



EU PVSEC 2020 *online*

37th European
Photovoltaic Solar Energy
Conference and Exhibition

07 - 11
September
2020

Guidelines for Chairpersons

EU PVSEC 2020



Thank you very much for agreeing to chair an oral session during the EU PVSEC 2020 online. We would like to give you some guidelines and information to support you in this important role.

- **In order to access the EUPVSEC online you must be registered for the conference.**
- Speakers, chairpersons and the technical operator of the session will meet in the respective virtual auditorium **15 minutes prior to their session**, to be briefed on the structure of the session, for the last test and to get more acquainted with the broadcasting tool.
- Usually each oral and plenary session will be chaired by two chairpersons.

As chairperson you are responsible for:

- Announcing the speakers by mentioning speaker's name, affiliation and the presentation title.
- Ensuring that each speaker respects the allocated time for his/her speech (incl. questions)
 - Plenary Presentation = 15 min. + 5 min. for questions/discussion
 - Oral Presentation = 12 min. + 3 min. for questions/discussion
 - Introductory Presentation = 25 min. + 5 min. for questions/discussion
 - (3AO.7.1, 3CO.6.1, 3CO.8.1, 4CO.1.1, 4CO.2.1)
 - Extended Oral Presentation = 25 min. + 5 min. for questions/discussion
 - (3CO.6.2)
- Helping to ensure that presentations do not include advertising material. The presenters/authors are informed that advertising material is not allowed. A presentation may include a maximum of two slides containing information about the author's organisation.
- Guiding the questions after the presentation
- Ensuring the general smooth running of the session
- Ensuring that the total time slot given for the session is respected



As chairperson you are as well responsible for:

- **Session Highlights Form:** Prior to the event you will receive per e-mail a link to an online form. Please remember to fill it in at the end of your session with One Key Highlight. Your Session Highlights Form is an essential element for identifying the key results of this Conference.
- **Indicate the EU PVSEC 2020 Student Award Finalist (if any) in your session:** Below you can see the list of Student Awards Finalists. In case one of them is in your session, please indicate this when you announce the talk.
(Presentations will be evaluated by the Student Awards Committee during the week and the EU PVSEC Student Award Winners will be presented during the Closing Session on Friday, 11 September 2020)



Student Award Finalists on Monday, 7 September 2020

AP.1.2 The Race for the Best Silicon Bottom Cell: Efficiency and Cost Evaluation of Perovskite-Silicon Tandem Solar Cells

C. Messmer*, B.S. Goraya, S. Nold, J. Schön, J.C. Goldschmidt, M. Bivour & M. Hermle
Fraunhofer ISE, Freiburg, Germany

2AO.4.5 Doped Poly-Si/SiO_x Passivating Contacts: Hydrogenation and Its Mechanisms

T.N. Truong*, D. Yan, A. Cuevas, D. Macdonald & H.T. Nguyen
ANU, Canberra, Australia

3AO.8.3 High Band Gap Absorber for Monolithic Perovskite Silicon Tandem Solar Cells Reaching 25.1% Certified Efficiency and Ways Beyond

P.S.C. Schulze*, A.J. Bett, O.S. Kabakli, K.M. Winkler, L.E. Mundt, F.M. Gerspacher, Q. Zhang, C.L.M. Hofmann, M. Bivour, M. Hermle, S.W. Glunz & J.C. Goldschmidt
Fraunhofer ISE, Freiburg, Germany
H. Hillebrecht
University of Freiburg, Germany



Student Award Finalists on Tuesday, 8 September 2020 (I)

1BO.16.1 Luminescent Characteristics of Wire-on-Well Nanostructure Solar Cells

M. Asami*, R. Yokota, K. Watanabe, Y. Nakano & M. Sugiyama

University of Tokyo, Japan

2BO.3.4 Enhancing Hole Selectivity of Passivated Contacts via Ultrathin Dielectric ALD-AlO_x Tunnel Layer Exhibiting High Negative Interface Charge

G. Kaur* & A. Danner

National University of Singapore, Singapore

R. Sridharan, Z. Xin & R. Stangl

SERIS, Singapore, Singapore

2BO.5.3 Illuminated Contact Resistance Measurements to Investigate the Properties of Contact Stacks in Silicon Heterojunction Solar Cells

L.-L. Senaud*, G. Christmann, A. Descoedres, J. Geissbühler, N. Badel, P. Wyss, C. Allebé, S. Nicolay, M. Despeisse & B. Paviet-Salomon

CSEM, Neuchâtel, Switzerland

P.A. Procel Moya, M. Zeman & O. Isabella

Delft University of Technology, Netherlands

M. Boccard

EPFL-STI-IMT-PVLAB, Neuchâtel, Switzerland

C. Ballif

EPFL, Neuchâtel, Switzerland



Student Award Finalists on Tuesday, 8 September 2020 (II)

3BV.2.57 Selective NIR-Conversion in Dye-Sensitized Solar Cells: A New Generation of Fully Transparent and Colorless Photovoltaic

W. Naim*

LRCS, Amiens, France

F. Grifoni, I. Dzeba & F. Sauvage

LCRS, Amiens, France

N. Barbero & C. Barolo

University of Turin, Italy

I. Nikolinakos & S. Haacke

University of Strasbourg, France

5BO.6.2 Quantification of the Effect of Albedo Modeling for a Floating PV System on the North Sea

S.Z. Mirbagheri Golroodbari* & W.G.J.H.M. van Sark

Utrecht University, Netherlands



Student Award Finalists on Wednesday, 9 September,

4CO.3.5 Loss Analysis and Optimization of PV Module Components and Design for Desert Applications

H. Hanifi*, M. Pander, U. Zeller, K. Ilse, D. Daßler, B. Jäckel, C. Hagendorf & R. Gottschalg

Fraunhofer CSP, Halle (Saale), Germany

M. Mirza

Fraunhofer ISC, Würzburg, Germany

M.A. Bahattab

KACST, Riyadh, Saudi Arabia

J. Schneider

Fraunhofer IMW, Leipzig, Germany

Wednesday, 9 September, **2CO.14.3 In-Situ Modulated Photoluminescence of Passivated c-Si Wafers during Annealing**

A. Desthieux* & J. Posada

EDF R&D, Palaiseau, France

M. Sreng

IPVF, Palaiseau, France

E. Drahi

TOTAL, Paris la Defense, France

B. Bazer-Bachi

EDF ENR PWT (Photowatt), Bourgoin Jallieu, France

F. Silva, J.-C. Vanel & P. Roca i Cabarrocas

CNRS, Palaiseau, France

2CO.15.4 Influence of Edge Recombinations on the Performance of Half-, Shingled- and Full Silicon Heterojunction Solar Cells

V. Giglia*, J. Veirman, R. Varache, B. Portaluppi & S. Harrison

CEA, Le Bourget-du-Lac, France

E. Fourmond

INSA Lyon, Villeurbanne, France

5CV.4.1 Techno-Economic Assessment of an Integrated PV System Using Innovative Sizing Tool for Educational Building (Case Study)

M. Hammad*, A. Obayda, N. Khaled, I.M. Mahmoud & T.S. Abdel-Salam

British University in Egypt, Elshrouk, Egypt



Student Award Finalists on Thursday, 10 September,

5DO.2.1 Geographical Approach for Weather Risk Identification and PV Performance Assessment

J. Ascencio-Vásquez*, K. Brecl & M. Topic

University of Ljubljana, Slovenia

5DO.3.3 Contactless Outdoor Photoluminescence of Silicon Photovoltaic Modules with Inhomogeneous Excitation Source

B. Doll*, J. Hepp, M. Hoffmann, A. Vetter, L. Lürer & C.J. Brabec

FAU Erlangen-Nürnberg, Germany

O. Stroyuk, C. Buerhop-Lutz, J. Hauch & I.M. Peters

HI ERN, Erlangen, Germany

M. Hemsendorf

GP Inspect, Neuried, Germany

D. Tegtmeier

Mencke & Tegtmeier, Hameln, Germany

F. Talkenberg & M. Menz

greateyes, Berlin, Germany

6DO.14.2 Techno-Economic Study of Agrivoltaic Systems Focusing on High Value Crops

B. Willockx*, B. Herteleer & J. Cappelle

KU Leuven, Gent, Belgium

Thursday, 10 September, **7DV.1.12**

Are Purchased Third Country Renewable Credits Worthwhile Than PV's in Malta?

B. Bartolo*

MCAST, Paola, Malta

B. Azzopardi, R. Mikalauskiene, V. Jatuly & S. Bhattacharya

MCAST, Paola, Malta

A. Guérin de Montgareuil

CEA, St-Paul-lez-Durance, France



Student Award Finalists on Friday, 11 September

5EO.2.3 Increased PV Utilisation from DC Distribution: Quantification of Geographical Location Impact

P. Ollas* & C. Markusson

RISE, Borås, Sweden

T. Thiringer

Chalmers University of Technology, Göteborg, Sweden

* EU PVSEC Student Award finalist

The winners will be announced during the Conference Closing Session on Friday, 11 September 2020.



Technical Guidelines on how to use the Online Platform

We strongly recommend taking advantage of the **technical checks** that will be held from

24 August - 28 August

31 August - 04 September

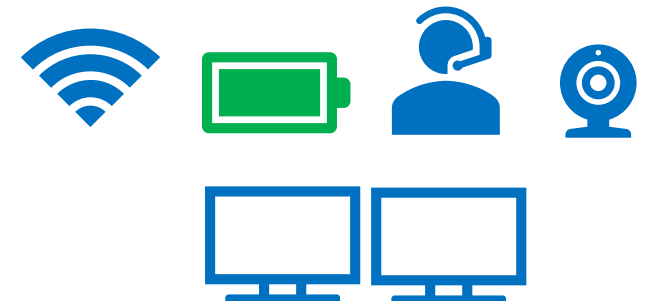
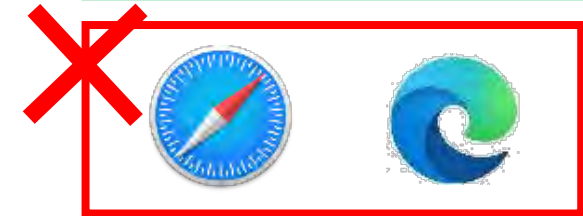
You can select a time slot in which you can try the **Streamyard broadcasting platform** yourself, guided by an operator.

Information about the registration for the **technical checks** will follow soon via e-mail and on our website.



Before you enter the **broadcasting** platform please make sure to meet the following technical requirements:

- Use **FIREFOX** or **CHROME** browser (SAFARI and EDGE currently do not support the platforms)
- Make sure that the WiFi signal is sufficiently strong, or even better, connect your computer to the network by cable.
- For good audio quality, a headset or external microphone should be used. Often wired headsets provide better audio quality than Bluetooth connected headsets.
- Restart your PC 15 minutes before your presentation.
- If possible, use two monitors which allows you to see also the chats.
- Find more hints in the [Instructions / Notes for Authors](#) on the EU PVSEC website





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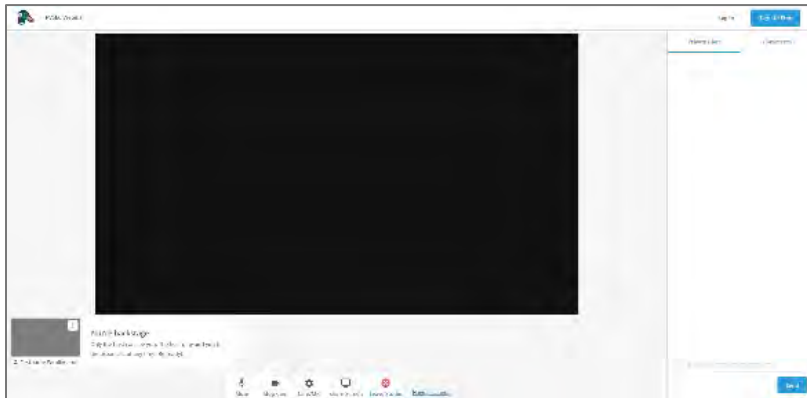
First of all, we need to distinguish between **4 platforms**.



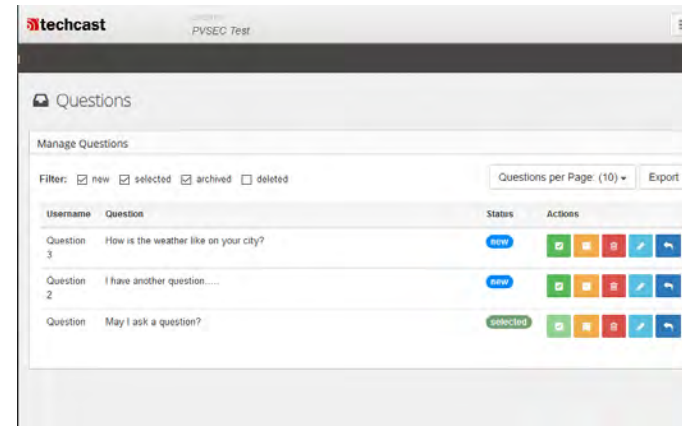
-Your **USER AREA**, which you can log in from the EU PVSEC website.



- The main **EVENT PLATFORM**, which you can enter from your user area. This is where you can watch all presentations, the exhibition takes place and the networking happens.



- The **STREAMYARD BROADCASTING PLATFORM**, which you will use to chair a session.



- And the **Q&A TOOL**, where you can see the audience's questions, review and forward them to the speaker.



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So far so good?

Great! Let's get started on how to use the platforms and the Q&A tool...



EU PVSEC 2020 *online*

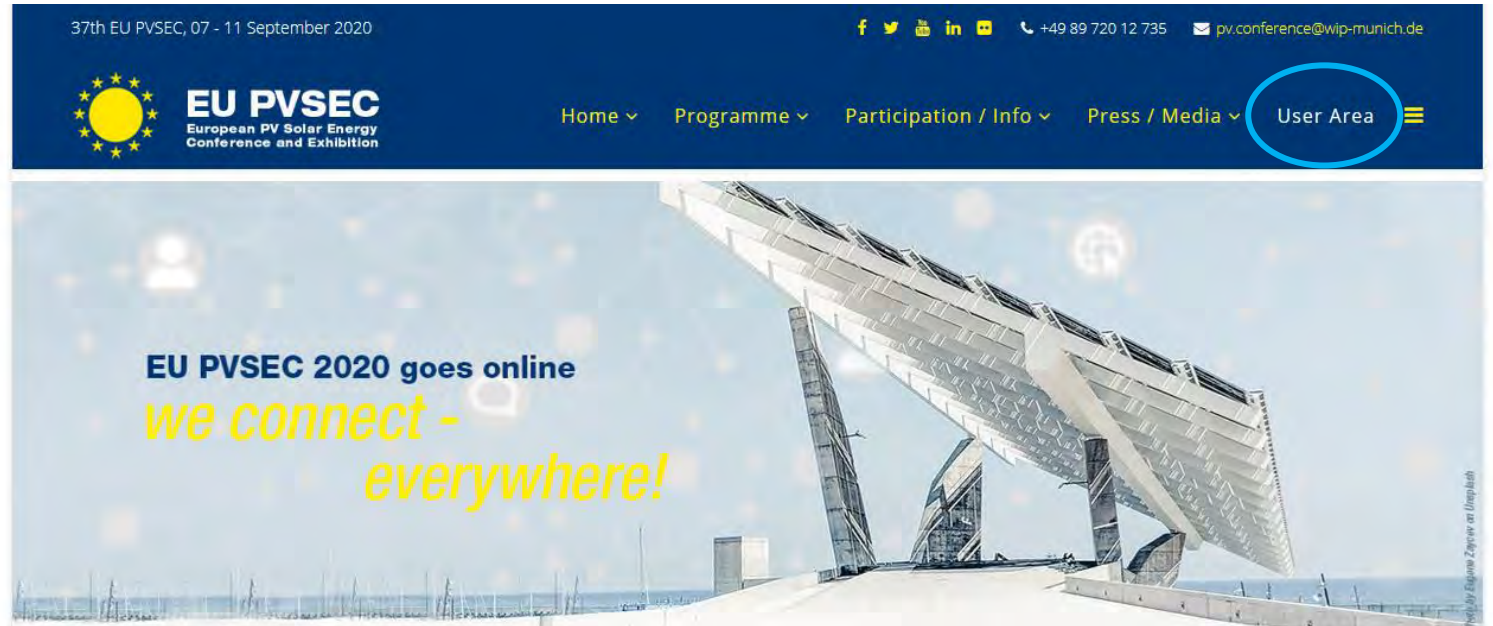
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After a successful registration to the EU PVSEC 2020 online, login to your **[USER AREA](#)**.

Here you will find the access to the conference platform. There you will find the distinct links to the session you have to chair.

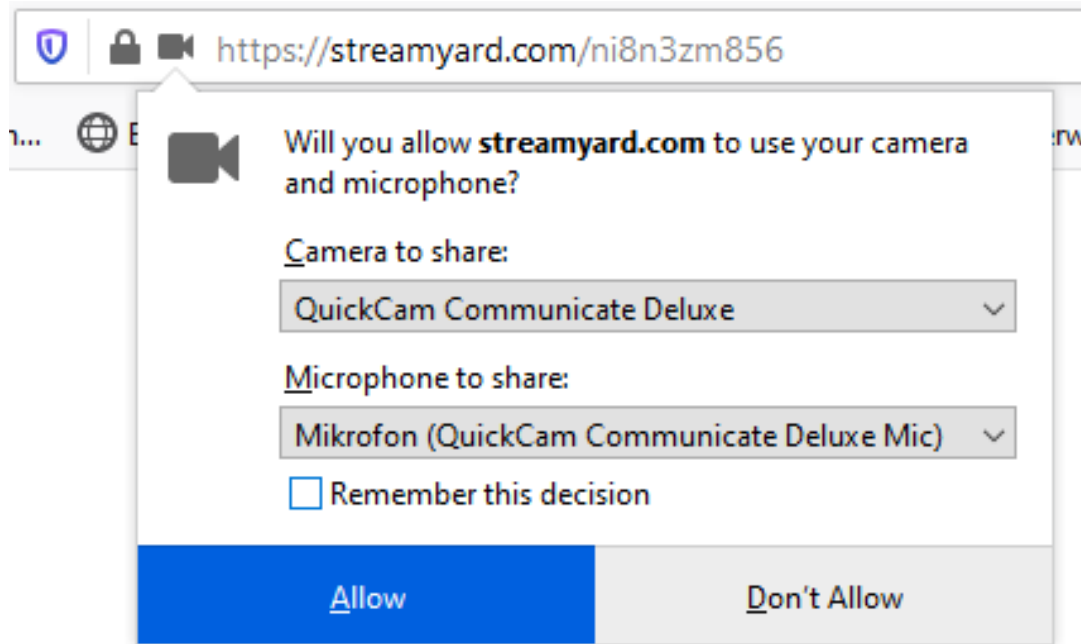
<https://userarea.photovoltaic-conference.com>





Follow the link to your session and you will be redirected to the Streamyard broadcasting platform.
Please make sure to click this link **15 minutes prior to the start of the session.**

In your browser, allow Streamyard to access your camera and microphone.





Let's do a quick check:

StreamYard

Let's check your camera and mic

Step 2 **CAMERA:** See yourself in this window? Great, your cam works!

Step 3 **MICROPHONE:** This bar is moving? Great, your mic works!

Step 1 **WHO ARE YOU?** Enter your name here: It will be shown below your camera image

Step 4 **SETTINGS:** Mute/unmute your mic, show/hide your cam. You can change cam and mic settings by clicking on the settings wheel.

Firstname Familyname

Mic is working

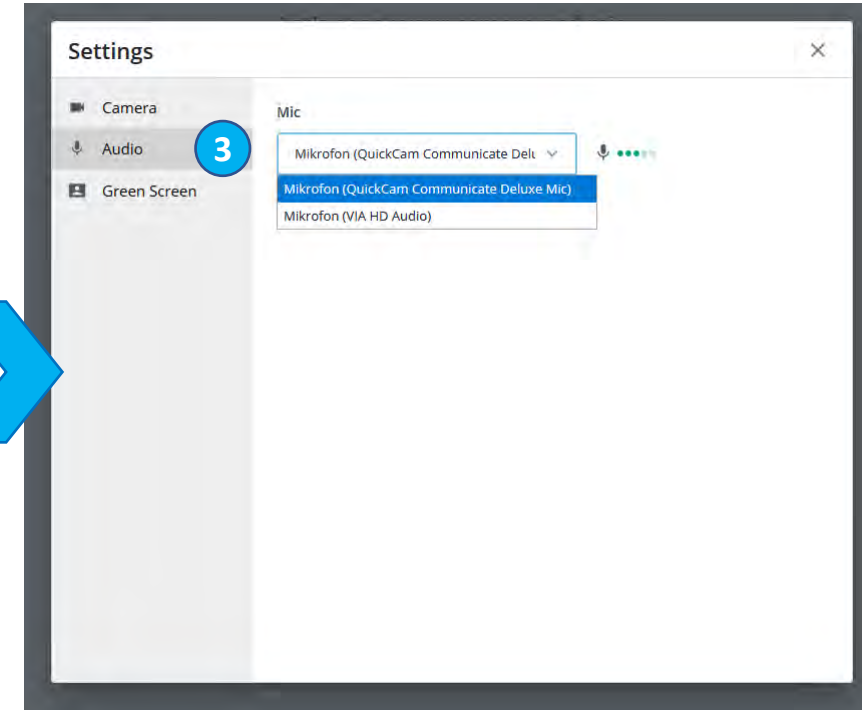
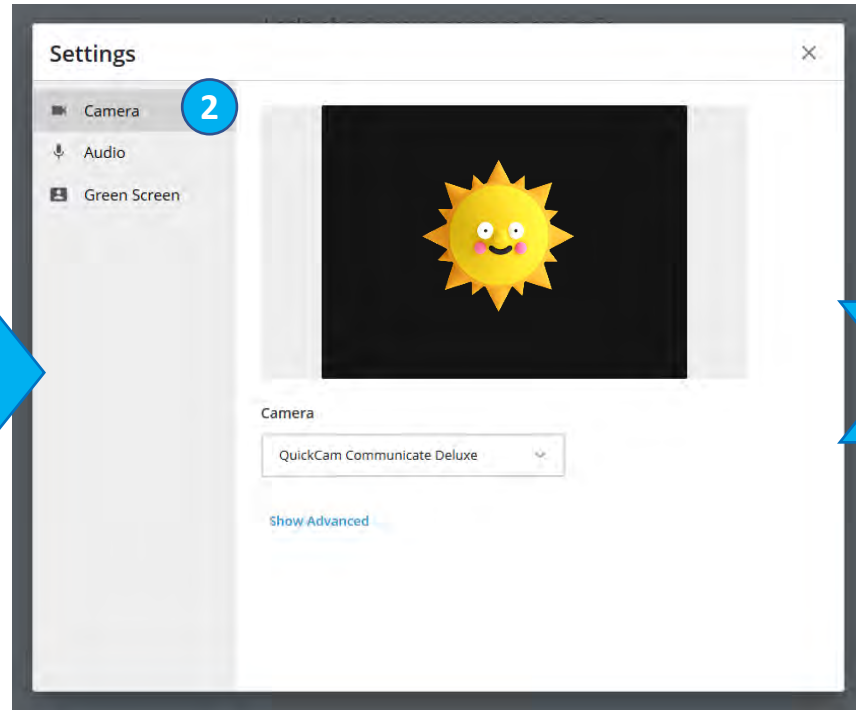
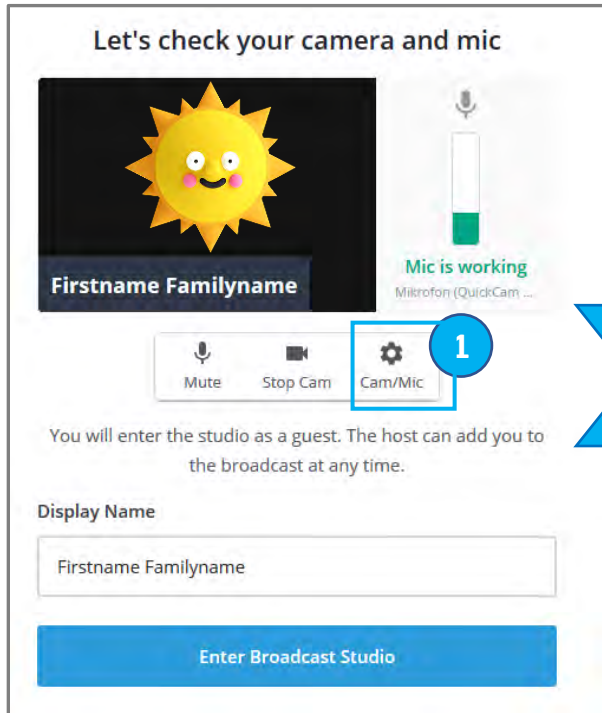
Mute Stop Cam Cam/Mic

You will enter the studio as a guest. The host can add you to the broadcast at any time.

Display Name

Firstname Familyname

Enter Broadcast Studio



1

By clicking on the settings wheel you can choose your camera and audio tools.

2

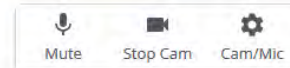
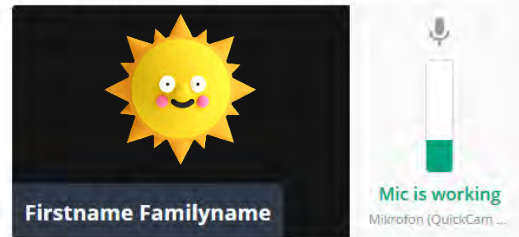
Here you can choose between your front or back camera. You can see yourself? Means, we will see you, too.

3

Choose your microphone and check the little green dots. They are moving while you speak? Means, we will hear you.



Let's check your camera and mic



You will enter the studio as a guest. The host can add you to the broadcast at any time.

Display Name

Firstname Familyname

ARE YOU READY? →

Enter Broadcast Studio

Enter the Broadcast Studio and wait backstage for the host to add you to the session.



Welcome to the Streamyard broadcasting, backstage: your virtual stage at the EU PVSEC 2020 online.

PVSEC Webinar

Log In [Sign Up Free](#)

Private Chat Comments

STAGE

You're backstage
Only the host can see you. The host may add you to the broadcast at any time. Be ready!

Firstname Familyname

Chairperson 1 Chairperson 2 Speaker 2 Speaker 3 Speaker 4 Speaker 5 Speaker 6 Host (operator)

Mute Stop Cam Cam/Mic Share Screen Leave Studio [Having Issues?](#)

with the host and other guests

Send

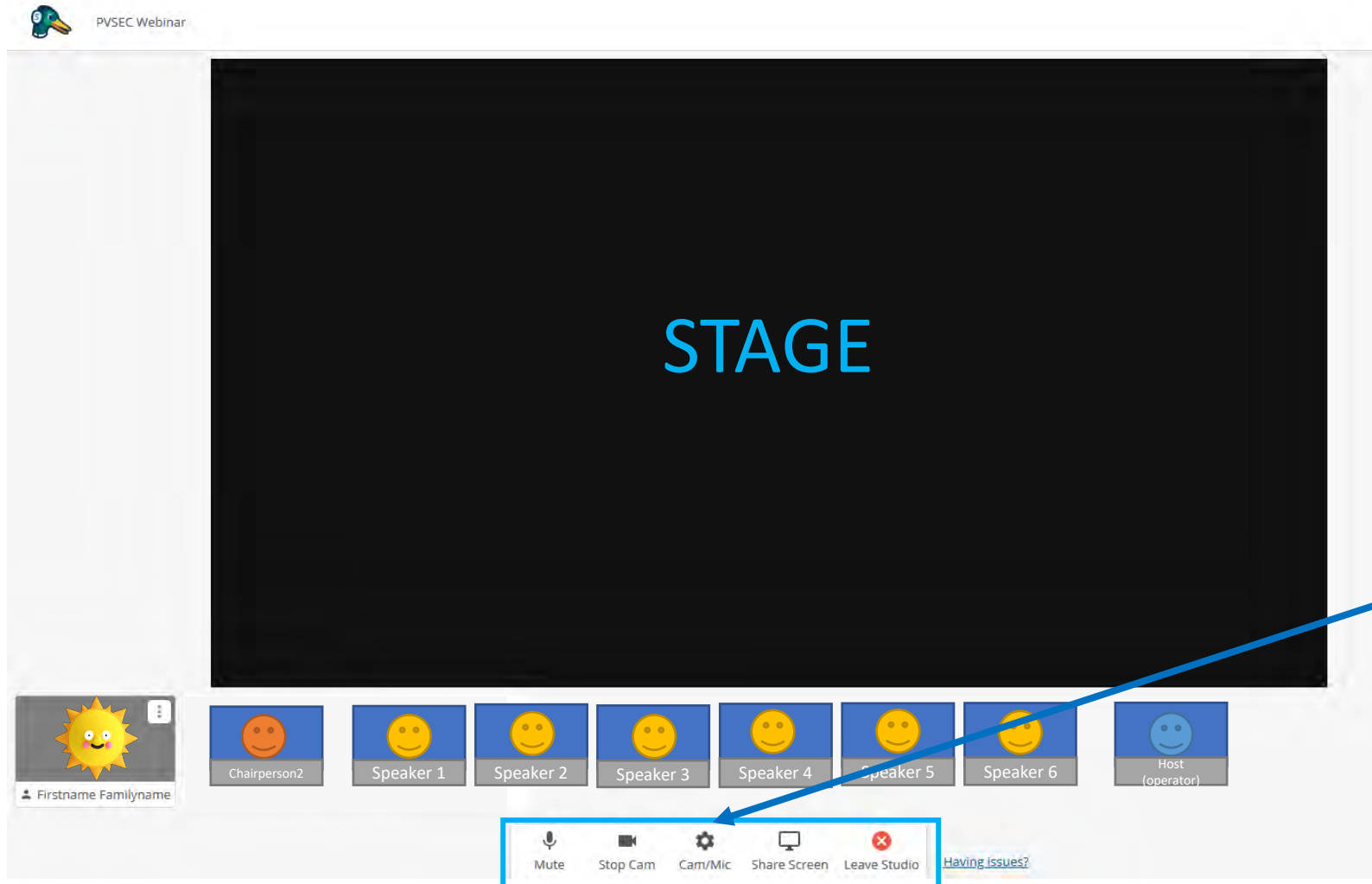
← BACKSTAGE

A host (operator) will welcome you 15 minutes prior to the session and do a final check with all speakers and chairpersons of the session.

At this point you are not yet visible to the audience.



Three types of people are backstage: Host, chairpersons & presenters



Once the session has started, you and your co-chair will guide through it. The host controls who is shown to the audience or who is hidden backstage.

As a chairperson, you will moderate the session, introduce the speakers and enforce that timings are kept.

After the presenter is sharing his/her screen, the presentation can start.

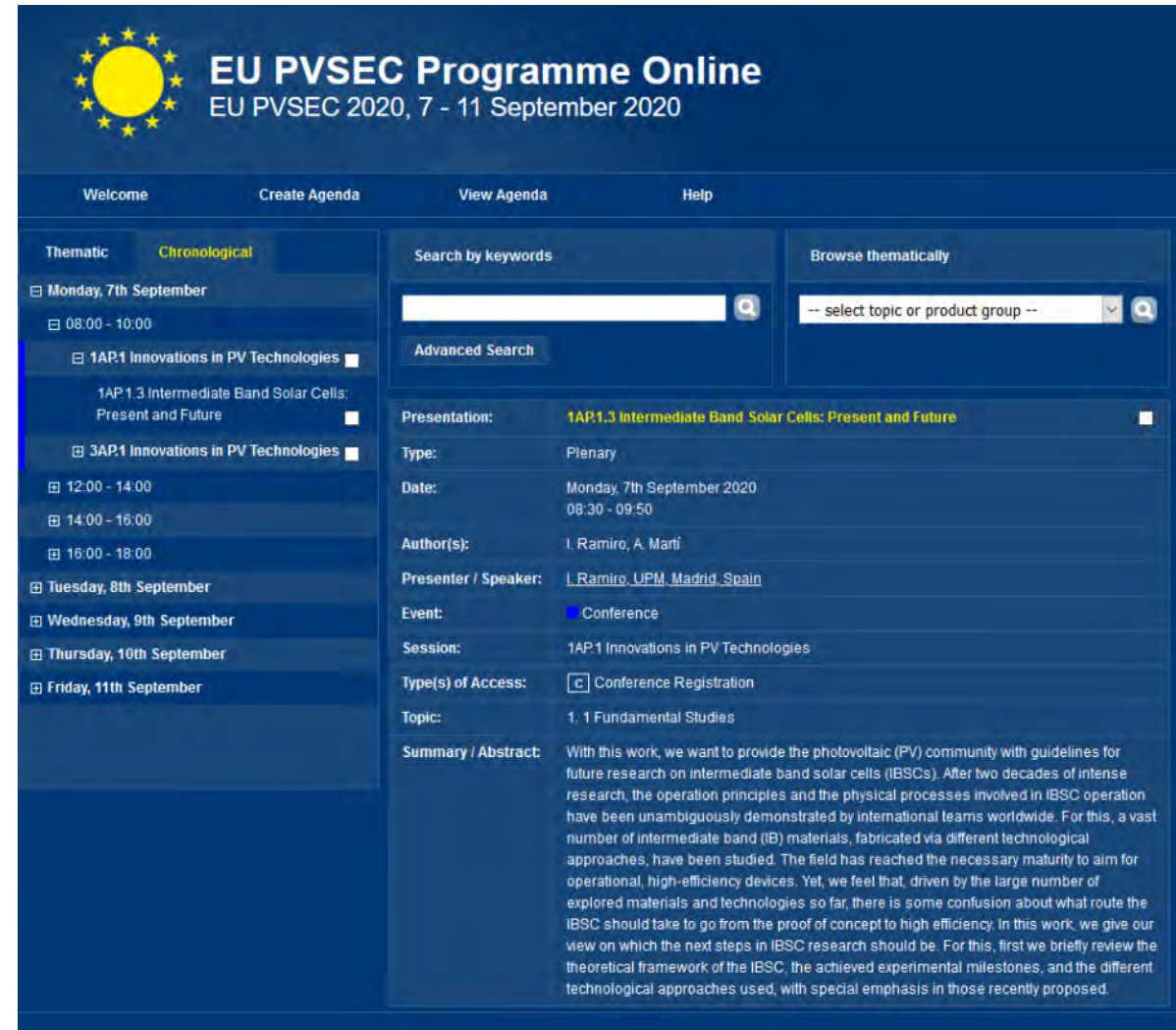
During the whole session you have the option to adjust your own audio and camera settings. Make sure your cam is running and your mic is on while moderating and introducing new speakers.

Quick reminder to summarize your duties as a Chairperson:

- moderating the session and introducing each speaker
- keeping an eye on the clock and enforce that timings are respected
- assessing the questions from the audience and pass relevant ones to the speakers
- writing a brief summary highlight of the session

Quick tip to organize your session:

You can find all the information about the session (speakers CV and photo, summary of the abstract submitted, etc) in our EU PVSEC Programme Planner: <https://www.eupvsec-planner.com>.



The screenshot shows the 'EU PVSEC Programme Online' website interface. The header includes the EU flag logo and the event title 'EU PVSEC Programme Online' with dates 'EU PVSEC 2020, 7 - 11 September 2020'. Navigation links for 'Welcome', 'Create Agenda', 'View Agenda', and 'Help' are visible. The main content area is divided into a left sidebar with a 'Chronological' view of the agenda and a right panel showing details for a selected session.

Session Details:

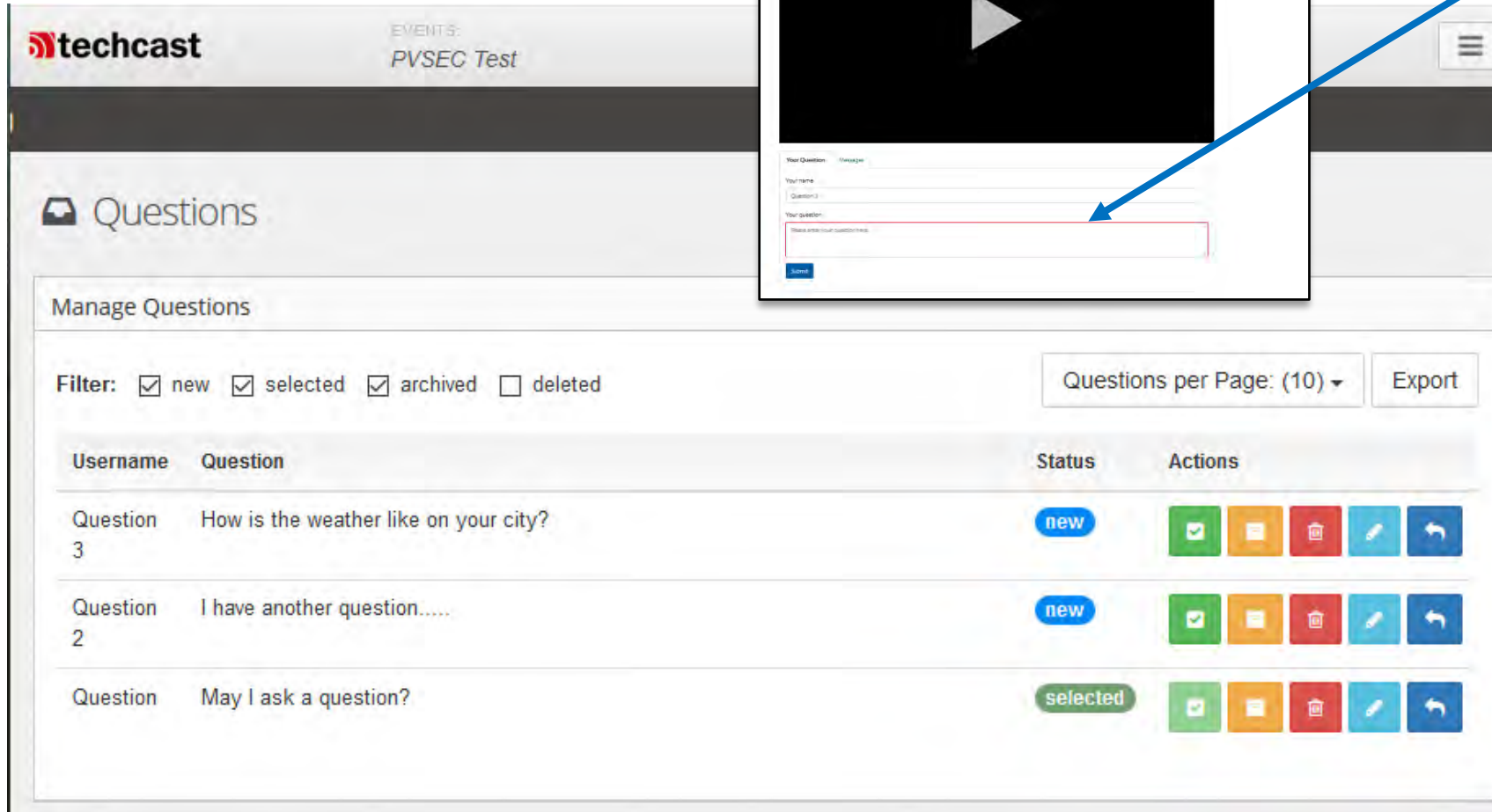
- Search by keywords:** [Search box]
- Browse thematically:** [Dropdown menu: -- select topic or product group --]
- Advanced Search:** [Button]
- Presentation:** 1AP1.3 Intermediate Band Solar Cells: Present and Future
- Type:** Plenary
- Date:** Monday, 7th September 2020, 08:30 - 09:50
- Author(s):** I. Ramiro, A. Martí
- Presenter / Speaker:** I. Ramiro, UPM, Madrid, Spain
- Event:** Conference
- Session:** 1AP.1 Innovations in PV Technologies
- Type(s) of Access:** Conference Registration
- Topic:** 1. 1 Fundamental Studies
- Summary / Abstract:** With this work, we want to provide the photovoltaic (PV) community with guidelines for future research on intermediate band solar cells (IBSCs). After two decades of intense research, the operation principles and the physical processes involved in IBSC operation have been unambiguously demonstrated by international teams worldwide. For this, a vast number of intermediate band (IB) materials, fabricated via different technological approaches, have been studied. The field has reached the necessary maturity to aim for operational, high-efficiency devices. Yet, we feel that, driven by the large number of explored materials and technologies so far, there is some confusion about what route the IBSC should take to go from the proof of concept to high efficiency. In this work, we give our view on which the next steps in IBSC research should be. For this, first we briefly review the theoretical framework of the IBSC, the achieved experimental milestones, and the different technological approaches used, with special emphasis in those recently proposed.



Silent communication between host, chairpersons and presenters.

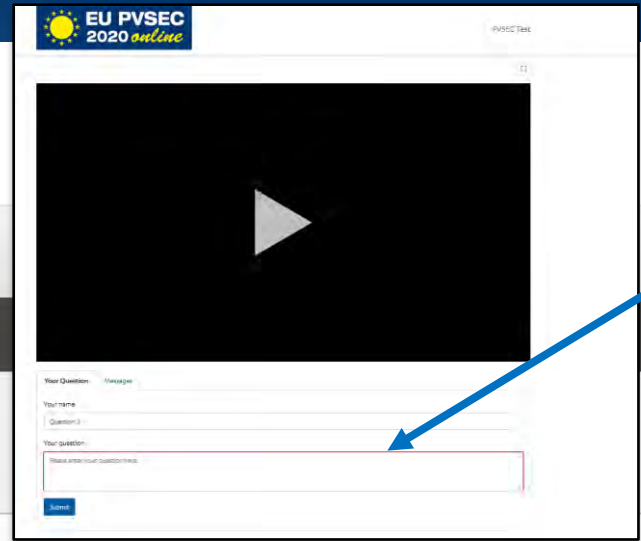
The screenshot displays a Zoom webinar interface. At the top left, there is a 'PVSEC Webinar' header with a small icon. The main content area is a black slide with white text. The slide text is split into two columns: 'Host, chairpersons and presenters can communicate silently via the private chat. Type a message and click on „send“. The audience can not see what is written.' and 'Remember, you as session chair are always on stage, and you can communicate with the speaker, if required by voice.' Below the slide is a toolbar with icons for Mute, Stop Cam, Cam/Mic, Share Screen, Leave Studio, and a link for 'Having Issues?'. At the bottom, there is a row of participant thumbnails. From left to right, they are: a user with a sun icon and name 'Firstname Familyname'; 'Chairperson 1' and 'Chairperson 2' (both with orange smiley icons); 'Speaker 2', 'Speaker 3', 'Speaker 4', 'Speaker 5', and 'Speaker 6' (all with yellow smiley icons); and 'Host (operator)' (with a blue smiley icon). On the right side, a 'Private Chat' window is open, showing a message from the 'Chairperson: 2 minutes left' and a response from the 'Host: speaker No 2, you're next, please get ready'. The chat window has a 'Send' button at the bottom right. A large blue arrow points from the chat window towards the right edge of the slide.

Your Q&A screen.



The screenshot shows the 'Questions' management interface. At the top left is the 'techcast' logo and 'EVENTS: PVSEC Test'. A video player is embedded at the top center. Below it is a form to 'Ask a question'. The main area is titled 'Manage Questions' and includes a filter section with checkboxes for 'new', 'selected', 'archived', and 'deleted'. It also has a 'Questions per Page: (10)' dropdown and an 'Export' button. A table lists questions with columns for 'Username', 'Question', 'Status', and 'Actions'.

Username	Question	Status	Actions
Question 3	How is the weather like on your city?	new	[select] [archive] [delete] [edit] [reply]
Question 2	I have another question.....	new	[select] [archive] [delete] [edit] [reply]
Question	May I ask a question?	selected	[select] [archive] [delete] [edit] [reply]



This inset shows a close-up of the question submission form. It includes fields for 'Your name', 'Question', and 'Your question'. A blue arrow points to the 'Your question' text input field.

During the session, chairpersons might receive questions from the audience via the Q&A tool (Link in the USER AREA)

Only you and your co-chair can see the questions: mark them as selected, edit them or delete them. Filter questions by adding / removing ticks in the boxes above.

After each presentation, if time allows it, you can ask the selected questions and the presenter answers them.

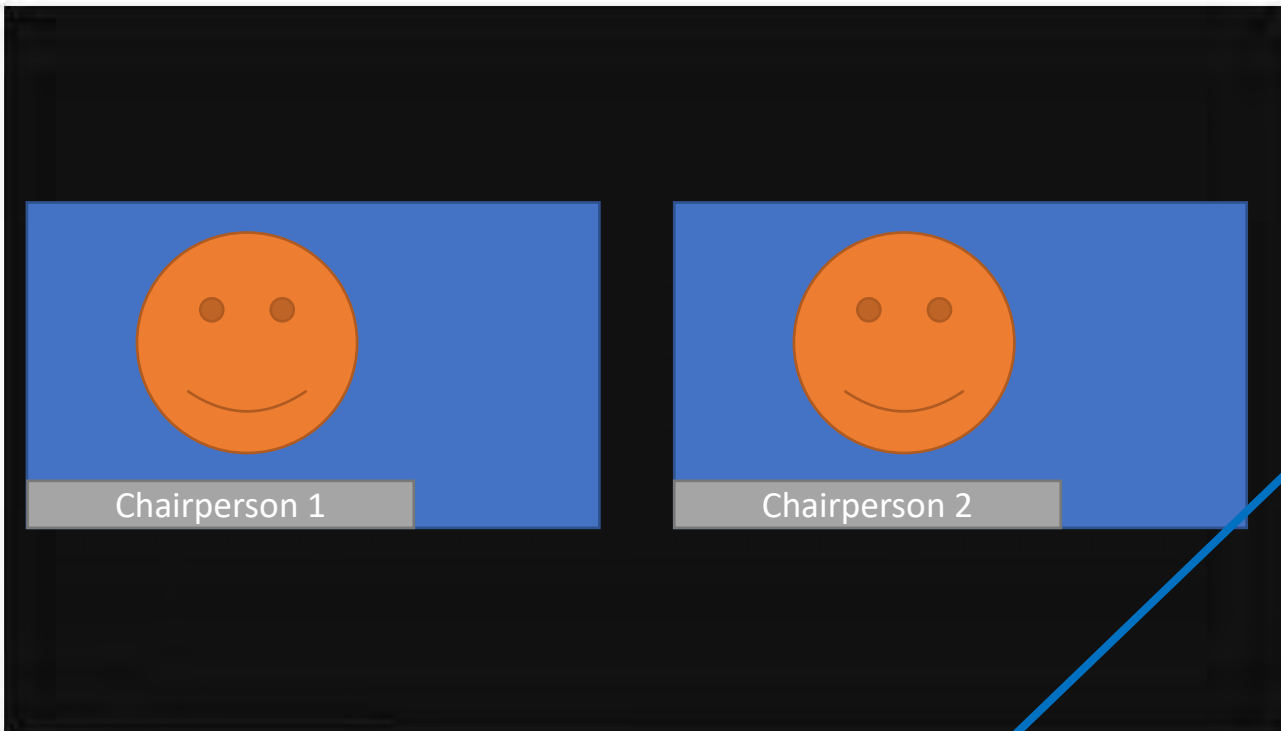
Questions can be exported and later be distributed to the speakers of the session.

Too many questions popping up? Don't worry, all technical issues will be handled by the host. You don't have to pay attention to them.

 select
  archive
  delete
  edit
  direct reply
 Host (Operator) only



PVSEC Webinar



After each speaker has given their presentation and all questions from the audience have been answered, you or your Co-Chair will close the session with some concluding remarks.

When the session is finished, you should leave the virtual stage by clicking on „leave studio“.



After the session is closed, there is one last thing to do.

Fill in the form about the **SESSION HIGHLIGHTS**, which will be sent to you a few days prior to the conference week.

We need the form within the same day. We recommend filling in the highlights directly after the session.

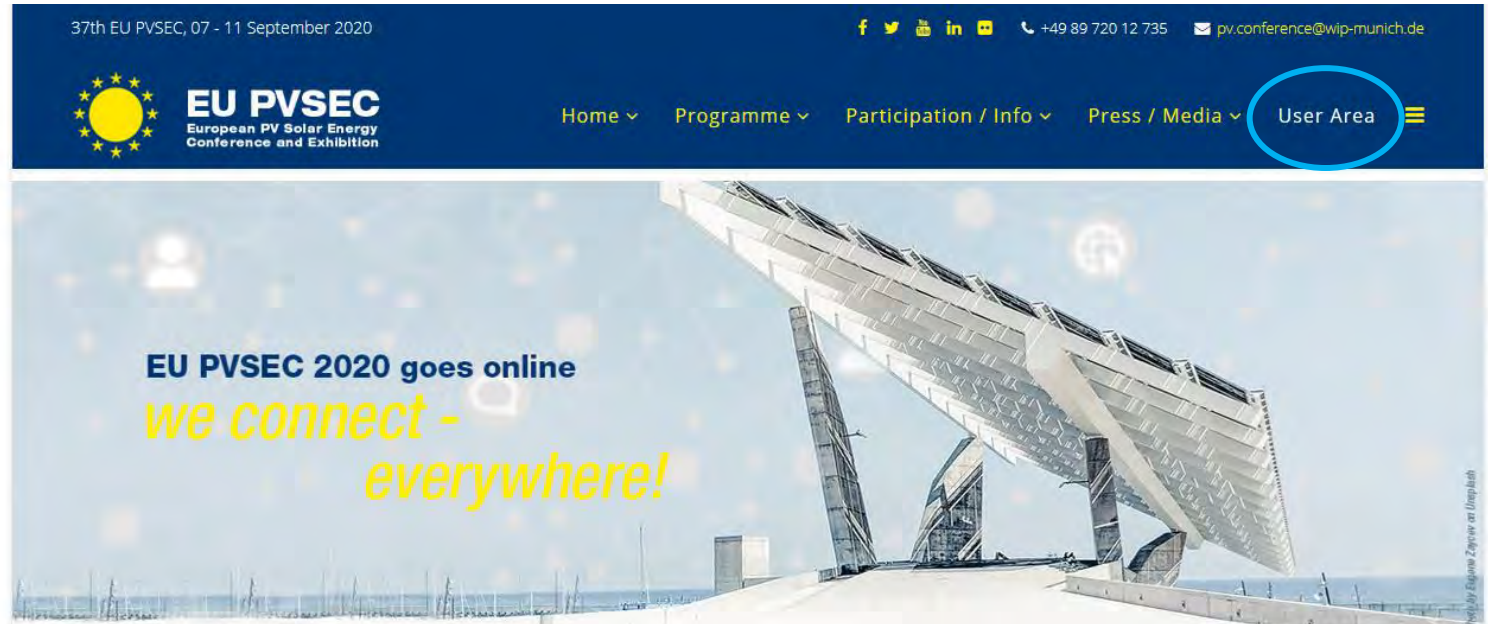


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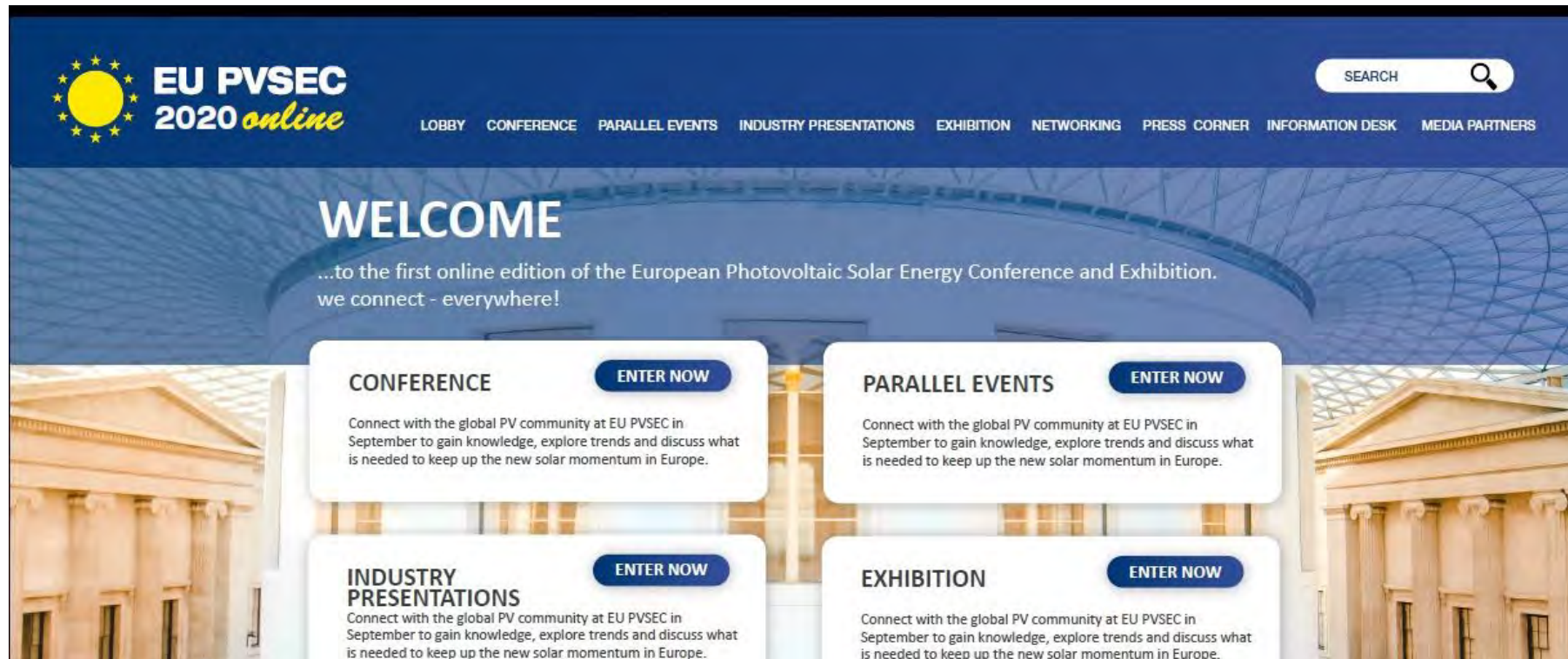
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If you are speaker or chairperson of another presentation, please go back to your **USER AREA** and follow the link to your next session.



If your task as chairperson or speaker is finished you can now enjoy the event platform, where you can watch other presentations, visit the exhibition and meet in the networking lounges.

We thank you for your contribution and hope you enjoy the rest of the EU PVSEC 2020 online!



The screenshot shows the homepage of the EU PVSEC 2020 online event platform. The header features the event logo on the left, a search bar on the right, and a navigation menu with links to LOBBY, CONFERENCE, PARALLEL EVENTS, INDUSTRY PRESENTATIONS, EXHIBITION, NETWORKING, PRESS CORNER, INFORMATION DESK, and MEDIA PARTNERS. The main content area has a large 'WELCOME' heading followed by a sub-headline: '...to the first online edition of the European Photovoltaic Solar Energy Conference and Exhibition. we connect - everywhere!'. Below this are four white cards, each with a title, a description, and an 'ENTER NOW' button. The cards are for CONFERENCE, PARALLEL EVENTS, INDUSTRY PRESENTATIONS, and EXHIBITION. The background of the page is a blue-tinted image of a classical building with a large glass dome.

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SEARCH

LOBBY CONFERENCE PARALLEL EVENTS INDUSTRY PRESENTATIONS EXHIBITION NETWORKING PRESS CORNER INFORMATION DESK MEDIA PARTNERS

WELCOME

...to the first online edition of the European Photovoltaic Solar Energy Conference and Exhibition.
we connect - everywhere!

CONFERENCE [ENTER NOW](#)

Connect with the global PV community at EU PVSEC in September to gain knowledge, explore trends and discuss what is needed to keep up the new solar momentum in Europe.

PARALLEL EVENTS [ENTER NOW](#)

Connect with the global PV community at EU PVSEC in September to gain knowledge, explore trends and discuss what is needed to keep up the new solar momentum in Europe.

INDUSTRY PRESENTATIONS [ENTER NOW](#)

Connect with the global PV community at EU PVSEC in September to gain knowledge, explore trends and discuss what is needed to keep up the new solar momentum in Europe.

EXHIBITION [ENTER NOW](#)

Connect with the global PV community at EU PVSEC in September to gain knowledge, explore trends and discuss what is needed to keep up the new solar momentum in Europe.



Useful Hints&Tips

Very high-resolution displays should not be shared in full resolution, because the encoding and transmission can make the computer slow, and the slide change takes longer to appear on the screen.

The resolution on the shared presentation screen for the slide show should be less than 1920x1080 pixels before the screen is shared.

For smooth operation the upload rate should be 5 Mbit/s, although also lower speeds can be acceptable with reduced performance.

...technical

Permissions for screen sharing: These are stored in the System Settings under Security > Privacy > Screen Capture. There, the checkbox for the browser used must be activated.

Useful Hints&Tips

During Presentation, avoid background noise, by

- Muting the landline phone (if any) on your desk.
- Set mobile phones to vibration/mute and do not place them directly next to the laptop/PC as they can cause interferences. However, keep them still within reach in case we need to contact you.
- Shut down e-mail client and messenger on the computer, so that both acoustic and visual notifications are avoided.

... appearance

If you are using a laptop, it should be connected to the power supply (not only via battery), especially for longer lectures.

Please make sure that you are well illuminated and don't place yourself in front of a window.

If possible, avoid jackets / blouses with small print patterns, as these can create a moiré effect (flickering) in the camera image.

To make talks look consistent, you should try to have a plain, light-colored background



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THANK YOU FOR YOUR TIME AND YOUR ATTENTION!