

Scientific and Technical Directorate(STD)

Jay Hendricks, Scientific Director Katsuyuki Fukutani, Scientific Secretary

ECM-134

Virtual Meeting

March 18th, 2021



Scientific Director's Forward View

The Scientific and Technical Directorate (STD) coordinates the Scientific and Technical activities of the Nine IUVSTA Divisions

- Communication: "Serve as an international communication 'hub' that connects vacuum science and technology scientists around the world".
- Education: Work with Division Chairs to develop Workshops, Schools, Short Courses, and Technical Training
- IVC Scientific: Work with IUVSTA Division Chairs to Develop IVC-22 Program and abstract calls through the international program committee.
- Society Impact: Find Applications where our science has positive impact for society.
 - Support for science in less developed countries .
- Develop Focus Topics:
 - Technologies for Sustainability (clean water, air,
 - Quantum Science (AVS Quantum Science journal, Quantum Based Units, Quantum Computing/deep learning).
 - Photonics and Nano photonics (multiple technologies, including bio applications)
 - Role of Sensors and Sensor Science (AI, Self-driving cars)
 - Next Gen. Energy (Fusion, Solar, new materials and process enabling technologies, batteries)
 - FIGURE OUT HOW TO FUNCTION IN A PANDEMIC!!!



2019-2022 IUVSTA Scientific and Technical Division Officers

IUVSTA Division	<u>Chair</u>	Vice Chair	Secretary
ASSD - Applied Surface Science	Leszek Markowski	John T. Grant	
BID - Biointerfaces Division	Dmitri Petrovykh	Miguel Manso	Carlos R. Grandini
EMPD - Electronics Materials & Proc.	Ivana Capan	Monika Kwoka	Reinhard Schwarz
NSD - Nanometer Structures	Ana Gomes Silva	Shuji Hasegawa	Carla Bittencourt
PSTD - Plasma Science & Tech.	Satoshi Hamaguchi	Miran Mozetič	Deborah O'Connell
SED - Surface Engineering	Ivan G. Petrov	Peter Schaaf	Monika Jenko
SSD - Surface Science	María Carmen ASENSIO	Mario Rocca	Fumio Komori
TFD - Thin Film	Mile Ivanda	Papken Hovsepian	Diederik Depla
VSTD - Vac. Science & Tech.	Marcelo J. Ferreira	Martin Wüest	Joe Herbert
EC- Education Committee	Alberto Tagliaferro	Ana Silva	Sylve Bourgeois



The changing landscape of scientific meetings

- In-Person Meetings
 - > PRO: Fantastic opportunity, "real-world experience-based" learning
 - CON: Expensive
- Virtual Meetings
 - > PRO: Unlimited reach, low-cost
 - Lack the "real-world" learning experience and networking
- Hybrid Events
 - > PRO: Best of both worlds
 - > CON: Twice the work for organizer



IUVSTA NEWS BULLETIN



Number: 186

March 2021

Union Internationale Pour La Science, La Technique et Les Applications du Vide International Union for Vacuum Science, Technique and Applications Internationale Union für Vakuum Forschung, Technik und Anwendung

Call for New Workshops, Schools, Technical Training and Short Courses

Dear IUVSTA Members,

Please find the dates for the call for new workshops, schools, technical training and short courses is fast approaching for ECM134!

Important Dates for **NEW** WS/SCH/TCC/SC:

- March 12th <u>Draft</u> proposal due to Scientific Secretary <u>fukutani@iis.u-tokyo.ac.jp</u>, <u>jayh@nist.gov</u>
- March 16th Final proposal due (Hard Deadline) fukutani@iis.u-tokyo.ac.jp, jayh@nist.gov
- March 18th Virtual ECM 134 will start 1PM CET (Paris).

Statement for the Call on NEW WS/SCH/TTC/SC for March 18th ECM:

- Virtual only proposals (for 2021) are strongly encouraged.
- Virtual events for spring 2022 are also strongly encouraged.
- In person only events for 2021 are discouraged.
- In person only events for June 2022 and beyond should include a statement on contingency if COVID19 prevents the meeting from occurring as planned.



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IUVSTA Statement on COVID-19 for *Previously Approved* WS/SCH/TTC/SC

IUVSTA recommends that the organizers of workshops, schools, technical training courses, short courses, and conferences continue to monitor the COVID-19 situation and make adjustments to the meeting date(s) to avoid virus spread and ensure participant safety. IUVSTA encourages science to continue with the use of virtual meetings. Small, regional in person meetings should only be considered where the virus is well contained.

Message to IUVSTA Organizers and Division Chairs for *Previously Approved* WS/SCH/TTC/SC

Organizers of relatively small *in-person* meetings (WS, SCH, SC, TTC's) funded for 2020-2021(and earlier) are asked to move these to *virtual events* for 2021 and early 2022. Please note that IUVSTA funding can be used to help reduce the virtual-participant registration cost down to free. If additional IUVSTA funds are needed to convert from in person to virtual a small amount (~1,000 euro) can be requested. IUVSTA can also provide a teleconference solution if needed. If a virtual event cannot be planned or considered, please submit a request to reschedule to a future date and work with IUVSTA to plan an event that best fits the overall meeting calendar.

A note on new "virtual only" WS:

Budgets for "virtual only" WS will be carefully reviewed. It is anticipated that the cost of an all virtual workshops will be significantly reduced (50% or more) when compared to a face-to-face event.

NOTE: If you are preparing





















AGENDA STD ECM-134

ECM-134-10-A-02 ECM-134-10-A-02

- 1. Opening and Welcome (15 min)
 - Scientific Director's Report (Jay Hendricks)
 - Attendance (Katsuyuki Fukutani)
 - Adoption of Agenda (all)
 - Approval Minutes of previous ECM134 (link below)

https://iuvsta.org/iuvsta2/assets/docs/meantime/ECM 134/ecm 133 01 01 minutes 2020 10 10.pdf

- 2. Divisional reports (30 min)
- ASSD-Applied Surface Science Division
- BI-Biointerfaces Division
- EMPD-Electronic Materials & Processes Division
- NSD-Nanometer Structures Division
- PSTD-Plasma Science & Techniques Division
- SED-Surface Engineering Division
- SSD-Surface Science Division
- TFD-Thin Film Division
- VSTD-Vacuum Science, and Technology, Division, STA

...... Leszek Markowski

...... Dmitri Petrovykh

...... Ivana Capan

...... Ana Gomes Silva

...... Satoshi Hamaguchi

...... Ivan G. Petrov

...... María Carmen ASENSIO

..... Mile Ivanda

...... Marcelo J. Ferreira



2. Division Reports (30 min)

	/ Reports	Chair	Presenting	Vice Chair	ECM-134-	10-A-0
DIVISION	, ricports	Chan	Tresenting	vice chair	Secretary	
ASSD	(2-3 min)	Leszek Markowski	Leszek	John T. Grant		
ВІ	(2-3 min)	Dmitri Petrovykh	<mark>Dmitri</mark>	Miguel Manso	Carlos R. Grandini	
EMPD	(2-3 min)	Ivana Capan		Monika Kwoka	Reinhard Schwarz	
NSD	(2-3 min)	Ana Gomes Silva	<mark>Ana</mark>	Shuji Hasegawa	Carla Bittencourt	
PSTD	(2-3 min)	Satoshi Hamaguchi	<mark>Miran</mark>	Miran Mozetič	Deborah O'Connell	
SED	(2-3 min)	Ivan G. Petrov	<mark>lvan</mark>	Peter Schaaf	Monika Jenko	
SSD	(2-3 min)	María Carmen ASENSIO	<mark>María</mark>	Mario Rocca	Fumio Komori	
TFD	(2-3 min)	Mile Ivanda	<mark>Mile</mark>	Papken Hovsepian	Diederik Depla	
VSTD	(2-3 min)	Marcelo J. Ferreira	Marcelo	Martin Wüest	Joe Herbert	
Educatio	on	Alberto Tagliaferro	Not presenting in STD	Ana Silva	Sylvie Bourgeois	6

3. Presentation on Past WS/SCH/TTC/SC (15 min)

ECM-134-10	-A-02		·	•	•		-134-10-A- ₀	12
Proposal filename	Place/ Country	Date	Organizer (underwriter)	IUVSTA Division	Presenter	Title	Requested Funding (€)	
#1-WS- Proposal_1	Online (only)	Jan 20-22, 2021	PlasmAdvance AB	SE, NSD	Ulf Helmersson	HiPIMS Today-Recent Development of High-Power- Impulse Magnetron Sputter	3200	
							6 UVSTA	

4. Proposals of Workshops (WS) and Schools (SCH) for approval (15 min)

ECM-134-10)-A-U2					ECM-134-	10-A-02
Proposal filename	Place/ Country	Date	Organizer (underwriter)	IUVSTA Division	Presenter	Title	Requeste d Funding (€)
#1-Sch-1	"Hybrid or full online"	May 31st – 4 th 2021	Czech Physical	(EC)	<mark>Antonín Fejfa</mark> r	Physics at Nanoscale [part of school series, with previous	4000
							6 UVSTA

5. Any additional updates on these? (5 min)

ECM-134-1	0-A-02					ECM-134	4-10-A-02
Proposal filename	Place/ Country	Date	Organizer (underwriter)	IUVSTA Division	Presenter	Title	Requested Funding (€)
#2_SC_proposal _1	Marseille France	November 22-25 2021 included in EVC 16	French Vacuum Society(SFV)	(EC)	Sylvie Bourgeois	Gas flows under vacuum conditions: from theory to applications	2000
#3_TTC_proposa I_1	Virtual (Quezon City, Philippines)	April 15, 16 2021	Vacuum Society of the Philippines	(EC)	Kathrina Lois Taaca	Plasma and Society	2000
							6 IIIVSTA

6. Status of existing WS as of 3-14-2021

E	ECM-134-10-	-A-02					ECM-1	34-10-A-0
_								Requested
		Place/		Organizer	IUVSTA	Primary		Funding
	title	Country	Status/Date	(underwriter)	Division	Contact	Title	(€)
	WS 90	Spain	"hybrid 18-22 October 2021"		SSD	Juan.F.Sanchez@ uv.es	Tuning properties of advanced energy materials using modern theoretical and experimental methods	6000
	WS 91		"Shifted to Feb March 2022, in person"		NSD	baran.eren@weiz mann.ac.il	Surface Chemistry of Catalytic Systems	6000
	WS 92	Okinawa Japan	sept 2021as planned: hybrid	Japan Society of Vacuum and Surface Science	NSD, SSD	shuji@surface.ph ys.s.u-tokyo.ac.jp		6000
	WS 93	Castle Seggau, Austria	postpone it to spring 2022	Austrian Vac. Soc.	SE NSD, TFD, ASSD	petrov@illinois .edu	Advances in the characterization of surface engineering structures, coatings, and thin films	6000
	WS 94	Cerklje na Gorenjske m Slovenia	planned in Summer/Autumn 2021 7-12, March 2021	Slovenian Vacuum Society	PSTD	Miran Mozetič	Reliable sensing and control of reactive plasmas	9000
	WS 95	Guimarães Portugal	postpone to 20-23 june, 2022 4-7, Oct. 2021	University of Minho	TFD	Joel Borges	Plasmonic Thin Films: Theory, Synthesis and Applications	6000

7. Status of existing Proposals (EC) as of 3-14-2021

ECM-134-10-A-02 ECM-134-10-A-02

title	Place/ Country	Status/Date	Organizer (underwriter)	IUVSTA Division	Primary Contact	Title	Requested Funding (€)
TTC 21	Štrbské Pleso, Hotel Trigan	Postponed to online/hybrid, Oct. 2021	Slovak Vacuum Society	(EC)	Andy Vincze	Vacuum technology, principles and applications	2500
TTC 22	Islamabad Hotel, Islamabad, Pakistan	Postponed to June 08-10, 2021	Pakistan Vacuum Society	(EC)	Javaid Ahsan Bhatti	IIUVSTA TTC on Vacuum Technology Applications	2500
TTC 23	Universidad Nacional de San Martin, Argentina	standby until next year 2022 Postpone to February and May 2021. Virtual?	Asociación Física	(EC)	Miguel Sanchez	Intro to Vac Sci, Tech, and Application: from Nano sci to outer space	2500
SC	Córdoba, Spain	shifted to Sep. 26, 2022 Sept. 27, 2021 https://leempeem 12.secv.es/ Virtual?	Vacuum Society- Spain	(EC)	miguel.manso @uam.es	Low Energy and PhotoEmission Electron Microscopy	1000

8. Final items **ECM-134-10-A-02**

ECM-134-10-A-02

Endorsements

- The request for IUVSTA Sponsorship for the "Workshop on Electron" Microscopy and its Applications" (Virtual Event on 28/04 and 29/04) with Carla Bittencourt, Chair; Michel Vouè, Scientific Chair is approved in an email vote of division chairs and reported to the STD. Email vote Vote 10 Yes / 0 Abstention / 0 No.
- ICN+T: Sarah Burke saburke@phas.ubc.ca, Request for IUVSTA Sponsorship for the ICN+T virtual conference to be held July 11-16 was voted by STD and Approved. The live vote was unanimous yes vote for all present and the IUVSTA Sponsorship is approved (9 Yes / 0 Abstention / 0 No). The request for financial support for IUVSTA to support a session and student registration fee reduction was discussed and supported in general but will be sent to the ECM for final approval.

9. Adjourn

Jay Hendricks, Scientific Director, March 18th, 2021



National Institute of Standards and Technology 100 Bureau Drive Gaithersburg, MD 20899

Scientific Director, 2019-2022 **IUVSTA**

Please complete this form and return it to the Secretary General

TITLE OF EVENT Workshop on Electron microscopy and its applications

DATES. 28/04 and 29/04

PRINCIPAL THEMES OF THE EVENT





Scientific and Technical Directorate(STD)

Jay Hendricks, Scientific Director Katsuyuki Fukutani, Scientific Secretary

> ECM-134 Virtual Meeting March 19th, 2021



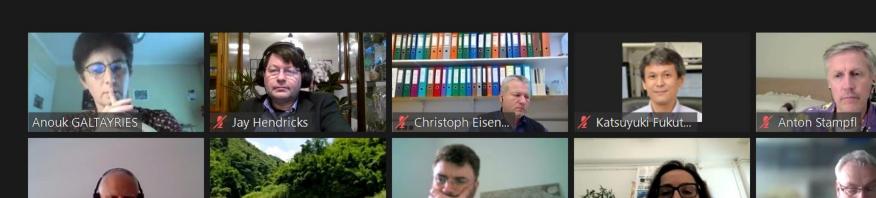


Martin Wüest

Sylvie Bourgeois

Francois Reniers

Greg Exarhos





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emmanuelharo...



ivanda

🔏 Ana Silva

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Marcelo Ferreira

Dr. Javaid Bhatti...



Participants (35)

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Q Find a participant

Imarkowski

Maja Mićetić

Marcelo Ferreira

Mario Rocca

miguel.manso@uam.es

Miran Mozetic

PEDRO

Stanislav Novak

Sven Ulrich

Sylvie Bourgeois

Timo

Yasunori Tanimoto (KEK)

Invite

Unmute Me

3/18/2021







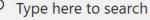












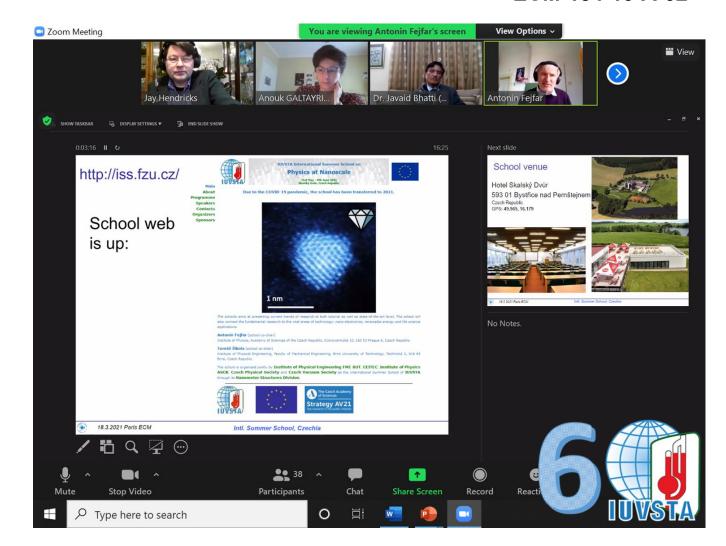
IUVSTA Virtual School on Physics at Nanoscale

ECM-134-10-A-02

ECM-134-10-A-02

(1) Sc_1 Voted: 9 votes yes, 0 vote no, and 0 vote abstention

According to the results voted in the STD, the STD proposes an either hybrid or virtual School with title "Physics at Nanoscale" to the ECM 134 for final approval as the IUVSTA School with IUVSTA financial support of 4000 EUR.



IUVSTA Endorsement of Workshop on Electron Microscopy and its Applications

ECM-134-10-A-02

ECM-134-10-A-02

Dear Madam President,

The STD held an email vote on the request for IUVSTA Sponsorship for a Virtual Event "Workshop on Electron Microscopy and its Applications" (Virtual Event on April 28th and 29th) with Carla Bittencourt, Chair; Michel Vouè, Scientific Chair. The request is **approved** in an email vote of division chairs and reported to the STD. Email vote Vote 10 Yes / 0 Abstention / 0 No

IUVSTA Endorsement of ICN+T Conference

ECM-134-10-A-02 ECM-134-10-A-02

Dear Madam President,

The STD held a vote on IUVSTA sponsorship of the ICN+T meeting requested by Sarah Burke be held July 11th -16th as virtual conference. The request was voted by STD and **Approved**. The vote of (9 Yes / 0 Abstention / 0 No). The request for financial support for IUVSTA to support a session and student registration fee reduction was discussed and supported in general but will be sent to the ECM for final approval.

Thanks!

Jay Hendricks, Scientific Director, March 19th, 2021

Jay Hendricks

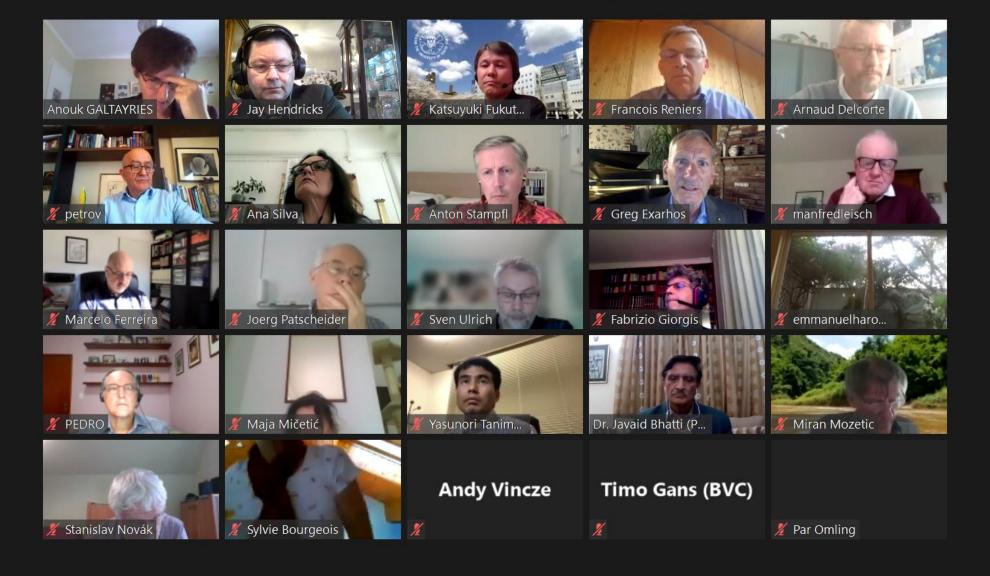
Scientific Director, 2019-2022 IUVSTA



National Institute of Standards and Technology 100 Bureau Drive Gaithersburg, MD 20899

- Below ECM meeting March 19th
- Above is STD meeting March 18th

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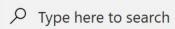




Zoom Meeting



















































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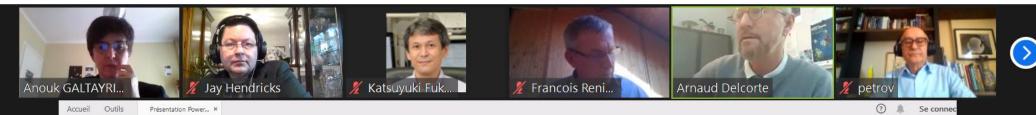












2. Budget for 2021 (in €)

			2020/2022 voted	2021	
Income:					
Subscriptions	(share value o	f 150 € per yea	61924	20000	
Interest			18000	6000	
Donation (We	elch Award, Else	evier)	39000	13000	
Company eng	gagements		10000	0	
Donation (fro	om IVC)		45000	0	
Transfer from	n general fund		75000	39453	→ To balance the expenses
Total income			248924	78453	Page 1 and a second section of the second section of the second section of the second section of the second section se
Expenditure:					
Communicati	*		8000	3000	TTC21 + TTC22 + SC LEEM
	Activities/Webir	nars	22000	8000	+ SC EVC16
Workshops/S			120000	21000	
The second secon	etionary expen	ses and travel	14000	3000	
	ance for IUVST		1000	333	
ICSU/NGO-U			2000	600	WS92+WS94+1School
Bank charges	, taxes, commit	ments, miscel	4000	1400	(ECM134)
Accountant for	or tax fillings		2750	620	
IUVSTA Prize			14000	0	
IUVSTA highli	ghts		10000	10000	→ EVC16 November 2021
Welch-IUVST	A award		39000	13000	
Ebara-IUVSTA	A award		4500	0	
Grant VASCA	A Elsevier		0	2000	
integration ne	ew societies		2000	1500	®
International	year IYBSSD 20	22	0	10000	→ Full contribution
unexpected e	expenses		5000	4000	→ Special support pandemics
Transfer to ge	eneral fund		0		(ICN+T 2021,) 7
Total expend	liture		248250	78453	(,,,



















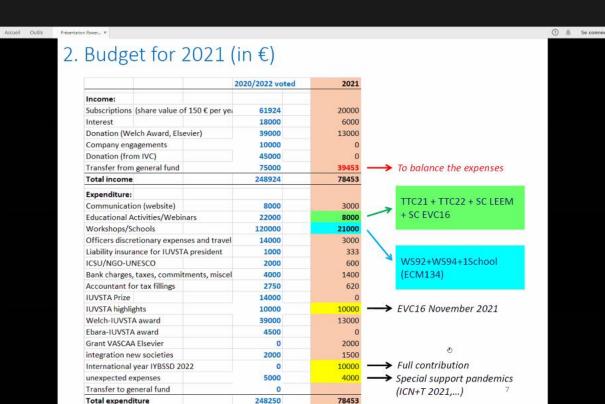








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Contributions of Professor Peter B. Barna to the international thin film community

László Kövér

- From early 1960's Peter along with the late Professor J.F. Pócza, J Antal, and E Hahn, organized of international thin film forums in Hungary in order to enable exchange between East and West
- The Hungarian conferences led to the establishment of the first Joint Vacuum Conferences in 1978-79, which was held as "Hungarian—Austrian Vacuum Conference" in Győr (Hungary) in 1979; Initiated by Peter along with Professors Antal, Viehböck, Wagendristel, Grasenick, and E. M. Hörl; the JVCs series has been IUVSTA endorsed.
- One of the founders of the IUVSTA Thin Film Division. 1977, Peter, as a member of the International Thin Film Committee (ITFC) working in the IUVSTA executive council, initiated the idea for the formation of the IUVSTA Thin Film Division, together with the Chairman of the ITFC Committee, Prof. Max Auwarter, his successor Prof. F. Abeles, and the President of IUVSTA, Prof. Leslie Holland.
- in 1979 the IUVSTA Thin Film Division was officially founded with Peter its secretary; established the IUVSTA ICTF series
- Organizer or main organizer of 32 IUVSTA forums conferences, schools, and workshops
- Barna is honorary chairman of the Thin Film Division of the Eötvös Loránd Physical Society since 1980
- 2010 IUVSTA Prize in Science for his outstanding results in understanding thin film growth phenomena and structureproperty relations in one and multiphase thin films.
- 2003 he received the Albert Nerken Award of AVS for seminal use of in situ electron microscopy for the characterization and understanding of microstructural evolution and texture development during thin film growth
- R. F. Bunshah Award and Honorary ICMCTF Lecture 2015 for pioneering contributions to the understanding of nanostructural evolution during thin-film nucleation and growth based upon in-situ UHV TEM video imaging.



Speakers/Headphones (Realtek(R) Audio)

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W View



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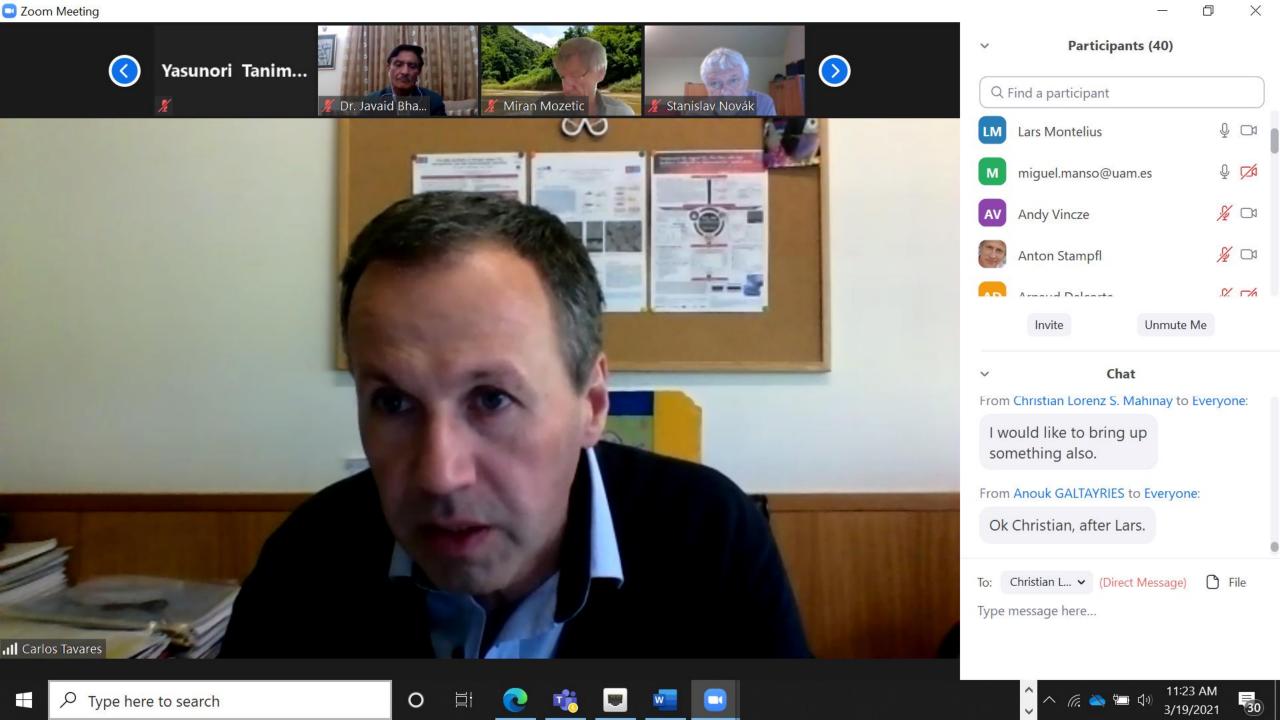




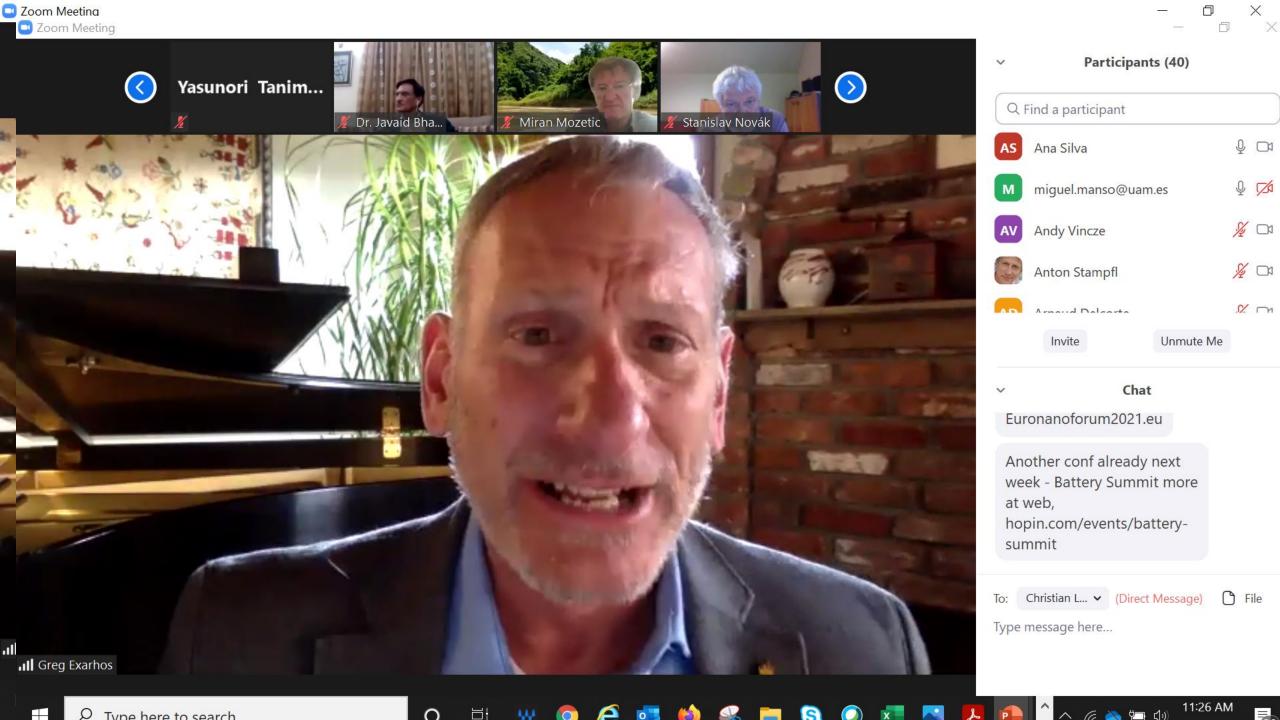


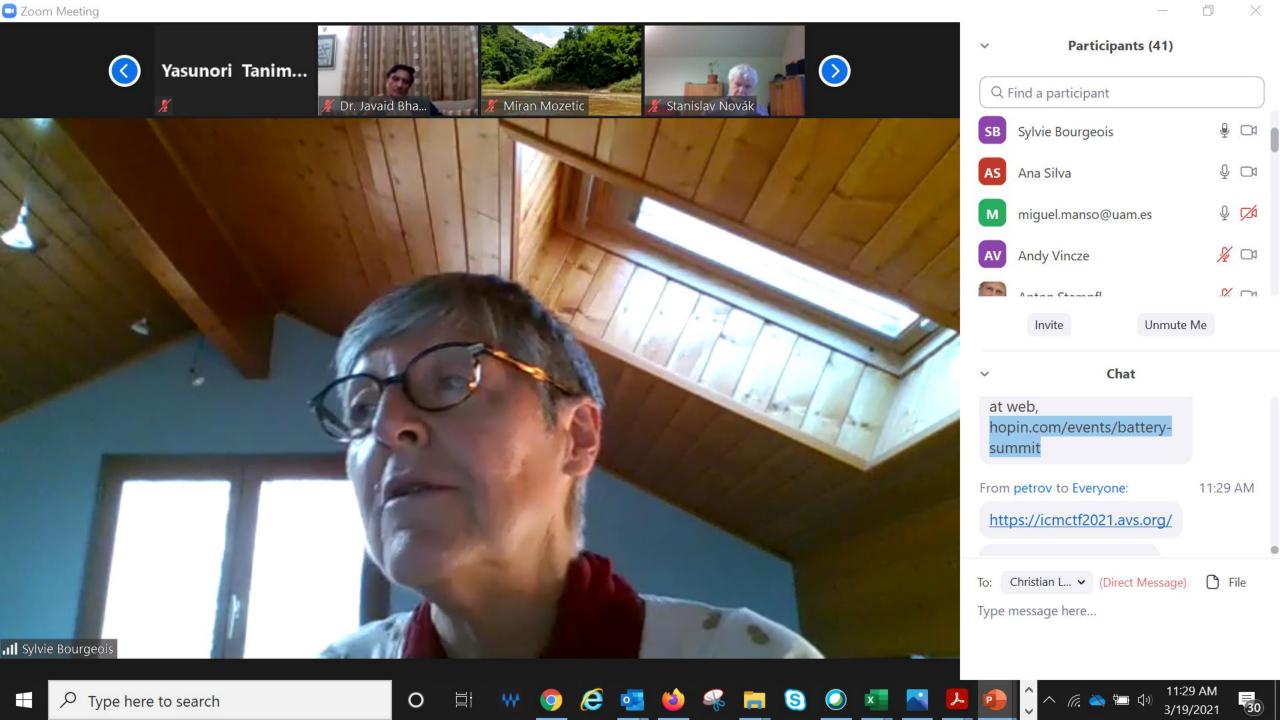
Perter Barna (acceptance of IUVSTA Honorary Award)



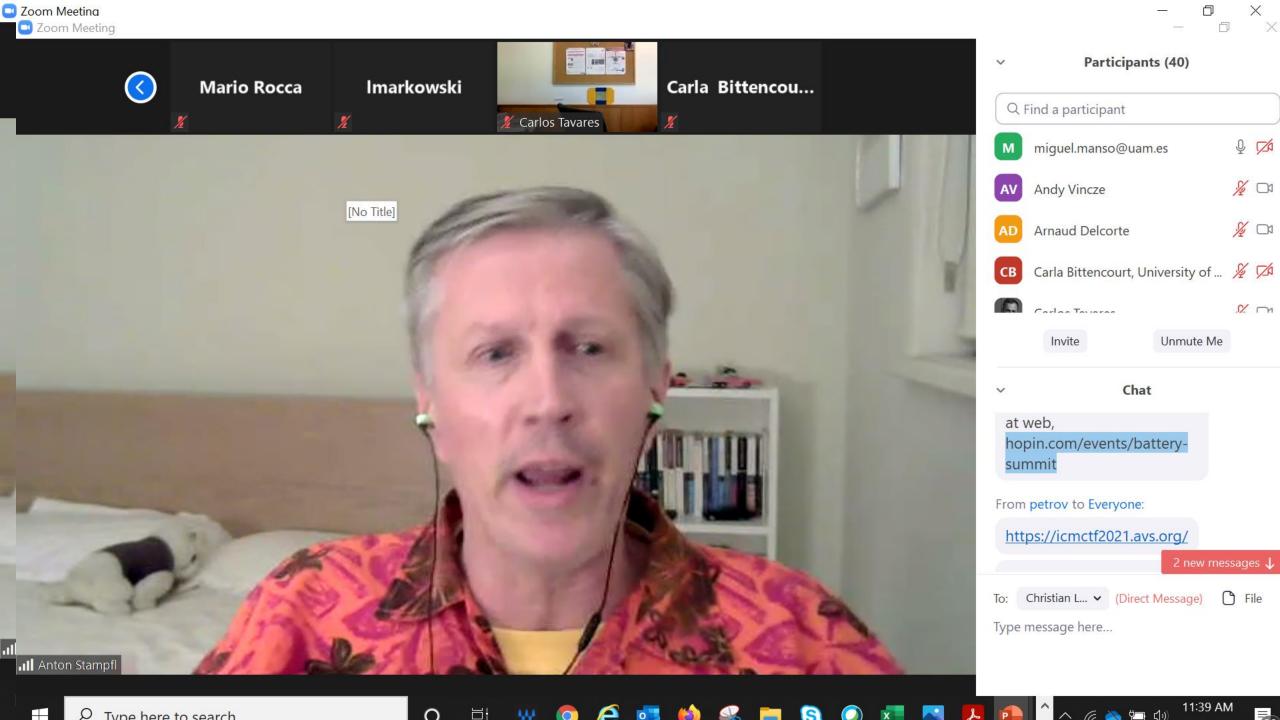


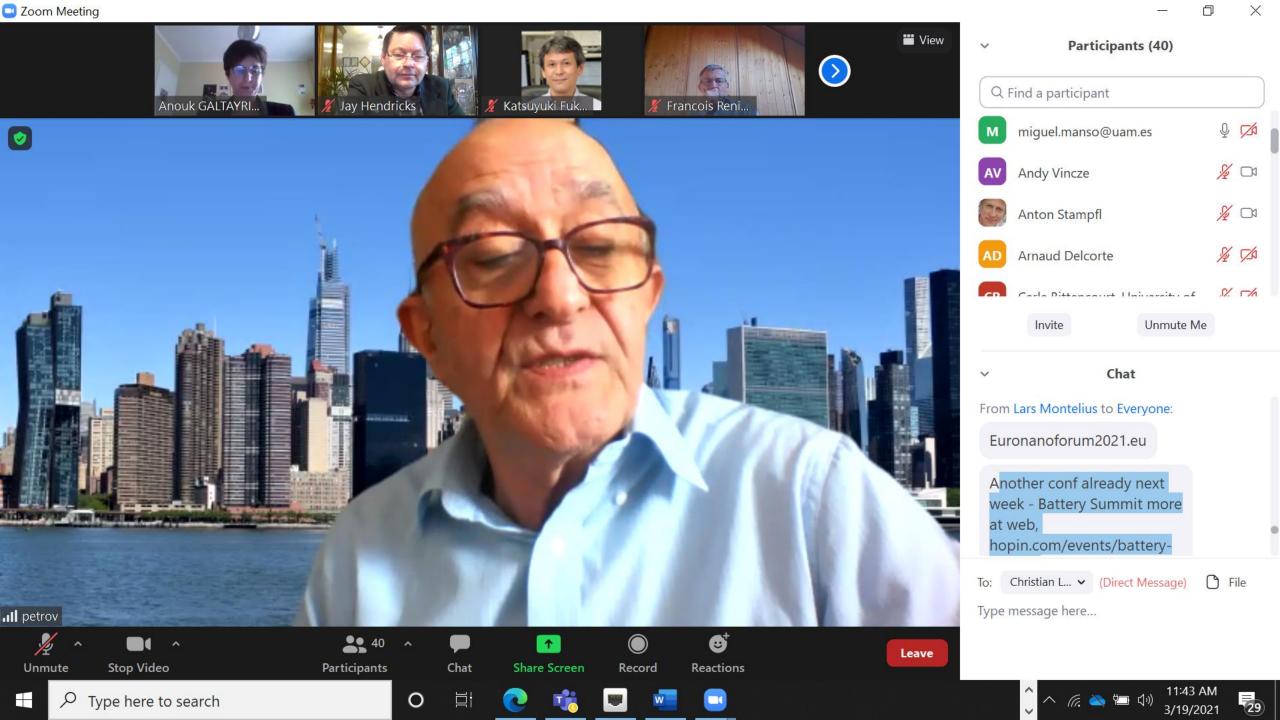


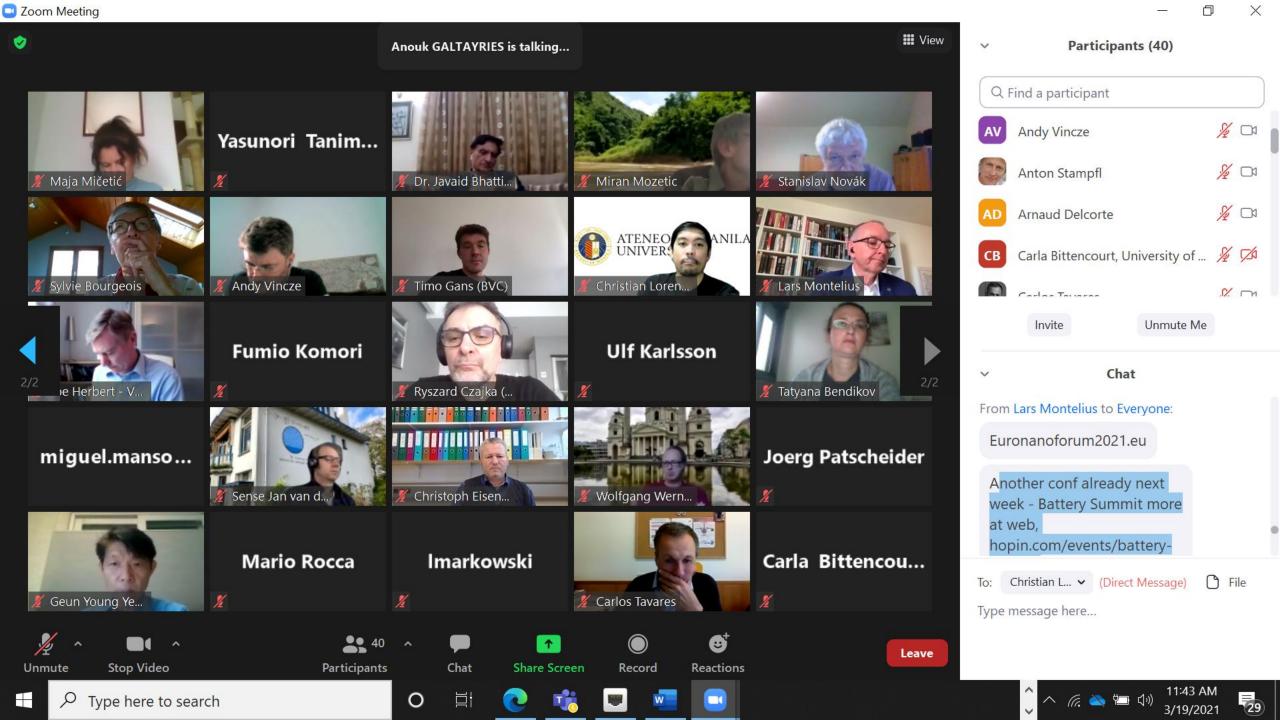


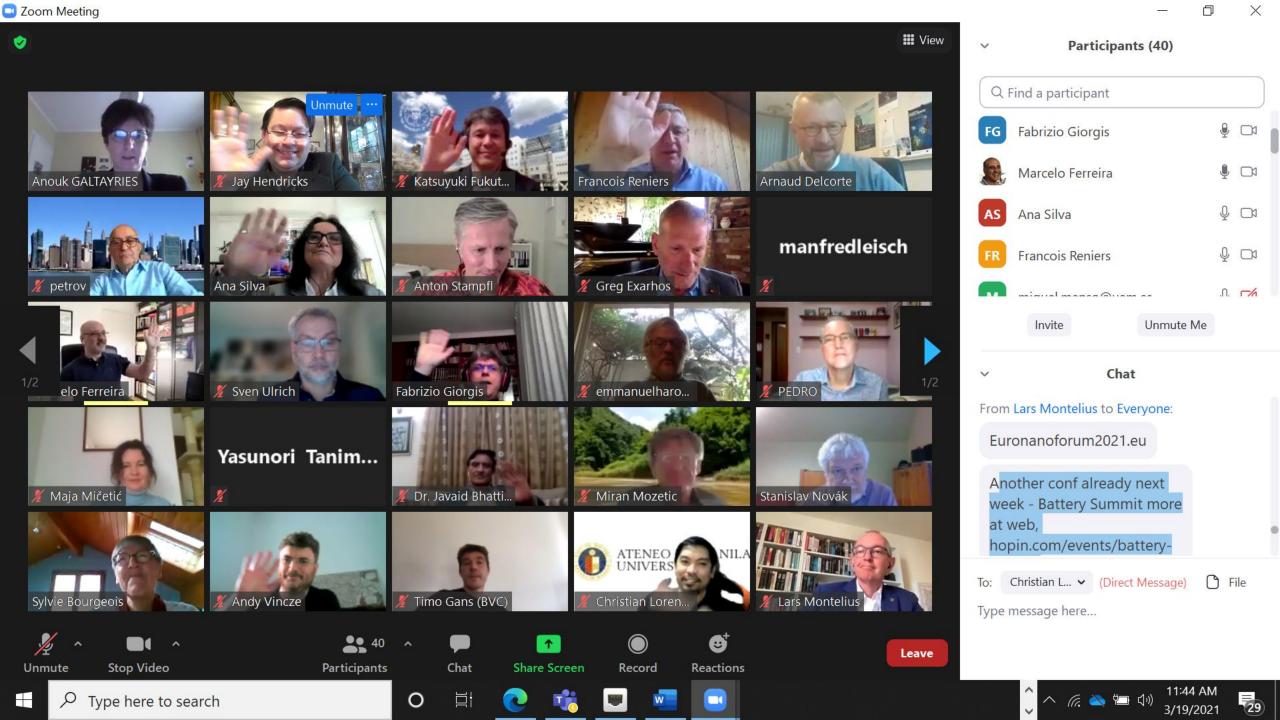












	WS	SCH	TCC	SC
	Workshops	Schools	Technical Training Course	Short Course
				(may adapted to webinar)
Submission:	TO: Scientific Secretary	TO: Scientific Secretary	TO: Scientific Secretary	TO: Scientific Secretary
	CC: SD + organizers	CC: SD + organizers	CC: ECC/ECVC/ECS/SD + organizers	CC: ECC/ECVC/ECS/SD + organizers
Summary/	To <i>advance</i> scientific knowledge in a field; rather	To <i>educate</i> on existing knowledge	To educate at the beginner level,	To <i>educate on existing knowledge</i> "state of the
Purpose:	than be educational of existing knowledge		generally not same topic in sequential years	art "in a specific field
Organized	Organized IUVSTA Division(s)/National Vacuum	Organized IUVSTA	Organized IUVSTA	Organized IUVSTA Division(s)/National Vacuum
by/Underwrit er	Society or university	Division(s)/National Vacuum Society or university	Division(s)/National Vacuum Society or university	Society or university
Format:	Format should be like that of a "Gordon Conference"		·	Held in conjunction with existing scientific
	with no publication of proceedings.	instruction on a specific topic with	_	meeting. Example AVS Short Courses
		learning/educational materials provided.	/engineer	
Location:	Remote location (not large city) in a hotel, hostel,	Typically, University campus	Regional	Regional to Main scientific meeting
	university campus, or small town.			
Size/Duration	40-50 delegates	40-80 students	Any	any
	4-6 days	1 to 2 weeks	1-3 days	1-2 days
Participation:	Organizers invite 10-20 talks of <i>International</i> experts	<i>International</i> teaching experts in the field	Regional experts and students	Regional experts and students
Program:	Dominated by single session oral presentations by	Intense instruction/school on a	Dominated by regional experts in	1-2 days held in conjunction with a main scientifi
	invited speakers. Lots of unstructured discussion	specific topic with learning/	the field and often taught in the	meeting.
	space in program and time for questions (opposite	·	local language.	
- "	of a conference style with little time for questions).	in the form of textbook	3 500 5	2 200 5
Funding:	6,000-9,000 Euro	6,000-9,000 Euro	2,500 Euro maximum	2,000 Euro maximum
Language:	Typically, English (French/German permitted)	Typically, English (French/German permitted)	Local/regional language is encouraged	English (French/German permitted), maybe regional if main conference is regional language (unusual).
Approval Route	STD→ECM	STD→ECM	EC→STD→ECM	EC→STD→ECM