APEC 2026

SAN ANTONIO, TX | MARCH 22-26

Technical Session Presenters Webinar

January 20, 2026

speakers@apec-conf.org

Introductions

- APEC Content Team
  - **Catalina DeMassi** (catalinad@mmsmeetings.com)
  - **Nate Knauer** (natek@mmsmeetings.com)
  - **Stephen Holtzman** (stephenh@mmsmeetings.com)
- Program Chair
  - **Dhaval Dalal**, ACP Technologies, dhaval@acptek.com
- Assistant Program Chair
  - **Deepak Veereddy**, Infineon Technologies, Deepak.Veereddy@infineon.com

Agenda (from Nov 20 Author Information Webinar)

- Introduction
  - Purpose – to provide/reinforce the needed information for successful manuscript submission
  - Submission portals
  - Submission terminology
- Manuscript submission process
  - Manuscript preparation
  - Manuscript checks
  - Manuscript submission
  - Follow-ups
- **Presentation file preparation and submission**
- FAQs (new)
- Final words
- Q&A

Submission Portals (from Nov 20 Author Information Webinar)

- There are two distinct portals used for APEC Submissions
- Manuscript Submission Portal (epapers.org/apec2026) – **Use till mid-December**
  - You already have the access to this portal (same as the digest submission)
  - Only one person per paper (contact person) has a log-in access
  - Used for digest and manuscript submission
  - Contact apec@epapers.org for queries

- Presentation File Submission Portal (Speaker Portal)
  - You will be provided access to this portal in **mid-December**
  - All co-authors can have access to this portal
  - Used for presentation file submission (for lecture or dialogue session)
  - You can upload bio/photos for attendees to get to know you better
  - Contact speakers@apec-conf.org for queries

Submission Phases and Terminology (from Nov 20 Author Information Webinar)

- "Paper" is a generic term – use the following terms for more precise resolution of Q&A

- *Digest submission (completed):*
  - *Initial phase – submission on ePapers*
  - *Less rigid format and process*

- *Manuscript submission (completed):*
  - *For accepted digests – submission on ePapers, with deadline of December 8, 2025*
  - *Process is more rigorous, need to meet multiple thresholds*
    - *Don't put it off till last minute!*
  - *No automatic extensions*

- **Presentation file submission (in Progress):**
  - **Lecture or Dialogue (poster) session – submission on Speaker Portal, with deadline of February 20, 2026**
  - **Dedicated training on January 20, 2026**
  - **Need to follow templates and other guidelines**

Today's Outline

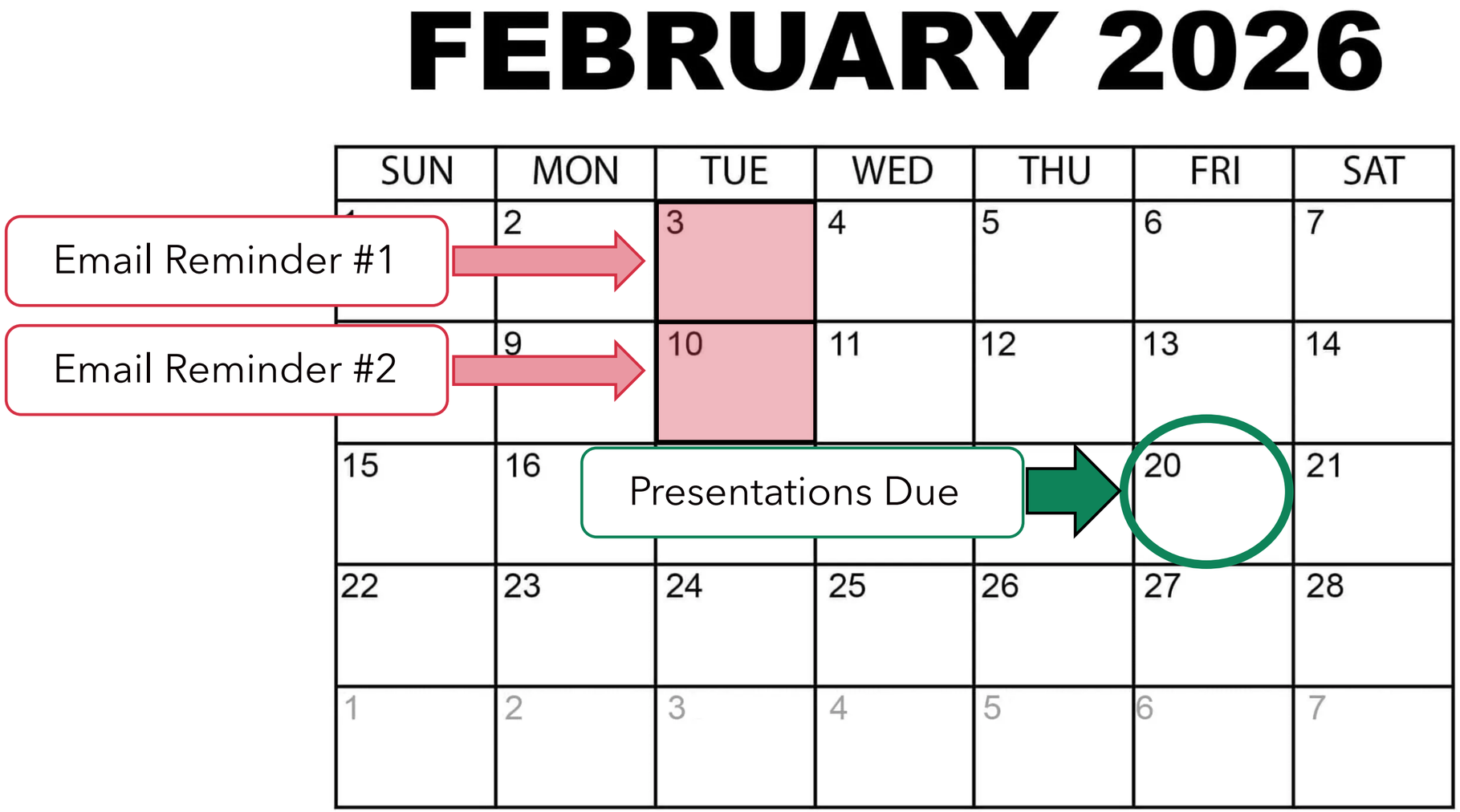
- **Opening**
  - Introductions
  - Purpose
- **The Final Product**
  - The Live Event (APEC 2026)
  - The Digital Products
- **The Process Toward the Final Product(s)**
- **Responsibilities of Presenters and Co-Authors**
  - Using the Speaker Portal
  - Register for APEC and present in San Antonio
- **Speaker Portal Step-by-Step**

Important Dates

- **January 20, 2026:** Technical Presenters Webinar
- **January 26, 2026:** Early Bird registration rate ends
- **February 20, 2026:** Final Presentations are due in the Speaker Portal
  - PowerPoint (for onsite presentation, website, and mobile app)
  - PDF (for proceedings)

Presentation Files Due

Important Dates (Presentation Files)



The Two Purposes of Today's Webinar

- Guide Your Use of the Speaker Portal
  - The recording of this webinar and slides will be on the APEC website
  - The APEC content team is available Monday-Friday at speakers@apec-conf.org
- To Promote a High-Quality Content for APEC 2026
  - High Quality Technical Lecture and Dialogue Session Programs
  - Digital Products
  - Review the responsibilities of Technical Presenters
    - Uploading presentation slide deck (Lecture) or digital poster file (Dialogue)
    - Registering for APEC
    - Traveling to San Antonio, Texas to present in-person at APEC 2026

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The Final Product (Live Event)

- The Speaker Experience
- The Session Chair Experience
- The Attendee/Registrant Experience

The Final Product (Digital Products)

- Website (PowerPoint slides)
- Mobile App (PowerPoint slides)
- Event Proceedings (PDF of slides)

Notes about Manuscript PDFs:

- APEC has already received all **final** manuscript PDFs
- Submitted final manuscripts will be available in the Website, Mobile App, and Proceedings.
- Manuscripts do **NOT** need to be re-submitted
- Only manuscripts are published in IEEE Xplore
- This webinar is focused on Presentation files
  - Lecture: slide decks
  - Dialogue: digital poster files

The Final Product (Digital Products)

- **Website (Power Point)**
- Mobile App
- Event Proceedings

Lecture Presentation = slide deck

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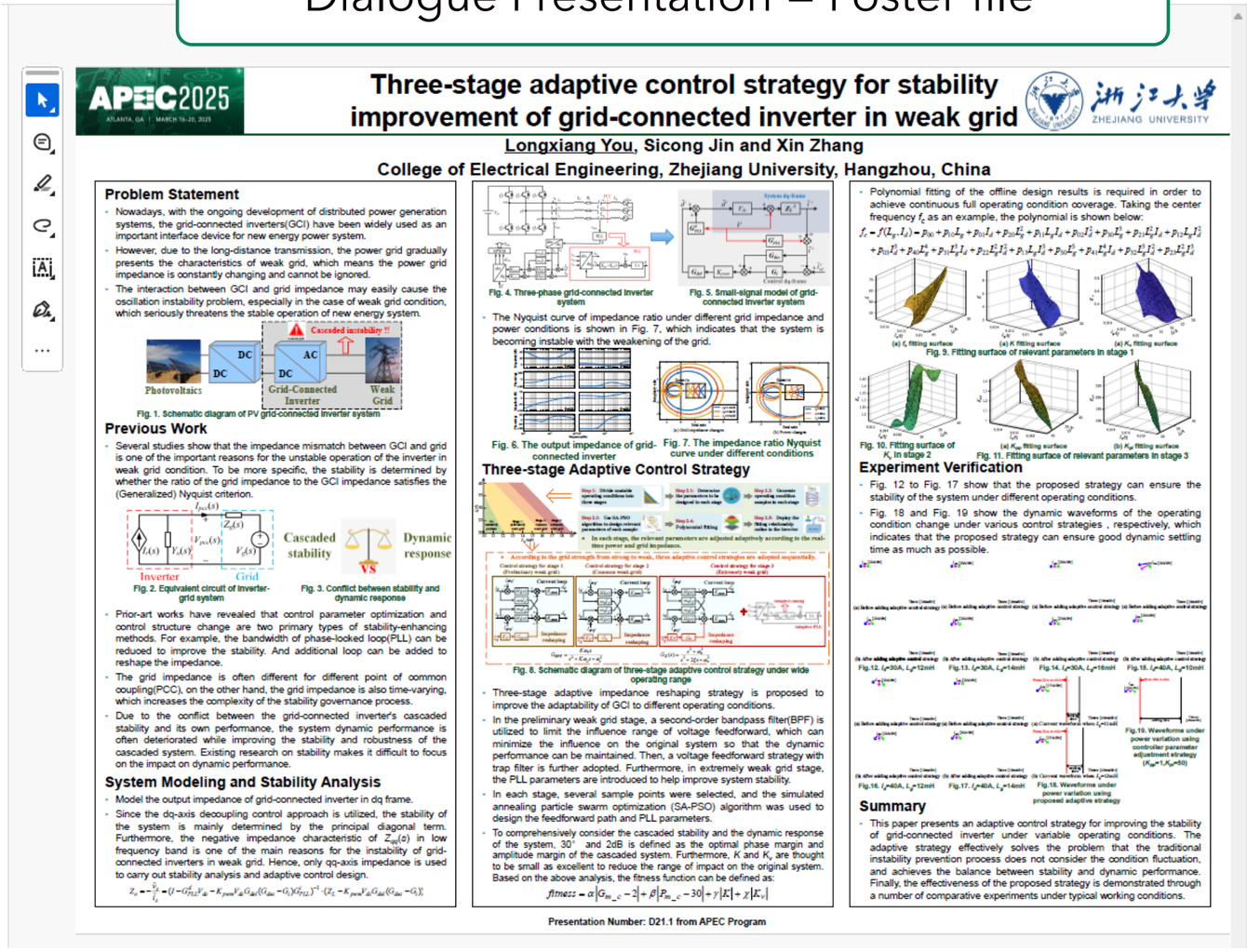
The Final Product (Digital Products)

- **Website (Power Point or PDF)**
- Mobile App
- Event Proceedings

Dialogue Presentation = Poster file



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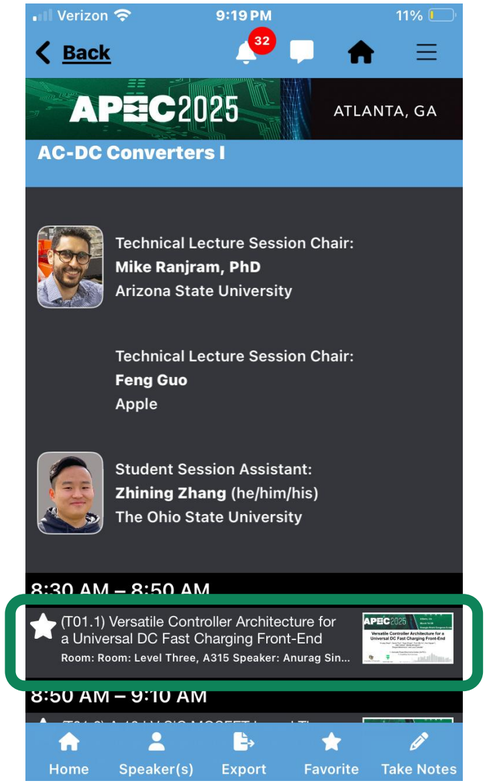
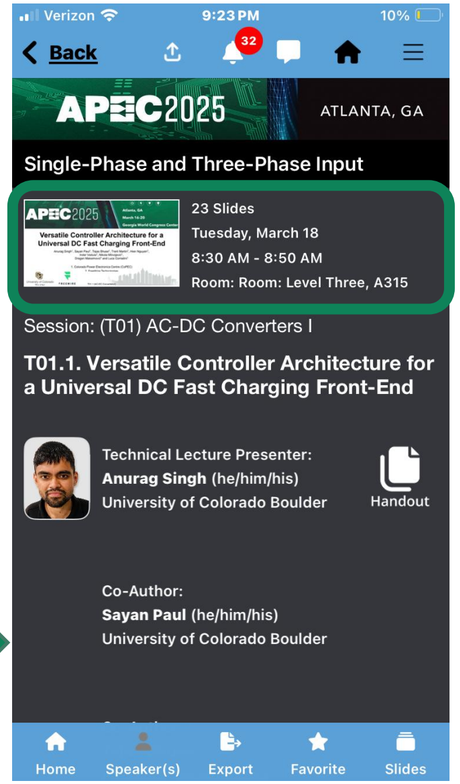
The Final Product (Digital Products)

- Website
- **Mobile App (Power Point)**
- Event Proceedings





The Final Product (Digital Products)

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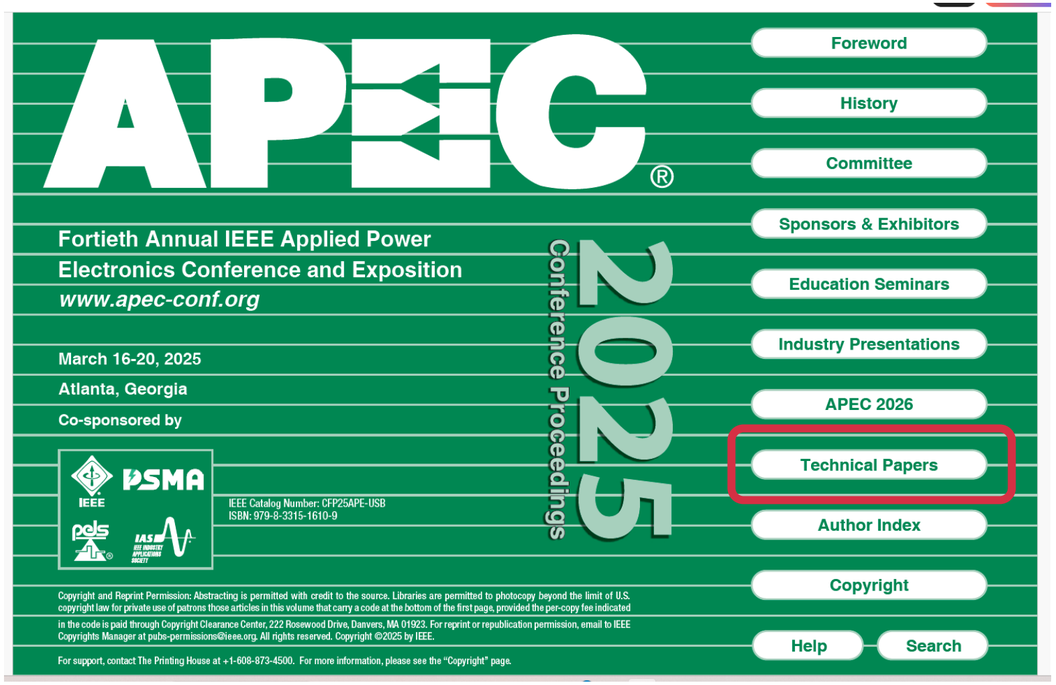
- Mobile App
- **Event Proceedings (PDF)**



TECHNICAL PAPERS

Scroll to the title and select a **Blue** link to open a paper or **PRESENTATION** link to open the presentation. After viewing the paper/presentation, use the bookmarks to the left to return to the beginning of the Technical Papers.

Tuesday, March 18, 2025

SESSION T01: AC-DC Converters I
8:30 - 12:00
TRACK: AC-DC Converters

SESSION CHAIR(S)
Mike Ranjram, *Arizona State University*
Xiaofan Cui, *University of California at Los Angeles*

T01.1 **Versatile Controller Architecture for a Universal DC Fast Charging Front-End** 1
Anurag Singh[1], Sayan Paul[1], Tejas Bhuse[2], Trent Martin[2], Hien Nguyen[2], Inder Vedula[2], Nikola Milivojević[2], Dragan Maksimović[1], Luca Corradini[1]
[1]University of Colorado Boulder, United States; [2]FreeWire Technologies, United States
PRESENTATION — **TOPIC: Single-Phase and Three-Phase Input**

T01.2 **A 10 kV SiC MOSFET based Three-Phase Single-Stage Isolated MVAC/LVDC Converter for Solid State Transformer Applications** 9
Anup Anurag, Chi Zhang, Rudy Wang, Peter Barbosa
Delta Electronics, Inc., United States
PRESENTATION — **TOPIC: Power Factor Correction: CCM, DCM, CRM/BCM Control, Bridgeless**

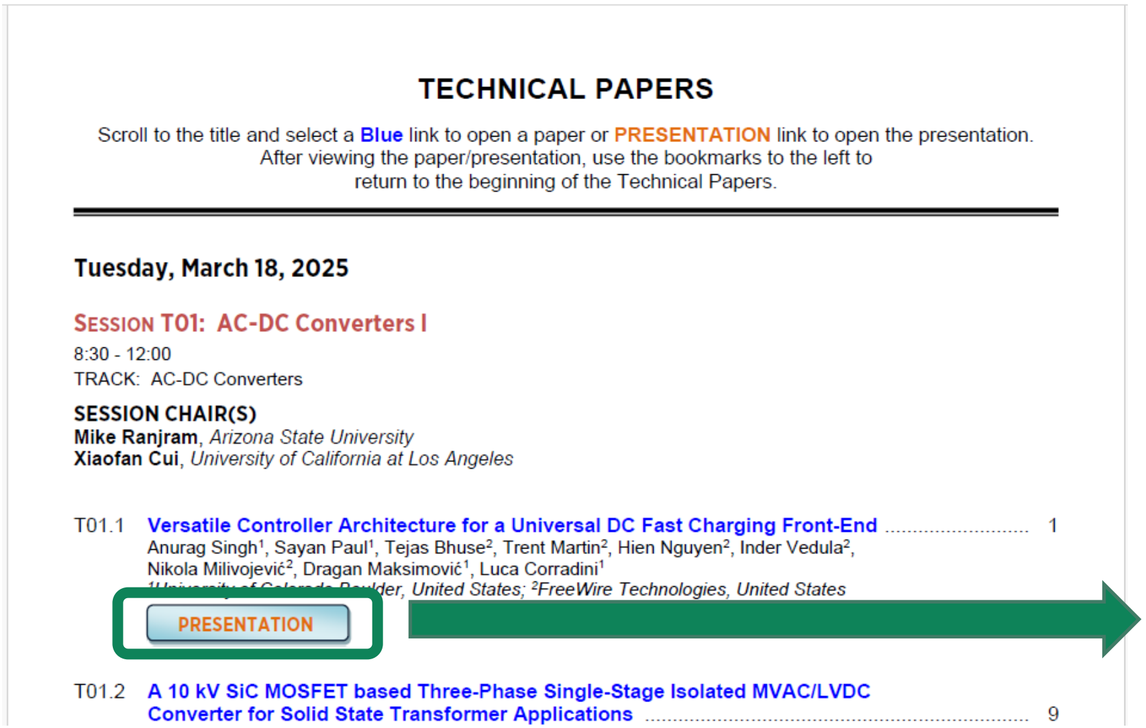
T01.3 **Direct Digital Control Applied to T-Type Vienna Rectifiers for Power Factor Correction** 16
Jun-Yang Chang[1], Tsai-Fu Wu[2], Chien-Chih Hung[2], Jui-Yang Chiu[2]
[1]Delta Electronics Inc., Taiwan; [2]National Tsing Hua University, Taiwan
PRESENTATION — **TOPIC: Power Factor Correction: CCM, DCM, CRM/BCM Control, Bridgeless**

T01.4 **Active Power Decoupling Method based on Dual Active Bridge Converter without Additional Components** 21
Kosuke Takeuchi, Takashi Ohno, Hiroki Watanabe, Yuki Nakata, Jun-Ichi Itoh
Nagaoka University of Technology, Japan
PRESENTATION — **TOPIC: Bidirectional AC-DC Converters**

The Final Product (Digital Products)

- Website
- Mobile App
- **Event Proceedings (PDF)**

Lecture Presentation = slide deck



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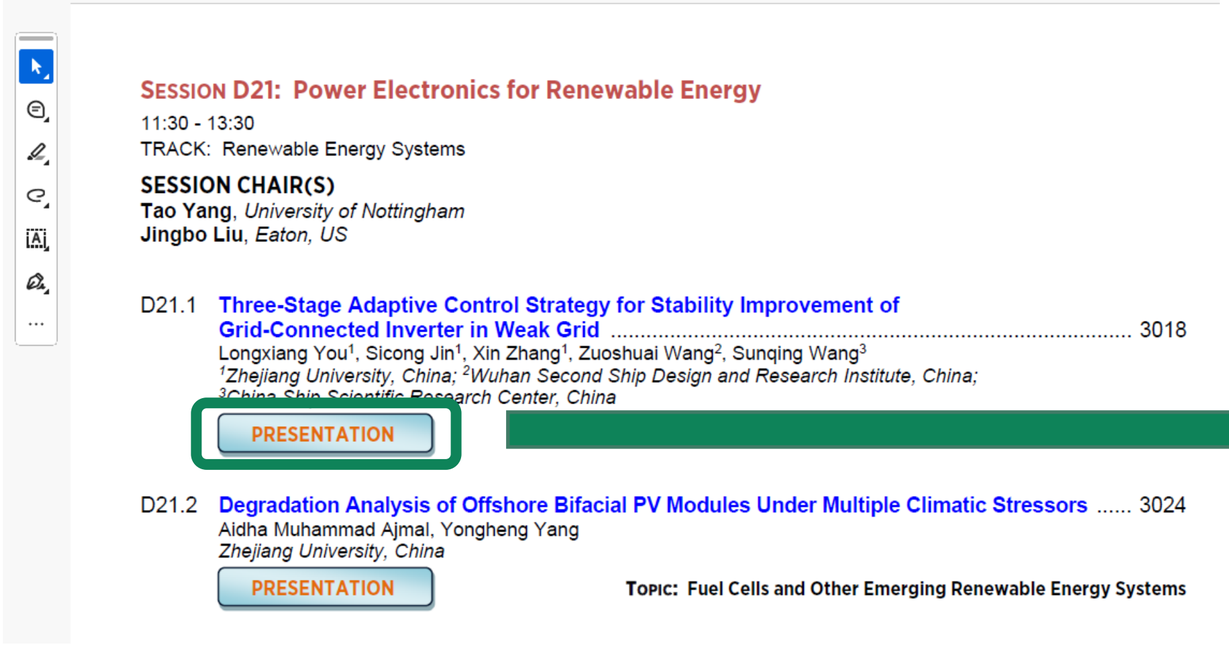


SESSION D21: Power Electronics for Renewable Energy

11:30 - 13:30

TRACK: Renewable Energy Systems

SESSION CHAIR(S)

Tao Yang, *University of Nottingham*

Jingbo Liu, *Eaton, US*

D21.1 **Three-Stage Adaptive Control Strategy for Stability Improvement of Grid-Connected Inverter in Weak Grid** 3018

Longxiang You[1], Sicong Jin[1], Xin Zhang[1], Zuoshuai Wang[2], Sunqing Wang[3]

[1]Zhejiang University, China; [2]Wuhan Second Ship Design and Research Institute, China; [3]China Ship Scientific Research Center, China

PRESENTATION

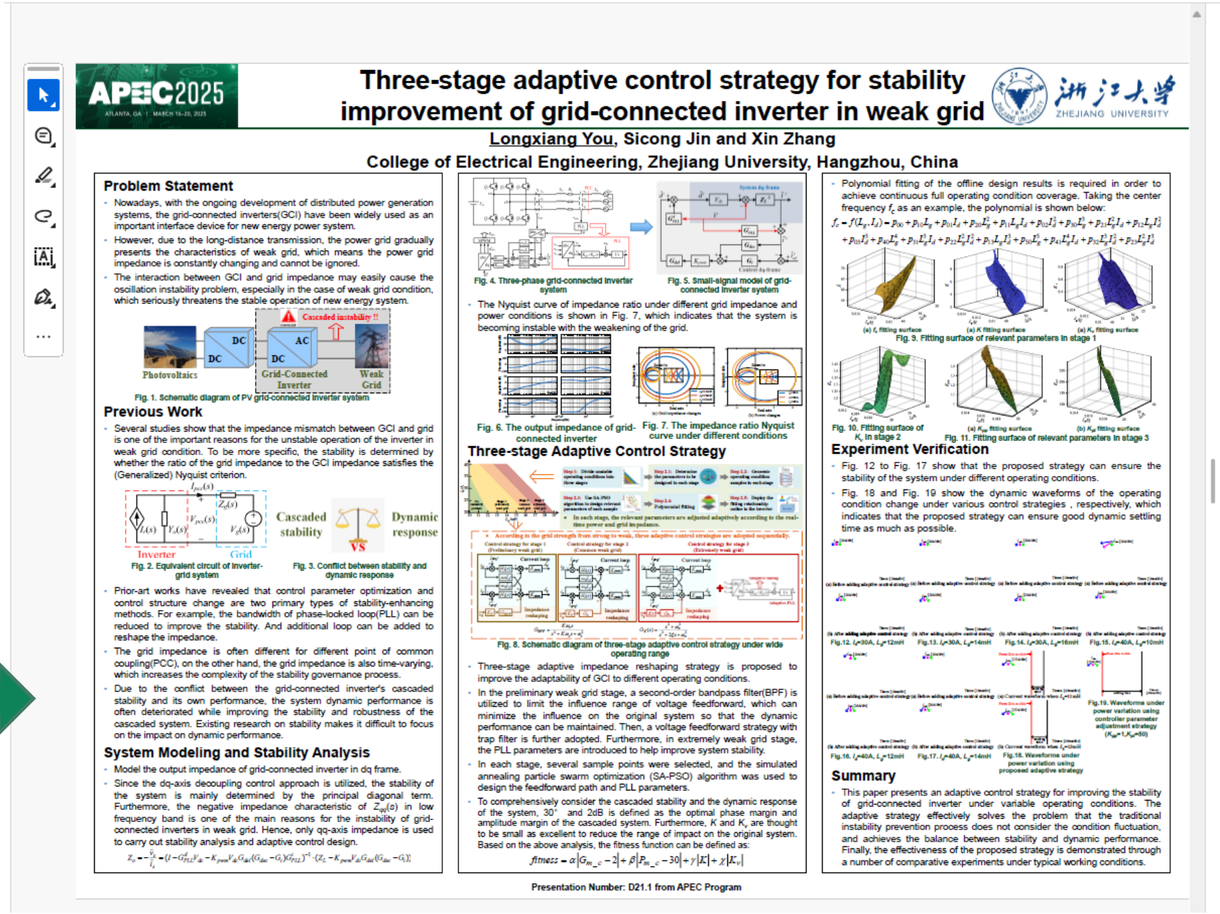
D21.2 **Degradation Analysis of Offshore Bifacial PV Modules Under Multiple Climatic Stressors** 3024

Aidha Muhammad Ajmal, Yongheng Yang

Zhejiang University, China

PRESENTATION

TOPIC: Fuel Cells and Other Emerging Renewable Energy Systems



APEC2025

Three-stage adaptive control strategy for stability improvement of grid-connected inverter in weak grid

ZHEJIANG UNIVERSITY

Longxiang You, Sicong Jin and Xin Zhang

College of Electrical Engineering, Zhejiang University, Hangzhou, China

Problem Statement

- Nowadays, with the ongoing development of distributed power generation systems, the grid-connected inverters(GCI) have been widely used as an important interface device for new energy power system.
- However, due to the long-distance transmission, the power grid gradually presents the characteristics of weak grid, which means the power grid impedance is constantly changing and cannot be ignored.
- The interaction between GCI and grid impedance may easily cause the oscillation instability problem, especially in the case of weak grid condition, which seriously threatens the stable operation of new energy system.

Fig. 1. Schematic diagram of PV grid-connected inverter system

Previous Work

- Several studies show that the impedance mismatch between GCI and grid is one of the important reasons for the unstable operation of the inverter in weak grid condition. To be more specific, the stability is determined by whether the ratio of the grid impedance to the GCI impedance satisfies the (Generalized) Nyquist criterion.

Fig. 2. Equivalent circuit of inverter-grid system

Fig. 3. Conflict between stability and dynamic response

- Prior-art works have revealed that control parameter optimization and control structure change are two primary types of stability-enhancing methods. For example, the bandwidth of phase-locked loop(PLL) can be reduced to improve the stability. And additional loop can be added to reshape the impedance.
- The grid impedance is often different for different point of common coupling(PCC), on the other hand, the grid impedance is also time-varying, which increases the complexity of the stability governance process.
- Due to the conflict between the grid-connected inverter's cascaded stability and its own performance, the system dynamic performance is often deteriorated while improving the stability and robustness of the cascaded system. Existing research on stability makes it difficult to focus on the impact on dynamic performance.

System Modeling and Stability Analysis

- Model the output impedance of grid-connected inverter in dq frame.
- Since the dq-axis decoupling control approach is utilized, the stability of the system is mainly determined by the principal diagonal term. Furthermore, the negative impedance characteristic of $Z_{pll}(s)$ in low frequency band is one of the main reasons for the instability of grid-connected inverters in weak grid. Hence, only qq-axis impedance is used to carry out stability analysis and adaptive control design.

Fig. 4. Three-phase grid-connected inverter system

Fig. 5. Small-signal model of grid-connected inverter system

- The Nyquist curve of impedance ratio under different grid impedance and power conditions is shown in Fig. 7, which indicates that the system is becoming instable with the weakening of the grid.

Fig. 6. The output impedance of grid-connected inverter

Fig. 7. The impedance ratio Nyquist curve under different conditions

Three-stage Adaptive Control Strategy

Fig. 8. Schematic diagram of three-stage adaptive control strategy under wide operating range

- Three-stage adaptive impedance reshaping strategy is proposed to improve the adaptability of GCI to different operating conditions.
- In the preliminary weak grid stage, a second-order bandpass filter(BPF) is utilized to limit the influence range of voltage feedforward, which can minimize the influence on the original system so that the dynamic performance can be maintained. Then, a voltage feedforward strategy with trap filter is further adopted. Furthermore, in extremely weak grid stage, the PLL parameters are introduced to help improve system stability.
- In each stage, several sample points were selected, and the simulated annealing particle swarm optimization (SA-PSO) algorithm was used to design the feedforward path and PLL parameters.
- To comprehensively consider the cascaded stability and the dynamic response of the system, 30° and 2dB is defined as the optimal phase margin and amplitude margin of the cascaded system. Furthermore, K and K_v are thought to be small as excellent to reduce the range of impact on the original system. Based on the above analysis, the fitness function can be defined as:

- Polynomial fitting of the offline design results is required in order to achieve continuous full operating condition coverage. Taking the center frequency f_c as an example, the polynomial is shown below:

Fig. 9. Fitting surface of relevant parameters in stage 1

Fig. 10. Fitting surface of K_v in stage 2

Fig. 11. Fitting surface of relevant parameters in stage 3

Experiment Verification

- Fig. 12 to Fig. 17 show that the proposed strategy can ensure the stability of the system under different operating conditions.
- Fig. 18 and Fig. 19 show the dynamic waveforms of the operating condition change under various control strategies , respectively, which indicates that the proposed strategy can ensure good dynamic settling time as much as possible.

Fig. 12. L_g=30A, L_g=12mH

Fig. 13. L_g=30A, L_g=14mH

Fig. 14. L_g=30A, L_g=16mH

Fig. 15. L_g=40A, L_g=10mH

Fig. 16. L_g=40A, L_g=12mH

Fig. 17. L_g=40A, L_g=14mH

Fig. 18. Current waveform when L_g=12mH

Fig. 19. Current waveform when L_g=16mH

Fig. 19. Waveforms under power variation using controller parameter adjustment strategy (R_{set}=1,R_{set}=50)

Fig. 18. Waveforms under power variation using proposed adaptive strategy

Summary

- This paper presents an adaptive control strategy for improving the stability of grid-connected inverter under variable operating conditions. The adaptive strategy effectively solves the problem that the traditional instability prevention process does not consider the condition fluctuation, and achieves the balance between stability and dynamic performance. Finally, the effectiveness of the proposed strategy is demonstrated through a number of comparative experiments under typical working conditions.

Presentation Number: D21.1 from APEC Program

The Final Product (Digital Products)

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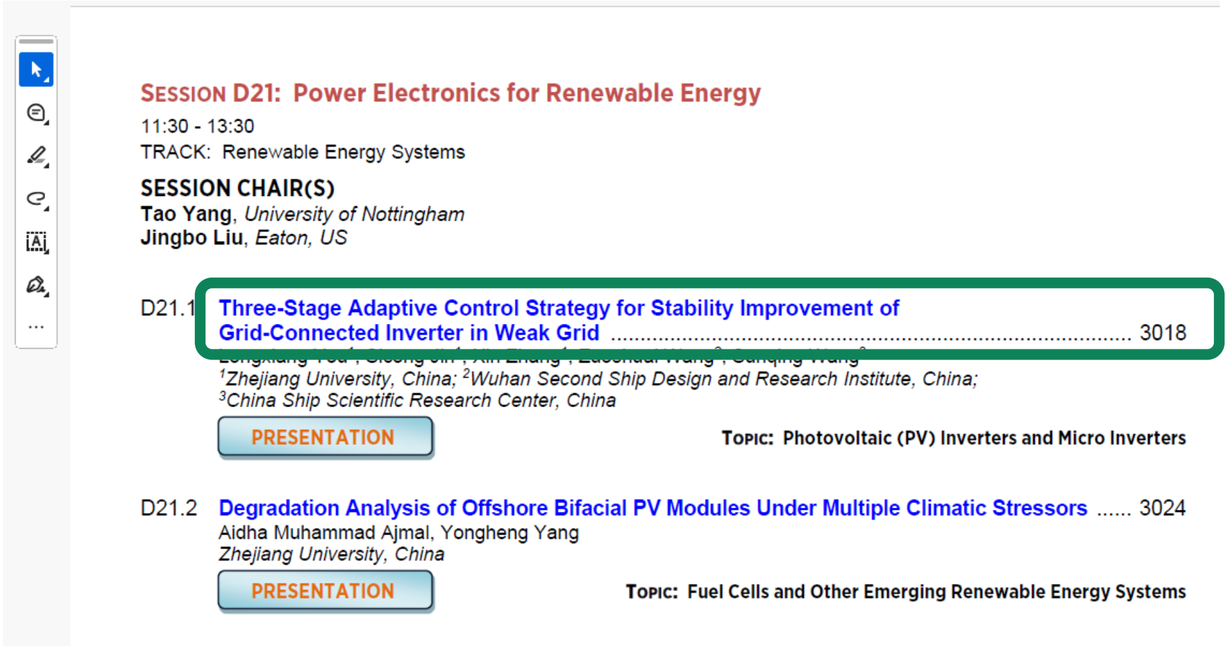
All Technical Papers have a PDF Manuscript



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PRESENTATION

TOPIC: Photovoltaic (PV) Inverters and Micro Inverters

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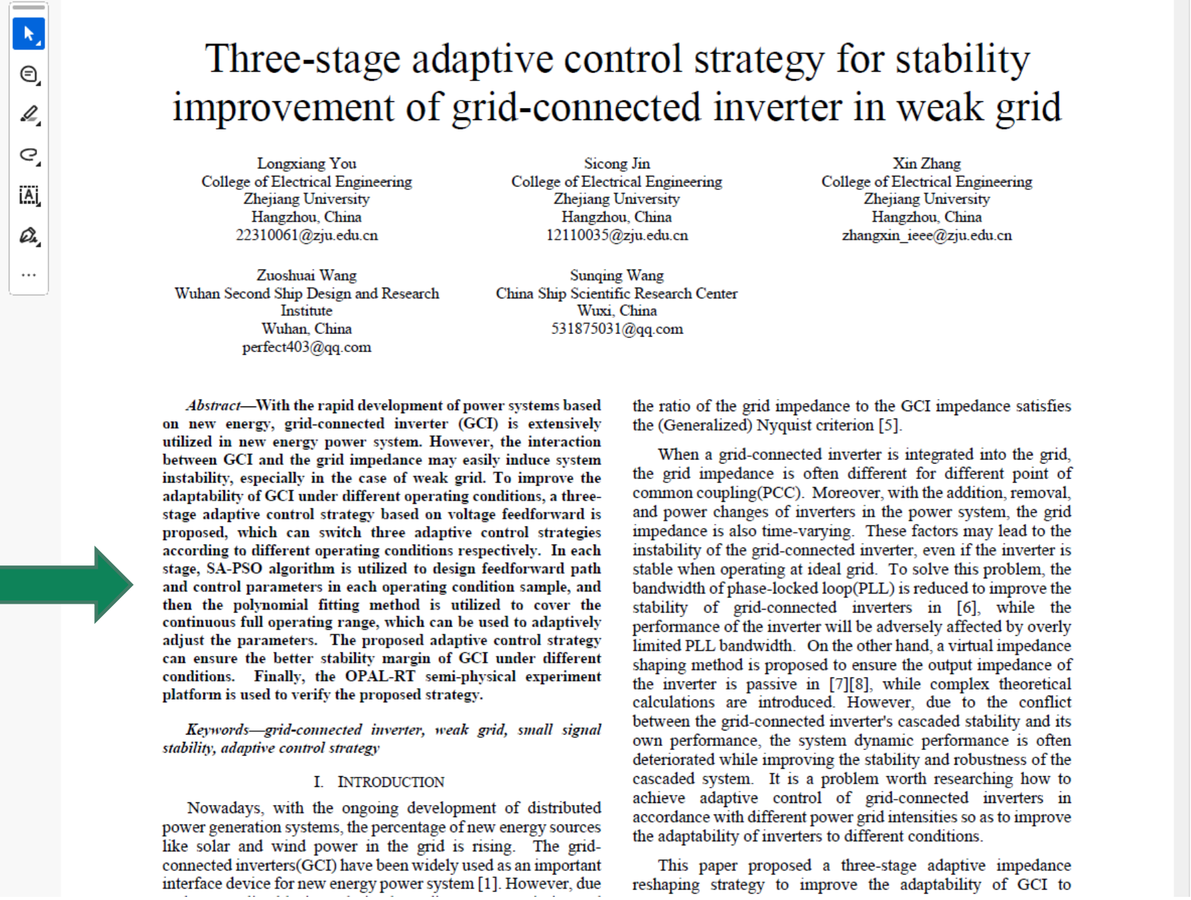

Three-stage adaptive control strategy for stability improvement of grid-connected inverter in weak grid

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***Abstract*—With the rapid development of power systems based on new energy, grid-connected inverter (GCI) is extensively utilized in new energy power system. However, the interaction between GCI and the grid impedance may easily induce system instability, especially in the case of weak grid. To improve the adaptability of GCI under different operating conditions, a three-stage adaptive control strategy based on voltage feedforward is proposed, which can switch three adaptive control strategies according to different operating conditions respectively. In each stage, SA-PSO algorithm is utilized to design feedforward path and control parameters in each operating condition sample, and then the polynomial fitting method is utilized to cover the continuous full operating range, which can be used to adaptively adjust the parameters. The proposed adaptive control strategy can ensure the better stability margin of GCI under different conditions. Finally, the OPAL-RT semi-physical experiment platform is used to verify the proposed strategy.**

***Keywords*—grid-connected inverter, weak grid, small signal stability, adaptive control strategy**

I. INTRODUCTION

Nowadays, with the ongoing development of distributed power generation systems, the percentage of new energy sources like solar and wind power in the grid is rising. The grid-connected inverters(GCI) have been widely used as an important interface device for new energy power system [1]. However, due

the ratio of the grid impedance to the GCI impedance satisfies the (Generalized) Nyquist criterion [5].

When a grid-connected inverter is integrated into the grid, the grid impedance is often different for different point of common coupling(PCC). Moreover, with the addition, removal, and power changes of inverters in the power system, the grid impedance is also time-varying. These factors may lead to the instability of the grid-connected inverter, even if the inverter is stable when operating at ideal grid. To solve this problem, the bandwidth of phase-locked loop(PLL) is reduced to improve the stability of grid-connected inverters in [6], while the performance of the inverter will be adversely affected by overly limited PLL bandwidth. On the other hand, a virtual impedance shaping method is proposed to ensure the output impedance of the inverter is passive in [7][8], while complex theoretical calculations are introduced. However, due to the conflict between the grid-connected inverter's cascaded stability and its own performance, the system dynamic performance is often deteriorated while improving the stability and robustness of the cascaded system. It is a problem worth researching how to achieve adaptive control of grid-connected inverters in accordance with different power grid intensities so as to improve the adaptability of inverters to different conditions.

This paper proposed a three-stage adaptive impedance reshaping strategy to improve the adaptability of GCI to

The Final Product (Digital Products)

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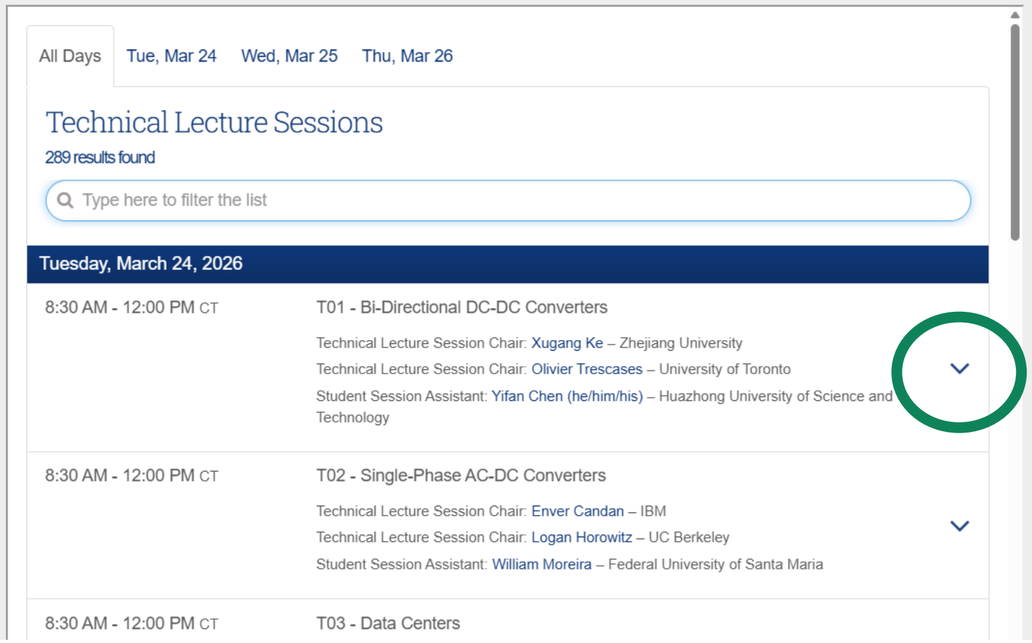
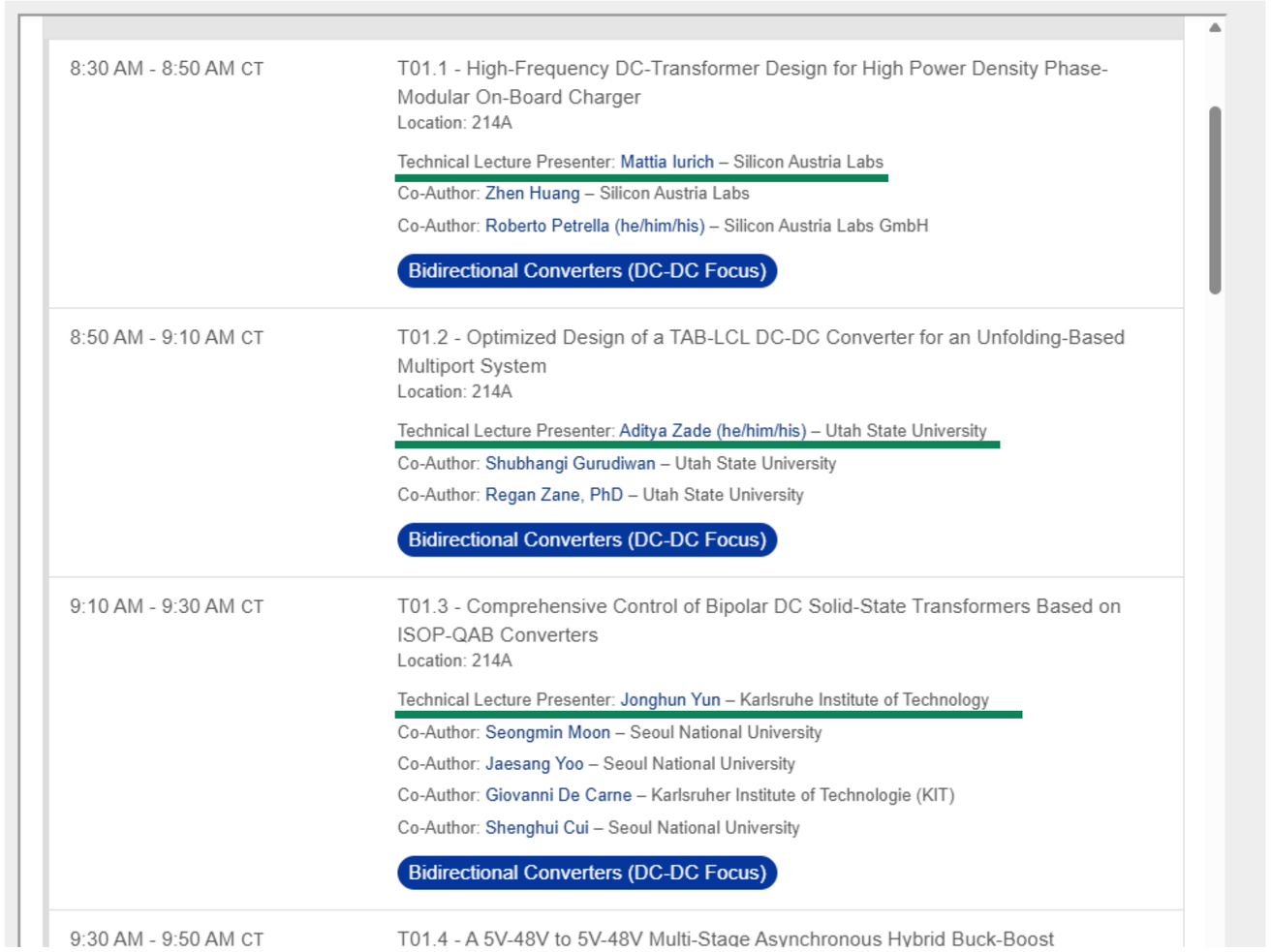
The Process Toward The Final Product

- Confirm the Program
  - Publish the Program on the APEC Website
  - Speakers Confirm Participation
  - Process Requested Changes
- Collect Presenter Data and Presentation Content
  - Profiles, Bios, and Photos **(presenters and co-authors)**
  - Presentation Files **(presenters only)**
    - PowerPoint Files
    - Presentation PDFs

The Process Toward The Final Product

- Only Presenters are required to upload presentation files.
- Only Presenters are required to register for APEC and present in-person





The Change Request Form

- Two Items Presenters Cannot Change
  - Name and Email
  - Who the Presenter Will Be
- If you cannot be the Presenter, complete the **Change Request Form**

You are seeing this upload task because you are the assigned Presenter/Uploader and responsible for uploading the presentation slide deck. If you believe you are seeing this task in error, and are *not* the Presenter, please complete a Change Request using the Change Request Form linked below

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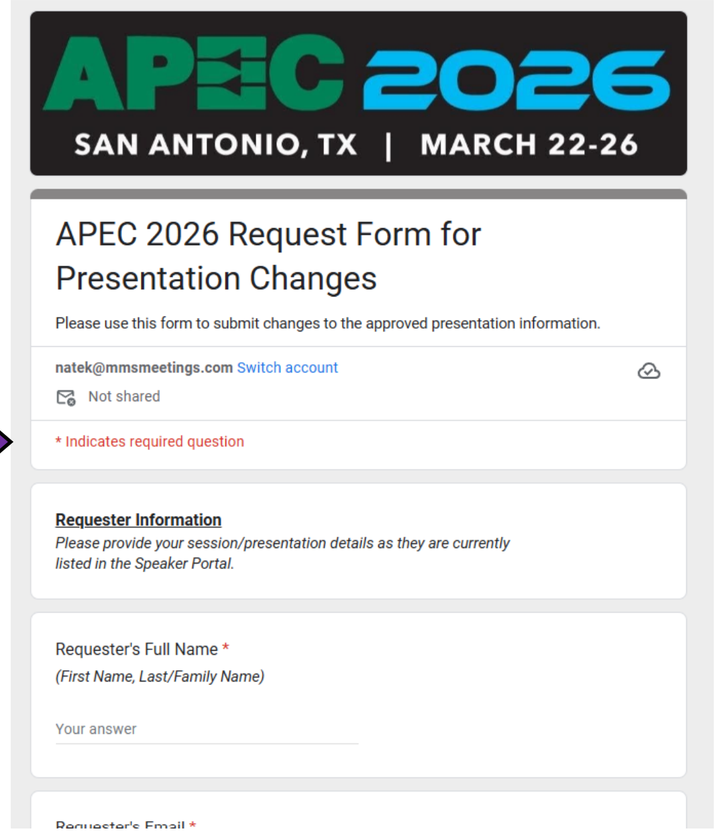
Please upload your Power Point Slide Deck or digital Poster File. Technical Lecture and Industry Files must be in .ppt or .pptx file format. Technical Dialogue and Professional Seminar files can be in .ppt, pptx, or .pdf file format.

Industry, Seminar, and Lecture Presenters: This is the file you will use to present in-person at APEC. These slides will be available in the APEC 2026 Mobile App

Technical Dialogue Presenters: This digital version of your poster will be available in the APEC 2026 Mobile App.



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Responsibilities of Presenters and Co-Authors

- **Co-Authors**
  - Profile, Photo, Bio
- **Presenters**
  - Profile, Bio, Photo
  - Upload Presentation Files
    - PowerPoint Slides
    - PDF version of PowerPoint slides
  - Provide materials by the deadline
  - **Register for APEC and present in San Antonio**

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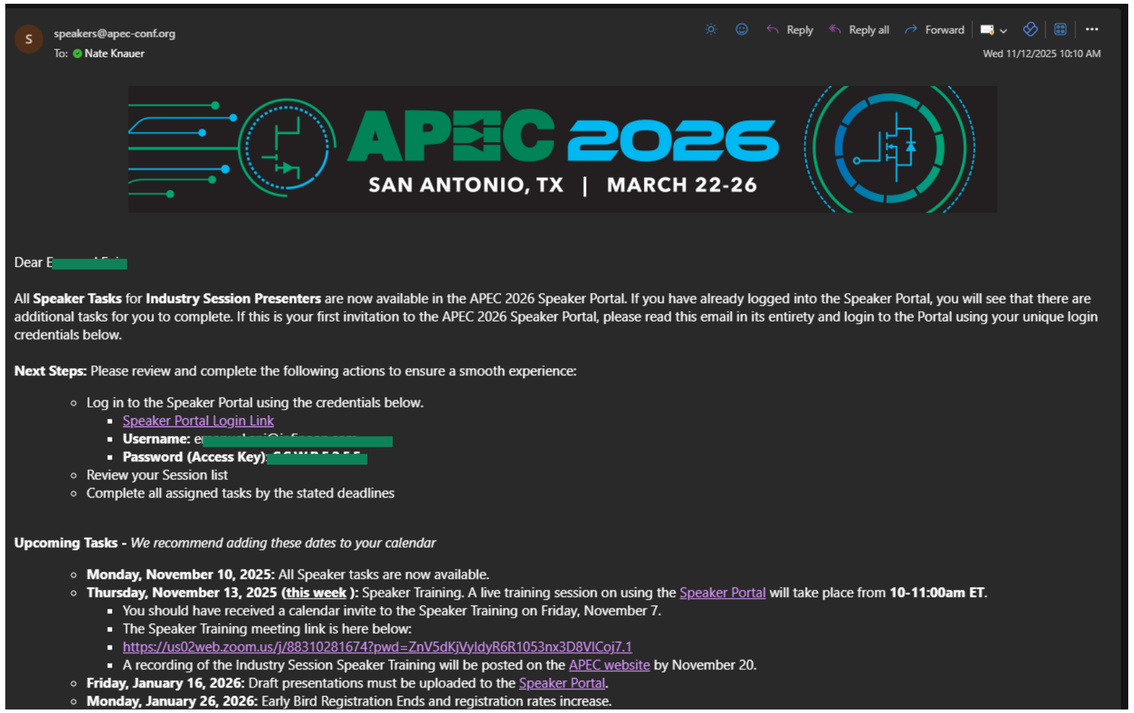
Speaker Portal Step-by-Step

speakers@apec-conf.org

The Invitation Email

- Presenters are Invited to the Speaker Portal via email
- Unique Access Credentials
- Invitation Emails Contain a Click-to-Login Link



speakers@apec-conf.org
To: Nate Knauer
Reply Reply all Forward
Wed 11/12/2025 10:10 AM

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Dear E[redacted]

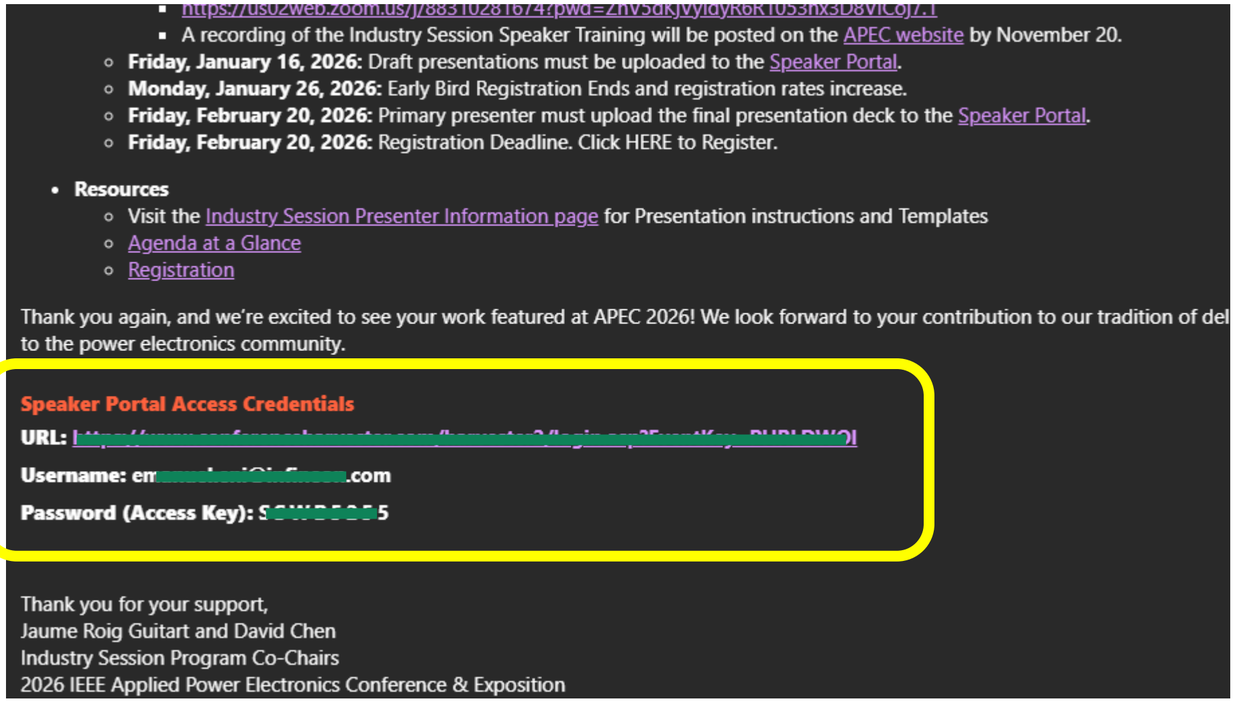
All **Speaker Tasks** for **Industry Session Presenters** are now available in the APEC 2026 Speaker Portal. If you have already logged into the Speaker Portal, you will see that there are additional tasks for you to complete. If this is your first invitation to the APEC 2026 Speaker Portal, please read this email in its entirety and login to the Portal using your unique login credentials below.

Next Steps: Please review and complete the following actions to ensure a smooth experience:

- Log in to the Speaker Portal using the credentials below.
  - Speaker Portal Login Link
  - **Username:** e[redacted]
  - **Password (Access Key)**[redacted]
- Review your Session list
- Complete all assigned tasks by the stated deadlines

Upcoming Tasks - *We recommend adding these dates to your calendar*

- **Monday, November 10, 2025:** All Speaker tasks are now available.
- **Thursday, November 13, 2025 (this week):** Speaker Training. A live training session on using the Speaker Portal will take place from **10-11:00am ET**.
  - You should have received a calendar invite to the Speaker Training on Friday, November 7.
  - The Speaker Training meeting link is here below:
  - https://us02web.zoom.us/j/88310281674?pwd=ZnV5dKjVyldyR6R1053nx3D8VICoj7.1
  - A recording of the Industry Session Speaker Training will be posted on the APEC website by November 20.
- **Friday, January 16, 2026:** Draft presentations must be uploaded to the Speaker Portal.
- **Monday, January 26, 2026:** Early Bird Registration Ends and registration rates increase.



https://us02web.zoom.us/j/88310281674?pwd=ZnV5dKjVyldyR6R1053nx3D8VICoj7.1
- A recording of the Industry Session Speaker Training will be posted on the APEC website by November 20.
- **Friday, January 16, 2026:** Draft presentations must be uploaded to the Speaker Portal.
- **Monday, January 26, 2026:** Early Bird Registration Ends and registration rates increase.
- **Friday, February 20, 2026:** Primary presenter must upload the final presentation deck to the Speaker Portal.
- **Friday, February 20, 2026:** Registration Deadline. Click HERE to Register.

- **Resources**
  - Visit the Industry Session Presenter Information page for Presentation instructions and Templates
  - Agenda at a Glance
  - Registration

Thank you again, and we're excited to see your work featured at APEC 2026! We look forward to your contribution to our tradition of del
to the power electronics community.

Speaker Portal Access Credentials

URL: [redacted]

Username: em[redacted].com

Password (Access Key): S[redacted]5

Thank you for your support,
Jaume Roig Guitart and David Chen
Industry Session Program Co-Chairs
2026 IEEE Applied Power Electronics Conference & Exposition

Login Screen

Data Protection Agreement

Privacy Notice

Please carefully read the text below and then indicate your consent at the bottom of the page.

Summary

We are collecting your personal data on behalf of Applied Power Electronics Conference to allow them to manage the submission, review, selection, and scheduling process for your conference submissions, awards, or grants through our platform. We may share your information with Applied Power Electronics Conference's vendors related to registration, membership and 3rd party analytics related services.

Full Text (version 2458-24870-2344)

1. What we need

Our Personal Data Protection Policy governs the use and storage of your data. You
https://www.gocadmium.com/privacy-policy. The terms personal data and persona
interchangeably. Applied Power Electronics Conference is a Controller of the perso
Cadmium is its Processor. The following types of personal data we collect from you
however are not limited to: Full name, telephone number, position, organization, c
number, login name, department, role, biography, and digital identity (photo).

Print Export

Consent

☐ I have reviewed the privacy notice above and consent to the processing of my data. I am aware and I was informed that I may withdraw my consent at any time by contacting the Data Controller.

Enter your e-signature

Please type your full name on the line above.

Task List Page

Task List Page

PRESENTATION DATA

Technical Lecture

Track: Energy Harvesting and Power for IoT

Lecture

Session: (T13) Emerging and Diverse Power Electronics Applications (8:30 AM – 12:00 PM)

Wednesday, March 25, 2026

9:30 AM – 9:50 AM

(T13.4) Wirelessly Powering a Cardiac Pacemaker with a Body-Coupled TENG for Self-Powered Operation and Sensing

Technical Lecture Presenter: Bowang Zhang – The Hong Kong University of Science and Technology(GZ)

Co-Author: Xin Xia – The Hong Kong University of Science and Technology

Co-Author: Yunlong Zi – The Hong Kong University of Science and Technology(GZ)

Co-Author: Ping Wang (he/him/his) – Assistant Professor, The Hong Kong University of Science and Technology

Co-Author: Wei Han – The Hong Kong University of Science and Technology(GZ)

Profile, Photo, and Biography Tasks

TASKS (you have 2 left to complete out of a total 5 assigned tasks)

- ✓ Verify Your Profile Information (completed 11/6/2025 at 10:45 AM)
- ✓ Update Your Biography (completed 11/6/2025 at 10:47 AM)
- ✓ Upload Your Photograph (completed 11/6/2025 at 10:47 AM) -- PREVIEW UPLOAD
- ✗ Upload Presentation Slides or Digital Poster File (task is due Friday, February 20, 2026)
- ✗ Upload a PDF of Your Presentation or Poster (task is due Friday, February 20, 2026)

[redacted]

Infineon Technologies AG

Dr. [redacted] the isolated gate driver ICs technical marketing team at Infineon Technologies. He obtained his M.Sc. and PhD in power electronics from Aalborg University in Denmark in 2013 and 2017, repsectively.
Since 2016 he has been with Infineon Technologies, Germany. His main area of interest are wide-bandgap power devices and ensuring proper gate loop design in order to ensure adequate perfromance.

Presentation(s):

IS05 - Gate Drivers and their Applications
Tuesday, March 24, 2026
8:30 AM - 11:55 AM CT

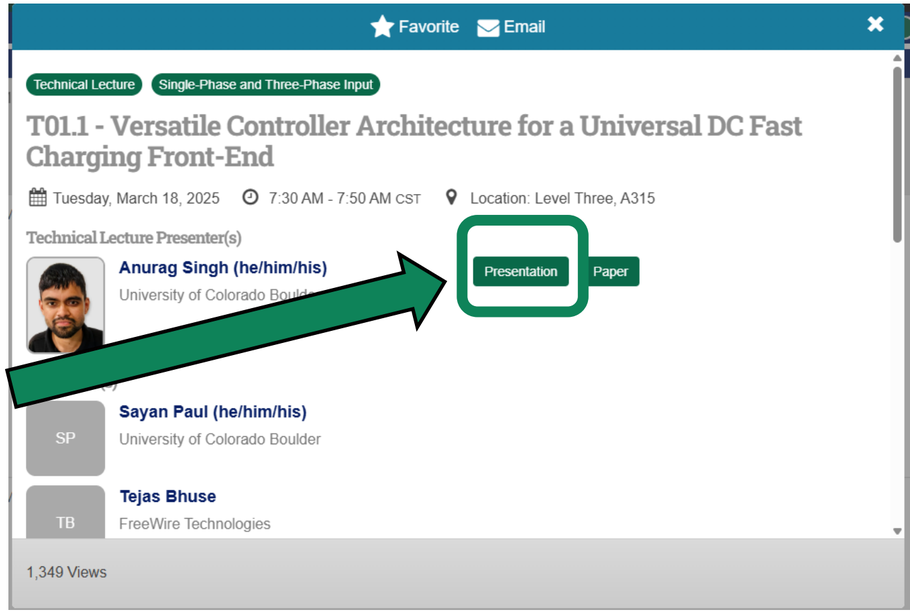
IS05.7 - Decoding the isolated gate driver's datasheet: Clarity beyond the bullet points
Tuesday, March 24, 2026
11:30 AM - 11:55 AM CT

IS15.1 - Design and optimization of an automated double-pulse-test setup for WBG power devices with self-adjusting deskew
Wednesday, March 25, 2026
1:30 PM - 1:55 PM CT

Upload Tasks

TASKS (you have 2 left to complete out of a total 5 assigned tasks)

- Verify Your Profile Information (completed 11/6/2025 at 10:45 AM)
- Update Your Biography (completed 11/6/2025 at 10:47 AM)
- Upload Your Photograph (completed 11/6/2025 at 10:47 AM) -- PREVIEW UPLOAD
- Upload Presentation Slides or Digital Poster File (task is due Friday, February 20, 2026)
- Upload a PDF of Your Presentation or Poster (task is due Friday, February 20, 2026)



Upload Tasks

TASKS (you have 2 left to complete out of a total 5 assigned tasks)

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- ✅ Update Your Biography (completed 11/6/2025 at 10:47 AM)
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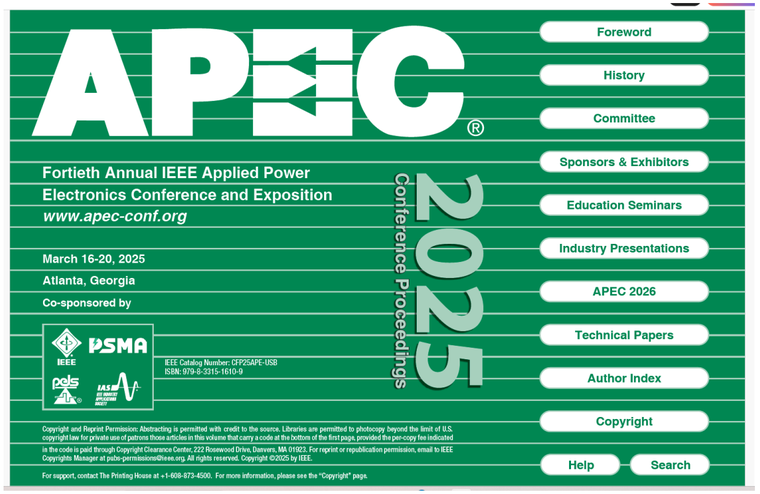
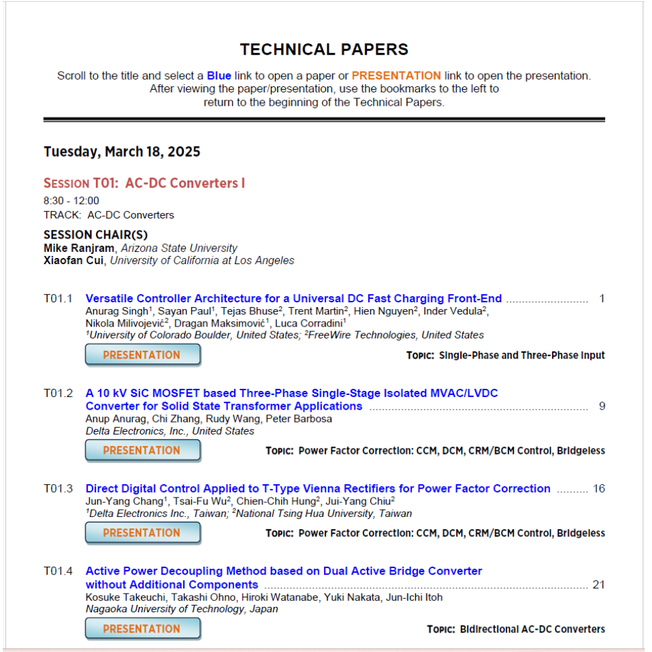
- ❌ Upload Presentation Slides or Digital Poster File (task is due Friday, February 20, 2026)
- ❌ Upload a PDF of Your Presentation or Poster (task is due Friday, February 20, 2026)





TECHNICAL PAPERS

Scroll to the title and select a **Blue** link to open a paper or **PRESENTATION** link to open the presentation.
After viewing the paper/presentation, use the bookmarks to the left to return to the beginning of the Technical Papers.

Tuesday, March 18, 2025

SESSION T01: AC-DC Converters I
8:30 - 12:00
TRACK: AC-DC Converters

SESSION CHAIR(S)
Mike Ranjram, *Arizona State University*
Xiaofan Cui, *University of California at Los Angeles*

T01.1 **Versatile Controller Architecture for a Universal DC Fast Charging Front-End** 1
Anurag Singh[1], Sayan Paul[1], Tejas Bhuse[2], Trent Martin[2], Hien Nguyen[2], Inder Vedula[2], Nikola Milivojević[2], Dragan Maksimović[1], Luca Corradini[1]
[1]University of Colorado Boulder, United States; [2]FreeWire Technologies, United States
PRESENTATION — **TOPIC: Single-Phase and Three-Phase Input**

T01.2 **A 10 kV SiC MOSFET based Three-Phase Single-Stage Isolated MVAC/LVDC Converter for Solid State Transformer Applications** 9
Anup Anurag, Chi Zhang, Rudy Wang, Peter Barbosa
Delta Electronics, Inc., United States
PRESENTATION — **TOPIC: Power Factor Correction: CCM, DCM, CRM/BCM Control, Bridgeless**

T01.3 **Direct Digital Control Applied to T-Type Vienna Rectifiers for Power Factor Correction** 16
Jun-Yang Chang[1], Tsai-Fu Wu[2], Chien-Chih Hung[2], Jui-Yang Chiu[2]
[1]Delta Electronics Inc., Taiwan; [2]National Tsing Hua University, Taiwan
PRESENTATION — **TOPIC: Power Factor Correction: CCM, DCM, CRM/BCM Control, Bridgeless**

T01.4 **Active Power Decoupling Method based on Dual Active Bridge Converter without Additional Components** 21
Kosuke Takeuchi, Takashi Ohno, Hiroki Watanabe, Yuki Nakata, Jun-Ichi Itoh
Nagaoka University of Technology, Japan
PRESENTATION — **TOPIC: Bidirectional AC-DC Converters**

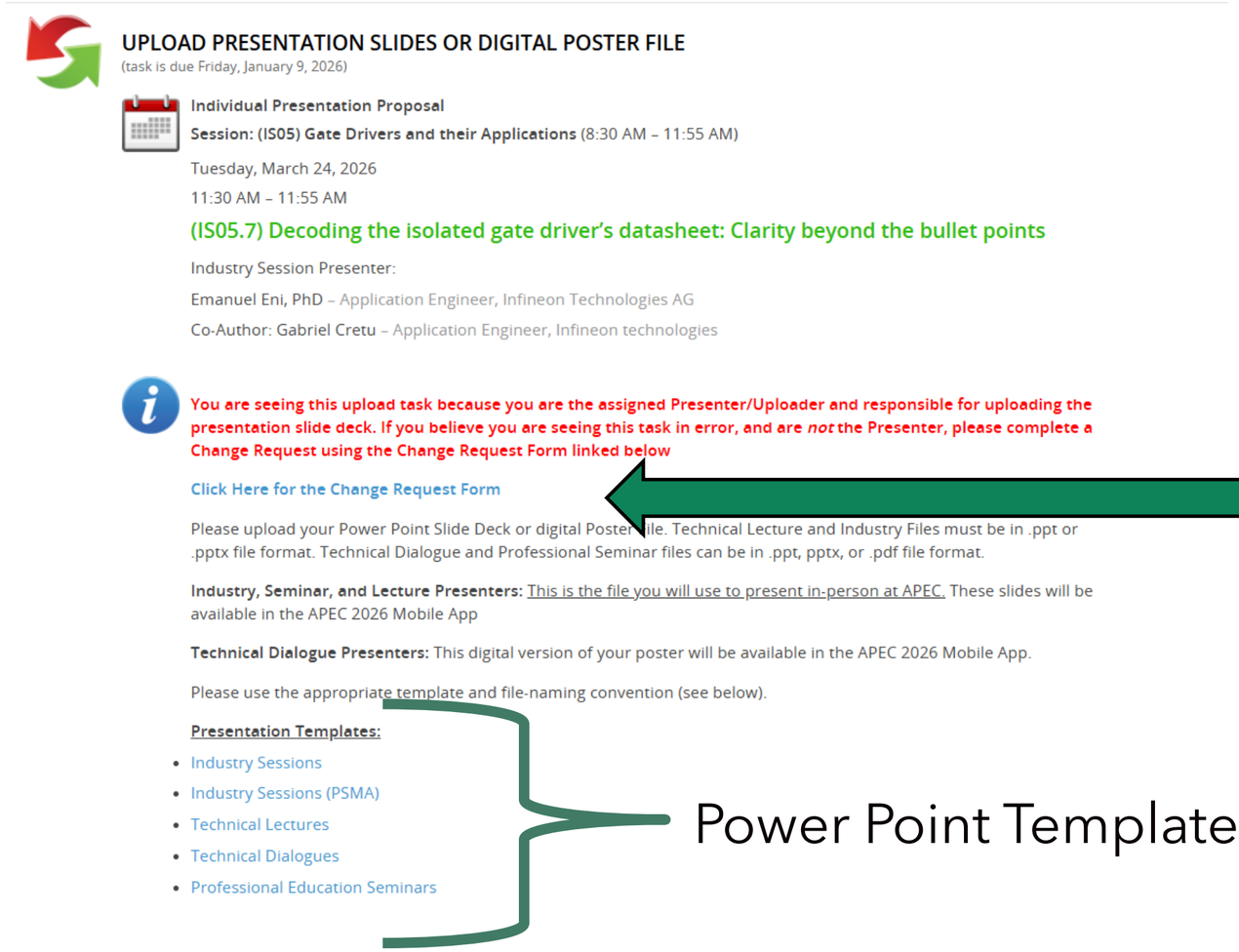
speakers@apec-conf.org

Upload Tasks – Power Point Slide Upload

TASKS (you have 2 left to complete out of a total 5 assigned tasks)

- ✓ Verify Your Profile Information (completed 11/6/2025 at 10:45 AM)
- ✓ Update Your Biography (completed 11/6/2025 at 10:47 AM)
- ✓ Upload Your Photograph (completed 11/6/2025 at 10:47 AM) -- PREVIEW UPLOAD
- ✗ Upload Presentation Slides or Digital Poster File (task is due Friday, February 20, 2026)
- ✗ Upload a PDF of Your Presentation or Poster (task is due Friday, February 20, 2026)

Upload Tasks – Power Point Slide Upload (1)



UPLOAD PRESENTATION SLIDES OR DIGITAL POSTER FILE
(task is due Friday, January 9, 2026)

Individual Presentation Proposal
Session: (IS05) Gate Drivers and their Applications (8:30 AM – 11:55 AM)
Tuesday, March 24, 2026
11:30 AM – 11:55 AM
(IS05.7) Decoding the isolated gate driver's datasheet: Clarity beyond the bullet points
Industry Session Presenter:
Emanuel Eni, PhD – Application Engineer, Infineon Technologies AG
Co-Author: Gabriel Cretu – Application Engineer, Infineon technologies

You are seeing this upload task because you are the assigned Presenter/Uploader and responsible for uploading the presentation slide deck. If you believe you are seeing this task in error, and are *not* the Presenter, please complete a Change Request using the Change Request Form linked below

Click Here for the Change Request Form

Please upload your Power Point Slide Deck or digital Poster file. Technical Lecture and Industry Files must be in .ppt or .pptx file format. Technical Dialogue and Professional Seminar files can be in .ppt, pptx, or .pdf file format.

Industry, Seminar, and Lecture Presenters: This is the file you will use to present in-person at APEC. These slides will be available in the APEC 2026 Mobile App

Technical Dialogue Presenters: This digital version of your poster will be available in the APEC 2026 Mobile App.

Please use the appropriate template and file-naming convention (see below).

Presentation Templates:

- Industry Sessions
- Industry Sessions (PSMA)
- Technical Lectures
- Technical Dialogues
- Professional Education Seminars

Change Request Form Link

Power Point Templates

Presentation File Upload (from Nov 20 Webinar)

- Following are the templates for the Lecture Presentation and Posters
- These templates provide guidance for the most effective presentations and offer consistent “look and feel” for APEC presentations
- If you need to, deviate from guidelines (e.g., font color, size), but keep it professional
  - Keep in mind the attendee experience and APEC image
- **Mandatory upload deadline: February 20, 2026**
  - Allows APEC to make them available in the APEC app as well as for attendee downloads
  - Allows session chairs to review and provide feedback (not mandatory)
- Look out for an email from speakers@apec-conf.org in mid-December with your credentials to the APEC Speaker Portal
  - This is where you will upload the slides you plan to present at APEC 2026
- Presenters will have a chance to update their presentations during the conference by visiting the Speaker Ready room
  - Complete that update a day before your session

Technical Lecture Template

SAN ANTONIO, TX | MARCH 22-26

Title of Presentation

Authors' Names and Affiliations

(Optional: Contact Information)

Please Put Your Title Here (80pt Arial)

Place your logo here

- There is Also Room for a Subtitle (60pt Arial)
- Underlined Presenter, Author Two, and Author Three (54pt Arial)

Problem Statement (Heading 44pt Arial)

- Identify the problem being solved and provide the right context.
- Use at least 28pt Arial for this.
- All text should be in black.
- The format of the poster must be landscape and follow this Microsoft Power Point Template.
- Please submit your poster as a PDF file and verify it for conversion accuracy (pptx → pdf).
- There must be No "Confidential" or "Proprietary" tags.
- You can modify the height of each section in the box as needed.
- You can also create subsections (size at least 36pt Arial, bold) if needed.
- Please do not change the width, height, or location of any of the three boxes in this template.
- Use graphics (figures, tables, waveforms, block diagrams, schematics, flow charts, equations, algorithms etc.) extensively to convey your work – they are more likely to grab attention than words.
- When using words for description, bulleted or numbered lists are preferable to long paragraphs.
- Spell out acronyms, abbreviations, and symbols the first time they are used.

Previous Work (Heading 44pt Arial)

- Text describing the previous/existing approaches to solve the problem.
- Use at least 28pt Arial for this.

Rules for best images:

- Diagrams/schematics/waveforms should have a WHITE background.
- Annotation text should be clearly visible.
- Quality should be high (e.g. do low quality JPEGs, etc.).
- Sensible use of color to enhanc pale colors are difficult to see.

Your Solution (Heading 44pt Arial)

- Describe the novelty of your approach using graphics, equations and bullets as appropriate.
- Use at least 28pt Arial for this.

Results 1 (Heading 44pt Arial)

- These may be simulation/analytical results.
- Use at least 28pt Arial for this.

Results 2 (Heading 44pt Arial)

- These may be experimental or higher-level results (or a continuation of Results 1 section).
- Use at least 28pt Arial for this.

Summary/Next Steps/References (Heading 44pt Arial).

- Include key takeaways from your work.
- Include possible future research.
- Include a few key references. (These can be a subset of the references included in your paper).
- Use at least 28pt Arial for this.

Technical Dialogue Template

speakers@apec-conf.org

APEC 2026

Upload Tasks – Power Point Slide Upload (2)

File Naming Conventions

1. Click “Choose File”
2. (filename will load)
3. Click “Submit File(s)”

Regarding Presentation Templates (Lectures)

Presentation Templates:

- Industry Sessions
- Industry Sessions (PSMA)
- Technical Lectures
- Technical Dialogues
- Professional Education Seminars

- 20 minutes (including Q&A)
- Slide deck should be approx. 15 slides
- Template file requires PowerPoint to open

speakers@apec-conf.org

Regarding Presentation Templates (Dialogues)

Presentation Templates:

- Industry Sessions
- Industry Sessions (PSMA)
- Technical Lectures
- Technical Dialogues
- Professional Education Seminars

- Template is a PowerPoint file
- Will be presented as large format poster
- *Recommended* - Upload digital poster as a large format PDF

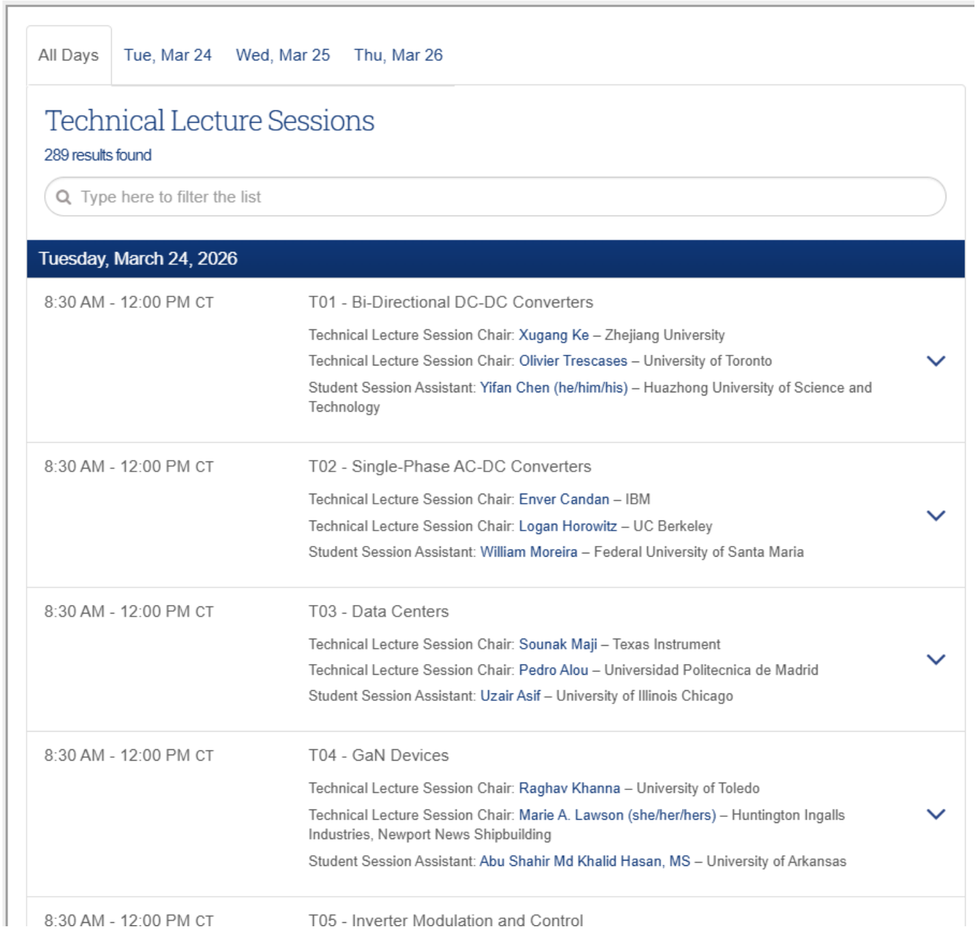
speakers@apec-conf.org

Responding to Session Chairs

- Session Chairs can see who has uploaded presentation files and who has not
- Session Chairs may email you if they do not see an upload
- Session Chairs may provide feedback on your presentation
- If you receive feedback, make adjustments and re-upload

Responding to Session Chairs

Session Chairs are Visible on the APEC Website



All Days | Tue, Mar 24 | Wed, Mar 25 | Thu, Mar 26

Technical Lecture Sessions

289 results found

Type here to filter the list

Tuesday, March 24, 2026

8:30 AM - 12:00 PM CT	T01 - Bi-Directional DC-DC Converters Technical Lecture Session Chair: Xugang Ke – Zhejiang University Technical Lecture Session Chair: Olivier Trescases – University of Toronto Student Session Assistant: Yifan Chen (he/him/his) – Huazhong University of Science and Technology
8:30 AM - 12:00 PM CT	T02 - Single-Phase AC-DC Converters Technical Lecture Session Chair: Enver Candan – IBM Technical Lecture Session Chair: Logan Horowitz – UC Berkeley Student Session Assistant: William Moreira – Federal University of Santa Maria
8:30 AM - 12:00 PM CT	T03 - Data Centers Technical Lecture Session Chair: Sounak Maji – Texas Instrument Technical Lecture Session Chair: Pedro Alou – Universidad Politecnica de Madrid Student Session Assistant: Uzair Asif – University of Illinois Chicago
8:30 AM - 12:00 PM CT	T04 - GaN Devices Technical Lecture Session Chair: Raghav Khanna – University of Toledo Technical Lecture Session Chair: Marie A. Lawson (she/her/hers) – Huntington Ingalls Industries, Newport News Shipbuilding Student Session Assistant: Abu Shahir Md Khalid Hasan, MS – University of Arkansas
8:30 AM - 12:00 PM CT	T05 - Inverter Modulation and Control

Tuesday, March 24, 2026

8:30 AM - 12:00 PM CT	T01 - Bi-Directional DC-DC Converters Technical Lecture Session Chair: Xugang Ke – Zhejiang University Technical Lecture Session Chair: Olivier Trescases – University of Toronto Student Session Assistant: Yifan Chen (he/him/his) – Huazhong University of Science and Technology
8:30 AM - 12:00 PM CT	T02 - Single-Phase AC-DC Converters Technical Lecture Session Chair: Enver Candan – IBM Technical Lecture Session Chair: Logan Horowitz – UC Berkeley Student Session Assistant: William Moreira – Federal University of Santa Maria
8:30 AM - 12:00 PM CT	T03 - Data Centers Technical Lecture Session Chair: Sounak Maji – Texas Instrument Technical Lecture Session Chair: Pedro Alou – Universidad Politecnica de Madrid Student Session Assistant: Uzair Asif – University of Illinois Chicago

Upload Tasks – PDF Upload

Convert the final version of your presentation slides or digital poster file into PDF format and upload below. This PDF will be published in the APEC 2026 proceedings.

IMPORTANT:

- If you are a Technical Lecture Presenter, please upload **a PDF of your slides**, *not* your previously submitted manuscript.
- If you are a Technical Dialogue Presenter, please upload a digital version of your Poster in PDF format
- If you are an Industry Session Presenter, make sure you have been approved by your Session Chair Reviewer before uploading a PDF of your slide deck.

This version of your file will be made available to APEC attendees in the pre-event presentation file download.

Submit File(s)

Choose File No file chosen

(this is a required upload)

Acceptable file types: .pdf

Upload Tasks – PDF Upload

Convert the final version of your presentation slides or digital poster file into PDF format and upload below. This PDF will be published in the APEC 2026 proceedings.

IMPORTANT:

- If you are a Technical Lecture Presenter, please upload **a PDF of your slides**, *not* your previously submitted manuscript.
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- If you are an Industry Session Presenter, make sure you have been approved by your Session Chair Reviewer before uploading a PDF of your slide deck.

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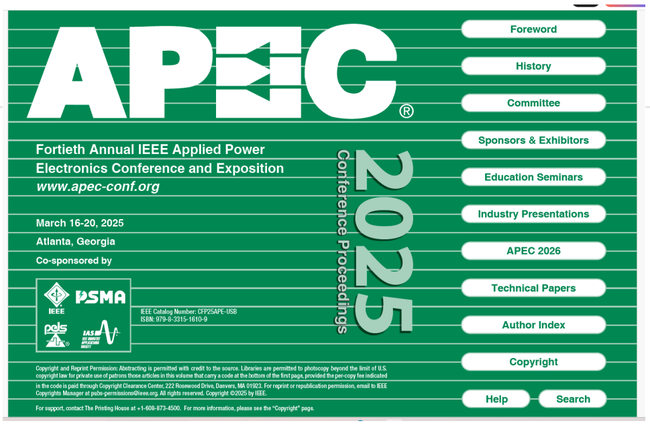
Submit File(s)

Choose File No file chosen

Acceptable file types: .pdf



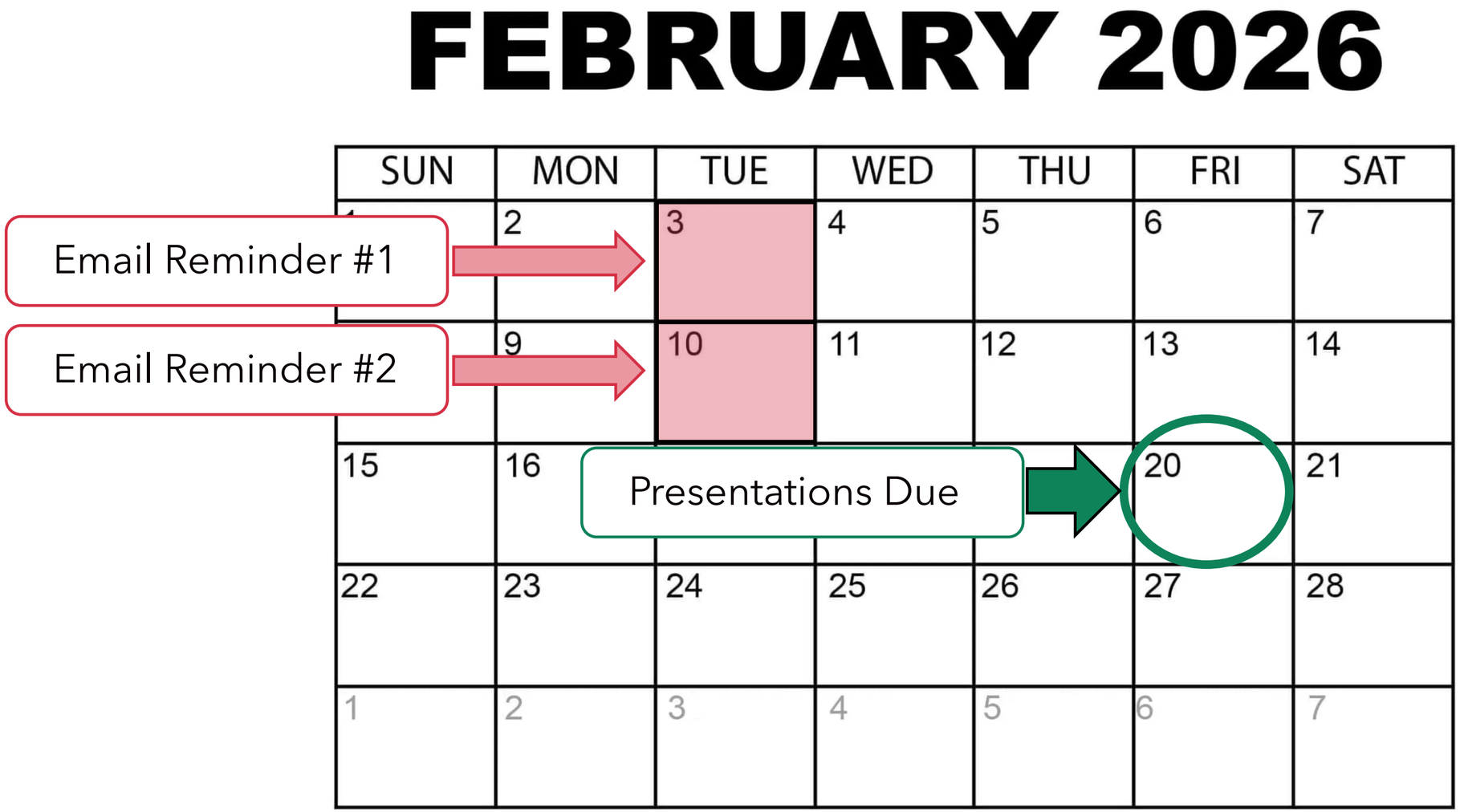
The destination of your PDF version will be the APEC 2026 Conference Proceedings

Important Dates

- **January 20, 2026:** Technical Presenters Webinar
- **January 26, 2026:** Early Bird registration rate ends
- **February 20, 2026:** Final Presentations are due in the Speaker Portal
  - PowerPoint (for onsite presentation, website, and mobile app)
  - PDF (for proceedings)

Presentation Files Due

Important Dates (Presentation Files)



Guidelines for Impactful Presentation at APEC 2026 (from Nov 20 Author Information Webinar)

- Technical Lecture Sessions
  - Attend speaker breakfast on the day of your presentation – be on time and make sure to talk to your Session Chair and Student Session Assistant to understand the logistics of your session
  - Visit the Speaker Ready Room at least a day before your presentation day and review your presentation in the system (update if necessary)
  - Practice your presentation to ensure it is succinct and impactful – your session chairs will be judging you on the content as well as delivery
- Technical Dialogue Sessions
  - Attend speaker breakfast on the day of your presentation – be on time and follow instructions
  - Put up your poster before the session start time. Be available throughout the session to interact with attendees and your Session Chairs
  - Prepare a list of important talking points about your work
  - If you have a Dialogue Preview Session presentation, bring your poster to the designated area on Monday by 11:45 AM and remove it before 2 PM.

FAQs (from Nov 20 Author Information Webinar)

- If I am a Presenter or a Session Chair, do I need to register for the conference?
  - Yes, APEC registration requirements will be strictly enforced at this year's conference, and no one will be admitted to any APEC event or session without the appropriate registration credentials. If you are a technical or industry session presenter, you must be registered for either the Full Conference category or as a Technical and Industry Session category.
- Can I present my work virtually for APEC 2026?
  - No. You or a co-author MUST present your work IN-PERSON at the conference. No exceptions.
- Can I change my manuscript after I submit on December 8th, 2025?
  - No. All manuscript submissions are FINAL. There can be no changes.

➢ Visit https://apec-conf.org/about/faq/

Final Words

- Thank you for your participation in APEC 2026
- Acceptance of your digest means that your research work is useful to Power Electronics field
- Make the most out of this opportunity by:
  - ✓ Preparing the manuscript in a professional manner
  - ✓ Submitting the manuscript in a timely fashion **(December 8, 2025)**
  - Preparing a compelling final presentation file (lecture or poster)
  - Submitting the presentation file in a timely fashion **(February 20, 2026)**
  - Attending APEC 2026 and presenting your research to the Power Electronics community
- Consider expanding your participation by
  - Volunteering as a reviewer for future APECs
  - Signing up for multiple student programs at APEC

Please Contact Us At:

speakers@apec-conf.org