing, Nanometer Structures, Plasma Science & Technique, Surface Engineering, Surface Science, Thin Film, Vacuum Science and Technology**. Each Division has a representative for all the national member societies. A **Steering Committee on BioInterfaces** has operated during the last Triennium.

The **Awards and Scholarships Committee** is responsible for overseeing the award of the M.W. Welch International Scholarship which was established in 1965 to support younger scientists working abroad in vacuum science and technology. The Committee selects also the conferences at which Elsevier Student Awards will be made and is responsible for the organisation and for the selection, through an ad hoc panel, of the winners of the triennial IUVSTA Prize for Science and of the triennial IUVSTA Prize for Technology. A new development is the World Transfer Program to encourage young researchers to work in another laboratory for short periods.

The **Congress Planning Committee** oversees the arrangements for the organization of the forthcoming triennial International Vacuum Congress and at the same time seeks and evaluates bids for the future IVC making recommendation to the Executive Council meeting.

The **Education Committee** oversees the activities of education. This includes visual aids programme, short courses associated with scientific meetings sponsored by IUVSTA and the Technical Training Course Programme.

The **Emerging Societies Committee** is responsible for liaising with the scientific community in countries where IUVSTA is not represented and encouraging these interactions and activities which might lead to the creation of a society which could apply for membership of the Union.

The **Finance Committee** is chaired by the Treasurer and monitors the investments of the financial resources of the IUVSTA and prepares the triennial budget.

The **Long-Range Planning Committee** is chaired by the President Elect and provides a forum of wide-ranging discussions in structure and news activities for IUVSTA,

The **Communications Committee** oversees IUVSTA publications, and the web page <http://www.iuvsta.org>

The **Statutes Committee** oversees the Statutes, By-Laws and working practices of the Union and ensures that they are modified to take account of changing situations.