IEEE • IAS
Petroleum and Chemical Industry Committee

70th Annual Conference
2023 – New Orleans, Louisiana, USA

Petroleum and Chemical Industry Committee Technical Conference and Standards Committee Meetings

September 11 – 14, 2023

Conference Program

***Industry Standards Working Group Meetings* – September 7th to 10th**

***Petroleum and Chemical Industry Committee Conference* – September 11th to 13th**

***IEEE IAS PCIC Conference Tutorials* – September 14th**

IAS IEEE INDUSTRY APPLICATIONS SOCIETY

IEEE Advancing Technology for Humanity

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THE IEEE IAS PETROLEUM AND CHEMICAL INDUSTRY COMMITTEE CONFERENCE, NEW ORLEANS, LOUISIANA

The Petroleum and Chemical Industry Committee (PCIC) of the Industry Applications Society of IEEE invites you to attend its 70th annual conference in New Orleans, LA. The 2023 conference technical presentations will be held Monday, September 11th, thru Wednesday September 13th, and the conference tutorials will be held on Thursday, September 14th.

Under the sponsorship of the IEEE Industry Applications Society (IAS), the PCIC Conference has become the premier annual applications meeting for practicing electrical engineers. Following successful conferences in San Antonio and Denver, the New Orleans Local Conference Committee is planning an outstanding event for 2023.

The PCIC conference is noted for the high quality and practical application of its technical papers. The technical program this year will feature 63 papers focusing on the technology and issues faced by electrical engineers in the petroleum, chemical, and mining industries.

In recent years, people have travelled from around the world to attend this informative and entertaining conference. Pre-conference activities will start on Thursday, September 7th, 2023. During the last day of the 2023 conference, the PCIC hosts tutorials to provide for the transfer of knowledge from experienced application engineers to enlightened individuals looking for continued education. The PCIC also sponsors a several working groups and standards activities during the conference.

Welcome to New Orleans

IEEE/IAS/PCIC 2023

Welcome,

On behalf of the New Orleans Local Conference Committee, I would like to extend a warm and open invitation to attend the 70th annual PCIC technical conference, which is returning to the New Orleans Marriott on Canal Street. Located in the heart of downtown, the New Orleans Marriott is a newly renovated conference hotel with breathtaking views of the French Quarter and mighty Mississippi River.

Where is New Orleans you ask? Well, cher, New Orleans is located at a magical crossroads of culture, architecture, music, dining, shopping, gaming, sports and of course… nightlife. Speaking of nightlife, did you know on Christmas night 1884, Thomas Alva Edison's 25-watt incandescent light bulbs amazed the world by lighting the World Industrial and Cotton Centennial Exposition in New Orleans' Audubon Park? Shortly thereafter, Mr. Edison personally supervised the lighting of Canal Street. And thanks to the diverse residents of our city, including several generations of electrical engineers following in Mr. Edison's footsteps, our city is even brighter and more welcoming today than it was almost 140 years ago.

As an annual venue for learning opportunities from the technical paper presentations and tutorials that are directly related to practical applications in your business, PCIC continues to represent a tremendous value. In fact, the registration fee is lower than many other professional conferences. However, the value extends beyond the conference through the enduring professional relationships that are facilitated by the numerous networking opportunities. If you want to meet the influential electrical engineers in the petroleum and chemical industries, PCIC is the venue to make those introductions. And if you want to help make a difference in your industry, there are opportunities to participate on technical papers, tutorials, codes and standards, PCIC subcommittees, etc. As previous attendees already know, PCIC is first and foremost a highly professional technical conference and not a trade show or exhibition. But PCIC does include very active vendor participation programs that are generously supported by manufacturers, representatives, distributors, and others in the form of hospitality suites, large conference events, sponsorships, and "in-kind" donations. We sincerely appreciate the support and respect of our participating vendors for helping to promote and advance the technical and professional aspects of PCIC in accordance with the etiquette guidance offered in the PCIC Operating Manual.

For our guests, the New Orleans Local Conference Committee is planning a full menu of excursions that will begin each day after breakfast and end by mid-afternoon. These programs will highlight New Orleans' historic antebellum plantations, beautiful gardens, exciting swamp flora and fauna and of course, our world-famous Cajun cuisine. Don't forget a comfortable pair of shoes for the walking tours through the French Quarter and "cities of the dead." In addition to the organized tours, the New Orleans Marriott is centrally located only a short walk from shopping, The National WWII Museum, Jackson Square, The New Orleans Riverwalk, streetcars, live local jazz, and much more. For more information on enjoying New Orleans, please visit the New Orleans & Company microsite at www.neworleans.com/pcic23. Now if that doesn't make you want to spend a few extra days in New Orleans, you're spending far too much time at the office.

In closing, and in the immortal words of the patron saint of New Orleans, Louis "Satchmo" Armstrong, "Red beans and ricely yours"…

Dean C. Ruiz
PCIC 2023 Local Conference Committee Chair

70th IEEE IAS Petroleum and Chemical Industry Committee Conference

Petroleum and Chemical Industry Committee Officers

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Vice Chair	Paul Sullivan	DuPont
Secretary	Robert Durham	THEWAY Labs

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Marine Industry Technical Subcommittee Chair	Ethan Dong	Chevron
Midstream Technical Subcommittee Chair	Johnathan Havey	Okonite
Mining Industry Chair	Hélder de Paula	Federal University of Uberlândia (UFU)
Production Technical Subcommittee Chair	Dane Martindale	Okonite
Refining Technical Subcommittee Chair	Giovanni Parra	Fluor
Tutorials Subcommittee Chair	Ray Crow	DRC Consulting Ltd.
Safety Technical Subcommittee Chair	Tony Parsons	Eaton

Introducing your PCIC 2023 New Orleans Local Committee

New Orleans 2023 IEEE-IAS-PCIC Local Conference Committee

Chair	Dean Ruiz, PE	M S Benbow & Associates
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Conference Guide Chair	Paul Simon	BASF
Consigliere Chair (2012 Conference Chair)	Charles Darnell, PE	Atkore
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Corporate Sponsorships Vice-Chair	Rudy Valenciano	BASF
Emeritus Liaison	Daleep Mohla	DCM Consulting Services
Facilities Chair	Lilly Fontenot	Roxtec
Facilities Vice-Chair	Mike James	EDG
Guest Hospitality Chair	Travis deBenedetto	JM Test Systems
Guest Hospitality Vice-Chair	Elyse deBenedetto	OneVision Consulting
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LES Local Liaison	Roy Phelps	W S Nelson
Logistics	Mark Frakes	Thermon
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Publications Vice-Chair	Mike Caruso	ABB Baldor
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Publicity, Printing, & Signs Vice-Chair	Dave Chivatero	Okonite
Registration Chair	Alex Balducci	Eaton
Registration Vice-Chair	Daniel Hall	Momentum Group
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Safety/Emergency Planning Vice-Chair	Robert Sorbet	Stafford Electrical Sales
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Social Vice-Chair	Shawn Johnson, PE	Eaton
Social Vice-Chair	Joe Bruno	Wholesale Electric
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Social Media / Marketing Vice-Chair	Lawrence Hall	Black and Veatch
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Technical Program Vice-Chair	Louis Randazzo, PE	Kinder Morgan
Technical Program Vice-Chair (Audio Visual)	Josh Palmisano, PE	Marathon
Tutorials Chair	Ray Crow	DRC Consulting LTD.
Vendor Hospitality Chair	Keith Gonzales, PE	Shell
Vendor Hospitality Vice-Chair	George Massey, PE	Shell
Website Chair	Jackie Sanders	Martin Marietta
Website Vice-Chair	Chris Crick	Powell Industries
YEDS Chair	Leo Holzenthal, PE	M S Benbow & Associates
YEDS Vice-Chair	Dominic Traina	Schneider
YEDS Liaison	Drew Tercek	Dykman

IEEE IAS Petroleum and Chemical Industry Committee Conference Mission

To provide an international forum for the exchange of electrical applications technology relating to the petroleum and chemical industry, to sponsor appropriate IEEE standards activity for that industry, and to provide opportunities for professional development.

IEEE-IAS-PCIC Strategies

1. The IEEE IAS Petroleum and Chemical Industry Committee Conference Annual Technical Conference will be held in North American locations of petrochemical industry strength, and its location will be rotated annually in an effort to attract national and international participation.

2. The IEEE-IAS-PCIC will proactively promote participation by a broad base of IEEE-IAS-PCIC representatives, with an emphasising on both early-career younger and retired engineers.

3. IEEE-IAS-PCIC Conference attendees will be encouraged to participate in technical activities including authorship of papers and tutorials and participation in standards development.

4. The IEEE-IAS-PCIC develops technical standards relevant to the petroleum and chemical industry that drive technology development and standardization and coordinates these activities with the IEEE Standards Association and other standards making bodies.

5. The IEEE-IAS-PCIC will offer tutorials directed to enhance the technical, communication, and interpersonal skills of petroleum and chemical industry engineers.

6. The quality of the IEEE-IAS-PCIC paper offerings is essential for the IEEE-IAS-PCIC mission to succeed and will be given highest priority. Preference in paper selection will be given to practical, application-oriented papers.

7. The IEEE-IAS-PCIC will actively seek opportunities for rewarding participating members for contributions to the IEEE-IAS-PCIC and the profession.

8. Technical Subcommittee areas of specialty will be continuously evaluated and updated to reflect the evolving needs of the industry.

9. User, manufacturer, consultant, and contractor participation will be encouraged in the activities of the IEEE-IAS-PCIC to strengthen the conference technical base.

10. The IEEE-IAS-PCIC will develop international collaborative partnerships as deemed appropriate to promote the IEEE-IAS-PCIC Mission further..

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IEEE PCIC NEW ORLEANS 2023

Scope of the IEEE IAS Petroleum and Chemical Industry Committee Conference Technical Subcommittees

The IEEE IAS Petroleum and Chemical Industry Committee Conference technical subcommittees solicit technical papers to enable the exchange of electrical applications technology related to the petroleum and chemical industry.

Chemical Subcommittee

The Chemical Technical Subcommittee provides a forum for IEEE PCIC members to communicate technical papers related to the production of chemicals.

Electrochemical and Emerging Technology Subcommittee

To advance electrical engineering technology, applications, technical papers and industry standards for the electrochemical and emerging technologies within the petrochemical industry. This Subcommittee provides an international forum to publish technical papers related to these topics at the annual PCIC conference.

International Subcommittee

The scope of the International Subcommittee is to provide technical sessions presented by non-North American authors that would be of interest to conference attendees with a purpose of bringing international participation to the North America PCIC Conference.

Marine Industry Subcommittee

The Marine Industry Subcommittee (MIS) provides an opportunity to expand the technical transfer of information and standards between the petroleum industry and the marine industry. The MIS facilitates the use and understanding of the currently issued standards such as IEEE-45 dot series, IEEE 1580 and IEC/IEEE 80005. MIS has been a leader in harmonizing standards with IEC. MIS also provides for the necessary working groups to keep the IEEE standards current and develop new standards as needed.

Midstream Subcommittee

The Midstream Subcommittee deals with electrical questions involved with transportation and storage of petroleum and chemical materials. This includes controls, measurement, data handling, power systems, motors and drives associated with pipelines, tankage, valves and conveyors.

Mining Committee

The Mining Industry Committee is responsible for all matters within the Scope of the IAS in which the emphasis or dominant factor specifically relates to all mining and related operations.

Production Subcommittee

The Production Technical Subcommittee provides a forum for IEEE PCIC members to communicate technical papers related to drilling, well head, and facilities operations of oil and gas wells.

Refining Subcommittee

The Refining Technical Subcommittee provides a forum for IEEE PCIC members to communicate technical papers related to the refining industry

Safety Subcommittee

The Safety Subcommittee was chartered in 1991 and has served to accelerate the dispersion of information and knowledge impacting electrical safety in the petroleum and chemical industry.

General Information

Registration – Check-in

Registration will be in the Preservation Hall foyer area, along with Studios 1 & 2 on Saturday and Sunday, all located on the 2nd floor of the New Orleans Marriott.

- Saturday, September 9 ..... 10:00 a.m. – 5:00 p.m.
- Sunday, September 10 ..... 10:00 a.m. – 5:00 p.m.
- Monday, September 11 ..... 6:30 a.m. – 4:00 p.m.
- Tuesday, September 12 ..... 7:00 a.m. – 12:00 p.m.
- Wednesday, September 13 ..... 7:00 a.m. – 12:00 p.m.
- Thursday, September 14 (for tutorial attendees not registered at conference) ..... 7:00 a.m. – 8:00 a.m., 12:00 p.m. – 1:00 p.m.

Conference Record

The registration fee includes a one-time free download of the Conference Record during the conference. Papers can be downloaded directly using the PCIC App during the conference. Bound copies of the Conference Record are available for a fee of $55.00.

Attendee Breakfasts

Registered attendees and guests can enjoy a complimentary breakfast each morning of the conference on the 3rd floor of the New Orleans Marriott from 7:00 am to 8:15 am. On Monday the breakfast will be in the Mardi Gras Ballroom (Salons A-H) and on Tuesday and Wednesday the breakfast will be in the Bissonet-Carondelet ballroom. The IEEE-IAS-PCIC appreciates the companies that support these breakfasts.

Monday Luncheon - for the lunch break on Monday, we'll have a "French Quarter Connection", starting with a second line, crossing Canal Street, and eat at the Sheraton hotel. This movement will be escorted by a brass band, and with the assistance of NOPD to get us safely across the street and back. A very-near parade experience…

Guest Breakfasts

Registered guests attending the conference are welcome to join their partners at the main conference breakfast or can attend a light breakfast in the Guest breakfast area located in Studios 8, 9 and 10 on the 2nd floor of the New Orleans Marriott. (See page 11 for more information.)

IEEE-IAS-PCIC Orientation Breakfast (*Note: Pre-registration is required*)

First time attendees, young engineers, and others interested in learning more about the IEEE-IAS-PCIC are encouraged to attend the "*IEEE-IAS-PCIC Orientation Breakfast*" on Monday, September 11 from 7:00 a.m. to 8:00 a.m. in Balcony L-M-N on th
e 4th floor of the New Orleans Marriott. A presentation and a discussion will take place on the history of IEEE-IAS-PCIC, how it functions, on ways that you can become more involved, and many other suggestions on how to enhance your conference experience. You must check the "YEDS IEEE-IAS-PCIC Orientation Breakfast" box during registration if you plan to attend. (See page 7 for more information.)

Women Professionals Networking Breakfast

PCIC is hosting a networking breakfast for women professionals that promotes diversity in the industry and provides an opportunity for women to meet peers and potential mentors. Women professionals are invited to enjoy a complimentary breakfast on Tuesday morning in Balcony K on the 4th floor of the New Orleans Marriott from 7:00 am to 8:15 am. The IEEE-IAS-PCIC appreciates the companies that supported and sponsored this breakfast.

Emeritus Subcommittee Luncheon

The Emeritus Subcommittee luncheon will be held on Tuesday, September 12, 2023, in Balcony J-K on the 4th floor of the New Orleans Marriott. Attendance is limited to those who have been confirmed as Emeritus members by the IEEE-IAS-PCIC Chair. The Emeritus Subcommittee is composed of IEEE-IAS-PCIC members who have retired at least once from our industry. Members are required to consistently volunteer their services in support of various IEEE-IAS-PCIC activities. If you are interested and feel you qualify, contact Leo Berg, Chair of the IEEE-IAS-PCIC Emeritus Subcommittee at leoberg@ieee.org.

First-Time IEEE IAS PCIC Conference Attendees

IEEE-IAS-PCIC Conference welcomes all those attending the annual conference for the first time. The conference provides an excellent opportunity to learn more about advancements in the petrochemical industry, to meet a wide range of other individuals involved, from newer folks to seasoned veterans, and to have a bit of fun while doing it. This year there are 63 papers being presented that focus on electrical engineering topics related to the petroleum, chemical, and mining industries, as well as 8 half-day tutorials on key topics.

The conference also provides an excellent opportunity to participate in IEEE Standards development and for you to network with a wide range of professionals involved in this industry. All paper presentations, IEEE Standards meetings, PCIC Subcommittee meetings are open to all attendees, and at the end of the conference day, you can relax and enjoy the social events and vendor hospitality suites.

Your badge will identify you as a "First Time Attendee" (FTA) and don't be surprised if folks stop to chat with you, even if it's just to welcome you to the conference. You also are welcome to participate in the First Time Attendees / Young Engineers Development Subcommittee (FTA/YEDS) orientation breakfast and luncheon, and to take advantage of the discount on tutorials. The PCIC conference is not just for engineers, it is for all those involved in this industry. We look forward to meeting you.
For more information for first-time attendee activities, read the YEDS information below

Young Engineers Development Subcommittee (YEDS)

The Young Engineers Development Subcommittee is an administrative subcommittee of the IEEE IAS Petroleum and Chemical Industry Committee and is abbreviated as "YEDS". The subcommittee was formed in 1996 with the charter to "promote participation in IEEE-IAS-PCIC technical conference and provide personal professional growth opportunities".

YEDS focuses on all first-time IEEE-IAS-PCIC attendees, regardless of age, and sponsors two major conference activities:

- IEEE-IAS-PCIC First Time Attendee / YEDS Orientation Breakfast Monday, September 11 – 7:00 a.m. to 8:00 a.m. YEDS members, and new attendees interested in learning more about the IEEE-IAS-PCIC are encouraged to attend the "*IEEE-IAS-PCIC First Time Attendees / YEDS Orientation Breakfast*" in Balcony L-M-N on the 4th floor of the New Orleans Marriott. A presentation and discussion take place on the history of IEEE-IAS-PCIC, how it functions, ways to become more involved, and many other suggestions on how to enhance your conference experience. *Remember to check the "YEDS IEEE-IAS-PCIC Orientation Breakfast" box during registration if you plan to attend.*

- IEEE-IAS-PCIC First Time Attendee / YEDS Luncheon – Tuesday, September 12 – 11:15 a.m. to 12:45 p.m. in Balcony L-M-N on the 4th floor of the New Orleans Marriott. First time attendees are encouraged to attend this luncheon. It focuses on soliciting feedback from participants on how IEEE-IAS-PCIC can better encourage first-time attendee participation; improve professional development through IEEE-IAS-PCIC and discussing new ideas for future IEEE-IAS-PCIC conferences. *Remember to check the "YEDS Tuesday PCIC Luncheon" box during registration if you plan to attend.*

Survival Guide – For those new to IEEE-IAS-PCIC, the committee publishes a "survival guide". The guide explains the goal of the conference, the structure, daily events and meetings, dress codes and ways to plan your time to gain the most out of the conference. The IEEE-IAS-PCIC Survival Guide can be downloaded at: http://2023conference.ieeepcic.com/survival-guide.html

Tutorials – IEEE-IAS-PCIC is offering eight half-day technical tutorials on Thursday, September 14, 2023. after the main conference. First time attendees registered for the full conference are eligible to attend one tutorial at a reduced rate. A second tutorial can be attended at the regular price. See page 30 for more information on the IEEE-IAS-PCIC Tutorials and requirements to pre-register for tutorials.

NOTE: First-time IEEE-IAS-PCIC attendees are welcome to participate in all YEDS and IEEE-IAS-PCIC activities and we encourage you to post about your conference experience on LinkedIn, Facebook or Twitter. Welcome to New Orleans!!

IEEE-IAS-PCIC On-Line Surveys – IEEE-IAS-PCIC encourages feedback from the attendees to ensure that the Conference remains one of the premier conferences sponsored by IEEE and IAS. Following the conference, surveys will either be available on the IEEE-IAS-PCIC web site (www.ieeepcic.com) or on the conference app (available at www.eventmobi.com/pcic2023) or you will be contacted with an alternate location. The following surveys are offered:

- ✓ General Survey
- ✓ Authors Survey
- ✓ Guest Survey
- ✓ First Time Attendees Survey

You only need to fill out one of the surveys, so please pick the one that is most appropriate.

Wednesday Luncheon Speaker – Don McMillan

Don McMillan was most recently featured on America's Got Talent where he came in the TOP 12 and performed in the Finals! The Comedian/Engineer's show features lots of graphs and charts earning rave reviews from America and ALL the judges – even Simon Cowell!

Don McMillan graduated from Stanford University with a Master's Degree in Electrical Engineering. He then went to work at AT&T Bell Labs where he was part of the team that designed the world's first 32-bit microprocessor. He then moved to Silicon Valley where he helped launch the start-up company, VLSI Technology. At VLSI, he designed over 20 integrated circuit chips and was awarded 3 patents.

After 15 years in the High-Tech World, Don quit his job to become a stand-up comedian. That year he was the Comedy Grand Champion on "Star Search". Don's been seen on "The Tonight Show", "HBO", and "Comedy Central". These days, Don spends most of his time writing and performing customized corporate comedy shows for companies like Google, Apple, IBM, Ford Motors, Exxon/Mobil and Amazon. Don has performed more than 800 corporate shows in the last 20 years. He was named the #1 Corporate Comedian by the CBS Business Network. Currently, you can check out ALL his internet hits at his website: TechnicallyFunny.com

Information for Authors and Presenters

Registration

At least one contributing author must be registered for the conference and present on the day their paper is scheduled to be presented. Any additional persons involved in the presentation of their paper must be similarly registered for the conference.

Authors' Screening Room

Screening rooms with projection systems are provided for authors to confirm their equipment is compatible with Audio Visual systems used by the conference. Please note presenters are required to use their own presentation device that is compatible with projection technology used by IEEE-IAS-PCIC (e.g., laptop, tablet, etc.). For information on A/V systems being used at the conference, contact Technical Program Chair Paul St. Pierre (pst.pierre@msbenbow.com) or A/V Vice-Chair Josh Palmisano (jpalmisano@marathonpetroleum.com).

The authors' screening rooms are in the Iberville and Bacchus rooms on the 4th floor of the New Orleans Marriott.

Sunday:	12:00 p.m. – 9:00 p.m.
Monday, Tuesday, and Wednesday:	7:00 a.m. – 9:00 p.m.
Thursday:	7:00 a.m. – 2:00 p.m.

Authors' Breakfast

A complimentary breakfast will be served from 7:00 a.m. to 8:00 a.m. for the presenters of the papers and tutorials being presented on that day in Balcony I on the 4th floor of the New Orleans Marriott.

NOTE: All authors and presenters must attend this breakfast on the day their paper is being presented (only) to meet their session chair to review session logistics, audio video compatibility of their equipment and to receive their PCIC certificate and authors' memento.

About the IEEE IAS Petroleum and Chemical Industry Committee Conference

The annual IEEE-IAS-PCIC conference is an exchange of technical ideas – not a trade show – that brings together professionals with a common focus on electrical installations and safety. The IEEE-IAS-PCIC Executive and Local Conference Committees take great pride in providing a high-quality conference while keeping registration and participation costs reasonable. IEEE-IAS-PCIC is the best educational value for anyone working in the petrochemical electrical field. Here's why:

- Conference papers and tutorials are authored by many of the most respected minds in the industry. Great care is taken to ensure that presentations are free of commercial content.
- Many IEEE-IAS-PCIC members participate in writing industry standards. Working groups meet prior to the start of the conference to work on standards for the IEEE, API, and other organizations. These meetings are open to all conference registrants.
- Vendors are an integral part of IEEE-IAS-PCIC. They support the technical and professional goals of the conference, author papers, sponsor conference functions, and host evening hospitality events. Vendor participation is encouraged and welcomed. All vendors must follow the IEEE-IAS-PCIC etiquette rules.

Conference Activities Dress Code:

- For Conference papers, tutorials and working group/standards meetings, ***business casual attire*** is acceptable and appropriate.
- Technical session leaders and paper presenters must wear ***professional business attire***. (For gentlemen, this means a suit or sports jacket with tie; for ladies this means a dress, business suit, etc.)
- For the Monday Night Social, ***semi-formal attire is required***.

Conference attendees work hard during the day but after the technical sessions conclude there's time to unwind, reconnect with old friends and network through after-hours socializing. Events listed in the IEEE-IAS-PCIC Hospitality and Social Calendar are open to all attendees that are registered for the full conference along with their guests at no additional charge. Major conference events include:

- The Sunday Local Committee Reception - Our Local Committee welcomes all attendees and guests to enjoy some local beverages and jazz music during the registration process, from 2:00 p.m. to 5:00 p.m. in the Preservation Hall Foyer area, on the second floor of the New Orleans Marriott hotel.
- Sunday Tailgate Parties are long-running events in which attendees & their guests can enjoy a fun, sport-themed party setting. This year there are two tailgate parties, with Appleton's starting at 11:00 a.m. followed by Toshiba's at 3:00 p.m. to provide a full day of fun.
  - Tailgate Party #1, hosted by Appleton is in Salon D & E on the 3rd floor of the hotel from 11:00 a.m. to 3:00 p.m.
  - Tailgate Party #2 hosted by Toshiba is in the Acadia room on the 3rd floor of the hotel 3:00 p.m. to 6:30 p.m.
- The Monday Night Social is IEEE-IAS-PCIC's premier social event. This year's event is sponsored by the Local Committee and features some of New Orleans's local food and beverages. You don't want to miss this opportunity to meet friends and colleagues in an entertaining, elegant cocktail party setting. The Conference Social is being held in the Grand Ballroom on the 3rd floor of the hotel from 6:00 p.m. to 7:30 p.m. Note: The dress code for the Conference Social is semi-formal
- Vendor Hosted Events and Hospitality Suites. Many vendors host major hospitality events and hospitality suites in the evenings where a good time can be had by all. The Events and Suites are open in the evening after the conference sessions. Consult the Social Calendar or the PCIC App for the days, times, and locations of these.

Nametags and lanyards are provided to attendees and guests to identify you as a registered conference participants. Nametags must be worn when attending any IEEE-IAS-PCIC technical subcommittee meetings, paper presentations, tutorials, breakfasts, luncheons, social functions, vendor-hosted events, and hospitality suites. Attendees and guests must be over the age of 21 to participate in social functions, vendor-hosted events, and hospitality suites where alcohol is being served.

Note: The IEEE-IAS-PCIC Conference Social for attendees and one guest is included for those registered for the full conference. Admittance to the Social is not included for "one-day" registrations: Additional Conference Social tickets may be pre-purchased separately at the registration desk. (Note: "Monday and Tuesday Only" registrants may pre-purchase Conference Social tickets during on-line registration).

Please remember: all attendees and all guests must wear their conference nametag to be admitted to any PCIC activity.

Petroleum and Chemical Industry Committee Conference App

The IEEE IAS Petroleum and Chemical Industry Committee Conference 2023 App (PCIC2023) can also be accessed from any laptop, PC, tablet, or mobile device through any web browser at the website: www.eventmobi.com/pcic2023.

The app is your interactive guide to the IEEE-IAS-PCIC Conference, including:

- Paper Presentations
- IEEE-IAS-PCIC & Standards Meetings
- Tutorials
- Hospitality Events
- Attendee and Guest Meals
- Registration, Help, and Safety Information
- Guest Tours and guest social events
- Interactive maps for navigating conference events
- A Directory of Attendees, Guests, Authors, and others
- Web links to hotels, conference center, airport, and other sites
- Links for downloading the entire Conference Record or individual presentations
- Alerts for last minute changes and updates

Each attendee MUST register for the conference with a unique email address. It is highly recommended any attendee guests are added to the registration using a unique email address, so they access the PCIC App and view the Guest Events and any alerts or notices.

When accessing the App for the first time you will be instructed to enter the email address that you used to register for the conference. You will also be instructed to create and enter your own one-time unique password. You may choose any password that you like. If you should later forget your password, there will be a link for you to update it.

Condensed Etiquette Rules for Vendor Entertainment

Vendor participation is welcomed at the IEEE-IAS-PCIC conference. Etiquette rules are designed to prevent a conflict of vendor activities with the technical programs. Conduct at the conference must comply with the complete IEEE-IAS-PCIC Rules of Etiquette which are available at www.ieeepcic.com. Following is a summary of those rules:

- All vendor personnel and their guests working in a hospitality suite must be registered for the conference.
- Hospitality rooms must be closed during all official conference functions (technical sessions, official luncheons, Conference Social, Subcommittee meetings, etc.)
- Commercial demonstrations and commercial literature distribution must be confined to the hospitality suite.
- Vendor activities outside the conference hotel must not host more than 25 conference delegates (exclusive of guests and host company personnel) from 7:00 a.m. Monday through 5:00 p.m. Wednesday.
- A mandatory “Vendor pre-meeting" will be held prior to the conference, Sunday from 3:00 p.m. to 4:00 p.m. in the Napoleon room. Vendors will be contacted with details.

Guest Information

The local IEEE-IAS-PCIC committee takes pride in how they accommodate the guests of the attendees by making their time at the conference as pleasant and entertaining as possible and offering a variety of off-site activities while attendees participate in the daily sessions.

Who is a Guest? A guest is a spouse/significant other, friend, or child that is not involved in an electrical industry related occupation. Authors, co-workers, or associates that participate in any related industries cannot be registered as a guest. Guests must be registered for the conference to attend the Monday Social or to participate in guest-designated functions, such as the guest hospitality room, tours, vendor hospitality events, etc. Guest Registration does not include attendance at paper presentations, tutorials, conference luncheons or any restricted meals and meetings. Guests may purchase tickets in advance for conference luncheons only for an additional fee.

The Guest Hospitality Suite: The Guest Hospitality Suite is in Studios 8-9-10 on the 2nd floor of the New Orleans Marriott and is open from 7:30 am until 4:00 pm. A light breakfast is available in the suite Monday, Tuesday and Wednesday morning before the guest tours depart.

Guest Hospitality Suite hours and food services:

Sunday:	8:00 a.m. to 4:00 p.m.	This is great place to meet other guests – No Food Service
Monday:	7:30 a.m. to 4:00 p.m.	Light Breakfast served for Guests only from 7:30 a.m. to 9:00 a.m.
Tuesday:	7:30 a.m. to 4:00 p.m.	Light Breakfast served for Guests only from 7:30 a.m. to 9:00 a.m.
Wednesday:	7:30 a.m. to 4:00 p.m.	Light Breakfast served for Guests only from 7:30 a.m. to 9:00 a.m.

Guest Tours are offered by the Local Committee on Sunday, September 10, 2023, through Wednesday, September 13, 2023. The tours allow participants to meet other guests while experiencing some of the local areas of interest. (See page 38 for details and pricing.)

Important Notes about the PCIC New Orleans Tours:

- Tour tickets are non-refundable but may be exchanged or sold between guests.
  - Exchange information is available in the Guest Hospitality Suite.
- Tours are subject to cancellation if registrations do not meet minimum capacity levels (with a full refund).
- Some venues may require that masks be worn while inside their facility or shop.

The check-in for all tours will be in the Guest Hospitality Suite in Studios 8-9-10 on the 2nd floor of the hotel. Please arrive at least 20 minutes before the bus departure time.

Complimentary Guest Breakfasts: Registered guests attending the conference are welcome to join their partners at the main conference breakfast. A light breakfast will be served in the Guest Hospitality Suite at the times posted above.

New Orleans Streetcars are a must when visiting the Big Easy. The streetcars are operated by the New Orleans Regional Transit Authority and are an affordable and easy way to navigate portions of the city.

There are currently four streetcar routes: Riverfront; St. Charles; Canal (Cemeteries); and Canal (City Park/Museum). The St. Charles Avenue Streetcar is one of the oldest and most notable lines. Its route – spanning from Uptown to the Central Business District – passes by classic New Orleans stops under live oaks along the neutral ground.

To learn more about streetcar routes visit https://www.norta.com/ride-with-us/system-overview and select streetcar as the service in the dropdown list.

Myron Zucker Travel Grant

It is vital for the ongoing success of the IEEE-IAS Petroleum and Chemical Industry Committee to attract young, new Electrical Engineering talent who would greatly benefit from attending but are prevented from participating due to financial restrictions. Recognizing this, the PCIC has arranged with the IEEE Industrial Applications Society to sponsor a certain number of co-op/Intern students, or students in their last year of their university program, and those who graduated within the last two years of the conference to attend the conference through the Myron Zucker Travel Grant.

The Myron Zucker Travel Grant, which is administered by the First Time Attendees (FTA) / Young Engineers Development Subcommittee (YEDS), provides the following benefits for the winning recipients:

- ✓ Up to $600 for travel allowance
- ✓ Free Hotel Registration
- ✓ Free Conference Registration as a Student
- ✓ One Free Tutorial

In order to be considered for the program the applicants shall:

- ✓ Be an engineering co-op/Intern student or have graduated less than 2 years ago from a recognized university, college or technical school.
- ✓ Be 21 years of age or older.
- ✓ Complete the application form, which is available on-line at; http://ieeepcic.com/operating-subcommittees/young-engineers/#Myron-Zucker-Student
- ✓ Submit, with the application form, a 200-word essay describing the importance of attending the IEEE-IAS-PCIC technical conference.
- ✓ Be an Intern or be involved as a co-op worker for a company with one or more IEEE members who are full IEEE-IAS-PCIC Conference registrants; one of whom will vouch for the applicant on the application form.
- ✓ Be a member, or a student member of IEEE.
- ✓ Become a member of the First Time Attendee (FTA) / Young Engineers Development Subcommittee (YEDS) by attending the IEEE-IAS-PCIC FTA/YEDS Orientation Breakfast on the Monday of the conference and IEEE-IAS-PCIC FTA/YEDS Luncheon on Tuesday of the conference.
- ✓ Attend the Monday and Wednesday Conference Luncheons.
- ✓ Attend the general program meeting, technical paper presentations and at least one sub-committee meeting.

Applicants who are presenting papers at the conference or otherwise require full registration are not eligible for the Myron Zucker Travel Grant as the program will only pay for student registrations.

The recipient employers must be willing to pay the applicant their normal salary while they are at the conference.

The selection of the Myron Zucker Travel Grant Program recipients will be selected based on the quality of the submitted essays.

Applications including the mandatory essays are required no later than July 31, 2023. The applicants will be informed of the outcome of their applications by August 15, 2023.

Professional Development Hours (PDH) and Continuing Education Units (CEU)

IEEE-IAS-PCIC offers PDH and CEU documentation, if required. Participation in the IEEE-IAS-PCIC Conference standards or technical meetings, presenting or attending conference papers, and tutorials may be used as evidence of ongoing training and education for renewal of professional registration. It is the responsibility of everyone to check and confirm requirements of their respective organizations The PDH and CEU certification processes are managed separately, completely independent of each other within IEEE-IAS-PCIC. CEUs are normally converted into PDHs (1 CEU = 10 PDHs).

Note: IEEE-IAS-PCIC applies separate charges for PDH and CEU certificates which is in addition to the Conference Registration and Tutorial fees.

Professional Development Hours (PDH)

IEEE-IAS-PCIC has a process for attendees to log and receive a PDH certificate for presenting or attending conference papers, participation in standards activities, and subcommittee meetings at the conference.

IEEE-IAS-PCIC charges a $40.00 fee for processing a PDH certificate. When an attendee registers for a PDH certificate, a form for logging your participation at events during the conference will be included with your registration packet. Instructions are provided on the form for submitting the completed worksheet.

IEEE Continuing Education Units (CEU)

IEEE Continuing Education Units (CEUs) are available for attending IEEE-IAS-PCIC tutorials. Attendees earn 0.4 CEU's for each tutorial attended provided the completed forms are returned to the presenter at the end of class.

IEEE CEU certificates are provided directly by IEEE for tutorial participation only and IEEE-IAS-PCIC charges a $20.00 fee per tutorial for processing a CEU certificates. The IEEE rules for CEU Certificates do not allow them to be issued for any other IEEE-IAS-PCIC participation (such as paper presentations and standards meetings). (See notes 3 and 4 below.)

IMPORTANT NOTES REGARDING PDHs AND CEUs

1. Pre-registration is mandatory to obtain these certificates. Please check the appropriate box on the registration form to receive the appropriate documentation with your registration package.
2. All PDH documentation/forms must be completed and submitted on-line by the ***attendee*** prior to October 14th, 2023. If this information is not received prior to that date, it will not be possible to issue a certificate. All PDH documentation and/or certificates will be emailed after the conference.
3. To obtain CEU Credits, attendees must be registered and attend the tutorial. A CEU evaluation form is provided to attendees at the start of each tutorial and the completed form must be returned to the presenter at the end of the tutorial or a CEU cannot be issued. The IEEE CEU process only allows for submittal of CEU forms at the end of each tutorial, no late or other means is permitted.
4. PDH and CEU credits are optional, and no action is required by an attendee if these credits are not required.

IEEE

IAS IEEE INDUSTRY APPLICATIONS SOCIETY

PCIC IEEE • IAS Petroleum and Chemical Industry Committee

IEEE-IAS-PCIC Schedule at a Glance

	Conference Breakfasts	Technical Sessions	Luncheons	Evening Events
Monday Sept. 11, 2023	7:00 a.m. – 8:00 a.m.	8:15 a.m. - 11:15 a.m.	11:45 a.m. - 1:30 p.m.	6:00 p.m. - 7:30 p.m.
	⑤ *Authors' Breakfast – Balcony I*	General Program I – Grand Ballroom	① IEEE-IAS-PCIC *Awards Luncheon –* *Sheraton Hotel* *Napoleon Room* *NOTE; The Sheraton Hotel is across the street from the Marriott*	② Conference Social – Grand Ballroom
	④ *FTA/YEDS PCIC Orientation Breakfast – Balcony L-M-N*	2:00 p.m. - 5:00 p.m.		5:00 p.m. - 6:00 p.m. and 7:30 p.m. – Closing
	① Attendees' Breakfast – Mardi Gras Ballroom (Salons)	General Program II – Salon A-B-C-D		Visit Vendors Hospitality Suites
		Electrochemical Session I – Galerie 1-2-3		
		Marine Session I – Balcony I-J-K		
		Production Session I – Galerie 4-5-6		
		Safety Session I – Salon E-F-G-H		
Tuesday Sept. 12, 2023	7:00 a.m. – 8:00 a.m.	8:15 a.m. - 11:15 a.m.	11:15 a.m. - 12:45 p.m.	5:15 p.m. – Closing
	⑤ *Authors' Breakfast – Balcony I*	Chemical Session I – Salon A-B-C-D	① Attendees Lunch – Bissonet/Carondelet	Visit Vendors Hospitality Suites
	① Women Professionals Breakfast – Balcony K	International Session I – Galerie 1-2-3	④ *Emeritus – Balcony J-K*	
		Midstream Session I – Acadia		
		Refining Session I – Salon E-F-G-H		
	① Attendees' Breakfast – Bissonet/Carondelet	Mining Session I – Galerie 4-5-6	③ *Abstract Selection – Balcony I*	
		12:45 p.m. - 5:15 p.m.	④ *FTA/YEDS – Balcony L-M-N*	
		IEEE-IAS-PCIC Subcommittee Meetings See Meeting Schedule		
Wednesday Sept. 13, 2023	7:00 a.m. – 8:00 a.m.	8:15 a.m. - 11:15 a.m.	11:45 a.m. - 1:30 p.m.	5:00 p.m. – Closing
	⑤ *Authors' Breakfast – Balcony I-J*	Chemical Session II – Acadia	① IEEE-IAS-PCIC Luncheon - Bissonet/Carondelet	Visit Vendors Hospitality Suites
		International Session II – Salon E-F-G-H		
		Midstream Session II – Salon A-B-C-D		
	① Attendees' Breakfast – Bissonet/Carondelet	Refining Session II – Galerie 1-2-3		
		Mining Session II – Galerie 4-5-6		
		2:00 p.m. - 5:15 p.m.		
		Electrochemical Session II – Salon A-B-C-D		
		Mining Session III – Galerie 4-5-6		
		Safety Session II – Acadia		
		Marine Session II – Salon E-F-G-H		
		Production Session II – Galerie 1-2-3		
Thursday Sept. 14, 2023	7:00 a.m. – 8:00 a.m.	8:00 a.m. - 5:00 p.m.	12:00 p.m. - 1:00 p.m.	*Notes* ①- Only Registered Attendees and Guests are permitted to attend breakfasts. Luncheons are limited to registered attendees only. ② Single day registrations do not include entry to the Conference Social ③ Committee Members Only ④ Must be pre-registered to Attend this event ⑤ Open to Authors & Specific IEEE-IAS-PCIC Committee Members Only ⑥ Open to Tutorial Attendees only
	⑥ Tutorial Presenters' Breakfast – *Studio 3*	③ *IEEE-IAS-PCIC Annual Business Meeting Salon E-F-G-H*	③ *IEEE-IAS-PCIC Executive Committee Lunch – Salon A-B-C*	
	⑥ Tutorial Attendees Breakfast – Studio 8-9-10	8:00 a.m. – 11:45 a.m.		
		Tutorial T1 – Galerie 1-2		
		Tutorial T2 – Galerie 3	12:00 p.m. – 12:45 p.m.	
		Tutorial T3 – Galerie 4-5	⑥ *Tutorial Luncheon–* Studio 8-9-10	
		Tutorial T4 – Galerie 6		
	③ IEEE-IAS-PCIC Executive Committee Breakfast – *Salon A-B-C*	1:15 p.m. - 5:00 p.m.		
		Tutorial T5 – Galerie 6		
		Tutorial T6 – Galerie 1-2		
		Tutorial T7 – Galerie 3		
		Tutorial T8 – Galerie 4-5		

2023 IEEE-IAS-PCIC Standards Working Group and Technical Subcommittee Meeting Schedule

The IEEE-IAS-PCIC Standards Subcommittee coordinates the activities of approximately 50 IEEE and other industry related standards. The individual Standard Committees establish a Working Group to meet, discuss and make the technical decisions necessary to form and maintain their standard. Many of these Working Groups arrange their meeting schedule a few days before or after the IEEE-IAS-PCIC annual conference.

The key to any standard is the quality and commitment of its members. Technical knowledge or expertise is just a part of what constitutes being a good member. Consistent participation, the ability to listen, to discuss, and to understand, along with a willingness to accept the ideas of others, is just as important.

The IEEE-IAS-PCIC encourages all attendees, especially new attendees, to increase their value from the IEEE-IAS-PCIC conference by actively participating in the various Working Group meetings. You are welcome to attend as a guest or better yet, to join as a member to influence the outcome of the next revision, or to work on the development of a completely new standard. Active participation provides a greater insight and understanding of the industry issues that are addressed in the development and updating of these Standards.

The IEEE-IAS-PCIC Technical Subcommittees solicit and review technical papers that support the exchange of electrical applications technology related to the petroleum and chemical industry. If you are not presently a member of one of these subcommittees, we also invite you to attend one of the Tuesday afternoon sessions that are of interest and to join as a member.

The individual meeting schedule is listed below. IEEE-IAS-PCIC Registered attendees are invited to attend any of these meetings, except for those restricted to specific groups or subcommittee members, which are indicated by an ***asterisk (*) and gray background***.

Please note: Rooms are subject to change. Please check the final program or PCIC2023 APP to confirm.

Thursday September 7, 2023		Room
8:00 a.m. – 5:00 p.m.	API RP 505 – Area Classification	Galerie 1
8:00 a.m. – 6:00 p.m.	API Standard 541 – Form-wound Squirrel Cage Induction Motors 375kW (500HP) and Larger	Galerie 2-3
Friday September 8, 2023		
8:00 a.m. – 3:00 p.m.	API RP 505 – Area Classification	Galerie 1
8:00 a.m. – 3:00 p.m.	API Standard 547 – General Purpose Form-wound Squirrel Cage Induction Motors – 185kW (250HP) through 2240kW (3000HP)	Galerie 2-3
3:00 p.m. – 5:00 p.m.	API SOEE (Subcommittee on Electrical Equipment)	Galerie 2-3
Saturday September 9, 2023		
9:00 a.m. – 12:30 p.m.	IEEE 2969 – Guide for Continuous Thermal Monitoring for SWGRs and MCCs up to 52kV	Balcony I
9:00 a.m. – 11:00 a.m.	IEEE 1814 – RP for Electrical System Design Techniques to Improve Electrical Safety	Balcony L-M-N
1:00 p.m. – 2:00 p.m.	IEEE 1068 - Standard for Repair and Rewinding of AC Electric Motors	Balcony J-K
1:00 p.m. – 2:00 p.m.	IEEE 1584.2 - Guide and Checklists for the Data Collection for Performing an Arc Flash Hazard Calculation Study	Balcony L-M-N
2:00 p.m. – 3:00 p.m.	IEEE Trace Heating Standards Update	Balcony I
2:00 p.m. – 4:00 p.m.	IEEE 841 & 841.1 - Standards for Severe-Duty, TEFC Squirrel Cage Induction Motors - up to 500HP	Balcony J-K
3:00 p.m. – 5:00 p.m.	IEEE 1683- Guide for Enhanced Safety MCCs	Balcony L-M-N
4:00 p.m. – 5:00 p.m.	IEEE 1017 – Electrical Submersible Pumps - Family of Standards	Balcony I
4:00 p.m. – 5:00 p.m.	IEEE 1349 – Guide for Electric Machines in Hazardous (Classified) Locations	Balcony J-K

Sunday September 10, 2023		Room
8:00 a.m. – 9:00 a.m.	*IEEE-IAS-PCIC Standards Working Group Officers Breakfast**	Galerie 4
8:00 a.m.– 9:00 a.m.	*Awards Nominating Subcommittee**	Galerie 2
9:00 a.m. – 12:00 p.m.	IEEE 1566 - Standard for Performance of Adjustable Speed AC Drives Rated 375 kW & Larger	Galerie 5-6
10:00 a.m.– 12:00 p.m.	Joint IT / Marketing Subcommittees Meeting	Galerie 2
1:00 p.m. – 4:00 p.m.	*Advisory & Awards Subcommittee Meeting**	Galerie 2
1:00 p.m. – 3:30 p.m.	*Eugene Fagan Fund*	Galerie 3
9:00 a.m. – 12:00 p.m.	*Facilities Planning and Finance Subcommittees joint meeting**	Galerie 3
3:00 p.m. – 4:00 p.m.	Vendor Hospitality Pre-event Meeting	Napoleon
1:00 p.m. – 3:00 p.m.	Codes & Regulations Subcommittee Meeting	Galerie 5-6
4:00 p.m.– 5:00 p.m.	Tutorials Subcommittee Meeting*	Galerie 4
4:00 p.m.– 5:00 p.m.	Dallas 2025 Local PCIC Committee Meeting*	Galerie 3
Monday September 11, 2023		
7:00 a.m.– 8:00 a.m.	*Authors' Breakfast**	Balcony I
7:00 a.m.– 8:15 a.m.	Attendees' Breakfast	Mardi Gras Ballroom (A-H)
7:00 a.m.– 8:00 a.m.	*IEEE-IAS-PCIC Orientation Breakfast – FTA / YEDS (Must pre-register to attend, see page 7)*	Balcony L-M-N
8:15 a.m.– 11:15 a.m.	General Technical Session I	Grand Ballroom
11:45 a.m. – 1:30 p.m.	IEEE-IAS-PCIC Awards Luncheon Note: This is being held at the Sheraton Hotel across the street from the Marriott	Napoleon Ballroom
2:00 p.m. – 5:00 p.m.	General Technical Session II	Salon A-B-C-D
2:00 p.m. – 5:00 p.m.	Electrochemical and Emerging Technology Technical Session I	Galerie 1-2-3
2:00 p.m. – 5:00 p.m.	Marine Industry Technical Session I	Balcony I-J-K
2:00 p.m. – 5:00 p.m.	Production Technical Session I	Galerie 4-5-6
2:00 p.m. – 5:00 p.m.	Safety Technical Session I	Salon E-F-G-H
6:00 p.m.– 7:30 p.m.	Conference Social	Grand Ballroom
Tuesday September 12, 2023		
7:00 a.m.– 8:00 a.m.	*Authors' Breakfast**	Balcony I
7:00 a.m.– 8:15 a.m.	*Women Professionals Breakfast*	Balcony K
7:00 a.m.– 8:15 a.m.	Attendees' Breakfast	Bissonet/Carondelet
8:15 a.m.– 11:15 a.m.	Chemical Technology Technical Session I	Salon A-B-C-D
8:15 a.m.– 11:15 a.m.	Midstream Technical Session I	Acadia
8:15 a.m.– 11:15 a.m.	International Technical Session I	Galerie 1-2-3
8:15 a.m.– 11:15 a.m.	Refining Technical Session I	Salon E-F-G-H
8:15 a.m.– 11:15 a.m.	Mining Industry Committee Technical Session I	Galerie 4-5-6
11:15 a.m. – 12:45 p.m.	IEEE-IAS-PCIC Attendees Lunch (*Grab & Go*)	Bissonet/Carondelet
11:15 a.m. – 12:45 p.m.	*Emeritus Lunch* (Emeritus Subcommittee members only)*	Balcony J-K
11:15 a.m. – 12:45 p.m.	*Abstract Selection Lunch**	Balcony I
11:15 a.m. – 12:45 p.m.	*FTA / YEDS Lunch* (Must pre-register to attend, see page 7)*	Balcony L-M-N
12:45 p.m. – 2:15 p.m.	Standards Subcommittee Meeting	Salon F-G-H

Tuesday September 12, 2023 (continued)		Room
2:15 p.m. – 3:45 p.m.	Chemical Subcommittee Meeting	Galerie 6
2:15 p.m. – 3:45 p.m.	Electrochemical and Emerging Technologies Subcommittee Meeting	Balcony L-M
2:15 p.m. – 3:45 p.m.	International Subcommittee Meeting	Balcony J-K
2:15 p.m. –3:45 p.m.	Marine Industry Meeting	Galerie 1
2:15 p.m. – 3:45 p.m.	Mining Industry Committee Meeting	Balcony I
2:15 p.m. – 3:45 p.m.	Production Subcommittee Meeting	Galerie 2
2:15 p.m. – 3:45 p.m.	Refining Subcommittee Meeting	Salon A-B-C
2:15 p.m. – 3:45 p.m.	Midstream Subcommittee Meeting	Salon F-G-H
3:45 p.m. – 5:15 p.m.	Safety Subcommittee Meeting	Salon F-G-H
Wednesday September 13, 2023		
7:00 a.m. – 8:00 a.m.	*Authors' Breakfast**	Balcony I-J
7:00 a.m. – 8:15 a.m.	Attendees' Breakfast	Bissonet/Carondelet
8:15 a.m. – 11:15 a.m.	Chemical Technology Technical Session II	Acadia
8:15 a.m. – 11:15 a.m.	International Technical Session II	Salon E-F-G-H
8:15 a.m. – 11:15 a.m.	Midstream Technical Session II	Salon A-B-C-D
8:15 a.m. – 11:15 a.m.	Mining Industry Committee Technical Session II	Galerie 4-5-6
8:15 a.m. – 11:15 a.m.	Refining Technical Session II	Galerie 1-2-3
11:45 a.m. – 1:30 p.m.	IEEE-IAS-PCIC Luncheon	Bissonet/Carondelet
2:00 p.m. – 5:00 p.m.	Electrochemical and Emerging Technologies Technical Session II	Salon A-B-C-D
2:00 p.m. – 5:00 p.m.	Marine Industry Technical Session II	Salon E-F-G-H
2:00 p.m. – 5:00 p.m.	Mining Industry Committee Technical Session III	Galerie 4-5-6
2:00 p.m. – 5:00 p.m.	Production Technical Session II	Galerie 1-2-3
2:00 p.m. – 5:00 p.m.	Safety Committee Session II	Acadia
5:15 p.m. – 7:15 p.m.	*IEEE-IAS-PCIC Executive Committee & Local Committee* Turnover Meeting*	Riverview 2
Thursday September 14, 2023		
7:00 a.m. – 8:00 a.m.	*IEEE-IAS-PCIC Executive Committee Breakfast**	Salon A-B-C
6:45 a.m. – 7:30 a.m.	*Tutorial Presenters' Breakfast*	Studio 3
8:00 a.m. – 9:00 a.m.	*IEEE-IAS-PCIC Annual Business Meeting**	Salon E-F-G-H
7:00 p.m. – 8:00 a.m.	*Tutorial Attendees Breakfast (Tutorial Attendees Only)*	*Studio 8-9-10*
8:00 a.m. – 11:45 a.m.	Tutorial 2023-1 – Review of the new NFPA 70B Standard	Galerie 1-2
8:00 a.m. – 11:45 a.m.	Tutorial 2023-2 – How to Work Safely with Direct Current	Galerie 3
8:00 a.m. – 11:45 a.m.	Tutorial 2023-3 – [Electrical] Engineering – The Energy Transition	Galerie 4-5
8:00 a.m. – 11:45 a.m.	Tutorial 2023-4 – Form Wound Insulation Systems: Designs, Applications, Failures Mechanisms and Preventive Measures	Galerie 6
9:00 a.m. – 5:00 p.m.	*IEEE-IAS-PCIC Executive Committee Meeting**	*Salon E-F-G-H*
12:00 p.m. – 1:00 p.m.	*IEEE-IAS-PCIC Executive Committee Lunch**	*Salon A-B-C*
12:00 p.m. – 1:00 p.m.	*Tutorial Luncheon* (Tutorial Attendees and Presenters Only)*	*Studio 8-9-10*

Thursday September 14, 2023 (continued)		Room
1:00 p.m.– 4:45 p.m.	Tutorial 2023-5 – IEEE Std 1349-2021 Electric Machines in Hazardous Locations – Worldwide Applications	Galerie 6
1:00 p.m.– 4:45 p.m.	Tutorial 2023-6 – Overcurrent Protection and Coordination Fundamentals	Galerie 1-2
1:00 p.m.– 4:45 p.m.	Tutorial 2023-7 – Integration of Solar PV in an industrial facility	Galerie 3
1:00 p.m.– 4:45 p.m..	Tutorial 2023-8 – Changes to the next NFPA 70E standard	Galerie 4-5

2023 IEEE-IAS-PCIC CONFERENCE TECHNICAL PROGRAM

The following is a list of technical papers that will be presented at the 2023 IEEE PCIC Conference. Any last-minute changes to the final program can be found on the PCIC 2023 New Orleans Conference website or the Conference App.
Note: All paper presentations take place at the New Orleans Marriott

GENERAL TECHNICAL SESSION I	
Monday, September 11, 2023 – 8:00 a.m. to 11:15 a.m.	Presiding: Kevin Peterson, PCIC Chair

PCIC-2023-01 Lithium-Ion BMS Concepts for Industrial UPS Applications and Questions We Should Be Asking

Roy Cosse'	Chevron - Retired
Donald Dunn	WS Nelson
Jebidiah Randall	Chevron
Robert Spiewak	McDermott

PCIC-2023-02 1584.1™- 2022 IEEE Guide for Scope and Deliverable for an Arc Flash Hazard Calculation Study. What is it and why do I Need it?

Daleep Mohla	DCM Electrical Consulting Services
Hugo (Albert) Marroquin	ETAP
Antony Parsons	Eaton
Jim Phillips	Brainfiller Inc.

PCIC-2023-03 A Comprehensive Time Series Forecasting for Motor Winding Temperatures

Merisha Bily	Shell
Leily Mohammadi	Shell
Dinara Khalmanova	Shell
Behrooz K-Hosseini	Avande Inc.

GENERAL TECHNICAL SESSION II	
Monday, September 11, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Paul Sullivan, PCIC Vice-Chair

PCIC-2023-04 Integrating Renewable Energy Behind-the-Meter in Upstream Oil and Gas Operations – Part II

Alonzo Alvarez Meola	Chevron
Zach McKinney	Chevron
Austin Howard	Chevron
Trevor Demayo	Chevron Technical Center
Alberto Prina	Algonquin (Liberty) Power
Carson Bates	NEI Electric Power Engineering

PCIC-2023-05 Analysis of a Partial Discharge Database to Determine When Stator Winding Insulation Maintenance is Needed

Sunny Gaidhu	Iris Power
Vicki Warren	Consultant
Greg Stone	Consultant
Christa Fitzpatrick	Parkland Refining

PCIC-2023-06 Evolution of Very High Power (>15 MW) Medium-Voltage Drives

Frank DeWinter	DeWinter Tech LLC
Vamsi Vijapurapu	Siemens Large Drives LLC
Jason Waggel	Siemens Large Drives LLC
Allen Smith	Air Products & Chemicals

ELECTROCHEMICAL AND EMERGING TECHNOLOGIES SESSION I	
Monday, September 11, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Greg Clement, Chair

PCIC-2023-07 Experience in Retrofilling of Mineral Oil Filled Transformers with Ester Liquids

Jinesh Malde	M&I Materials Inc.
Ed teNyenhuis	Hitachi Energy
Kylie Solie	Dynamo Group

PCIC-2023-08 Design and Use of Protection Class Rogowski Coil for Medium Voltage Switchgear

Sean Broderick	Quaise Energy
Charles Pestell	Powell Industries
Nallan Kumar	Schweitzer Engineering Laboratories, Inc.
Jim Payne	Phillips 66

PCIC-2023-09 Alternative Technology Trends and Returns of Experience of Compression Services Driven by Variable High-Speed Induction Motors Systems

Lionel Durantay	GE Power Conversion
Edouard Thibaut	TotalEnergies
Alexandre Kral	S2M SKF
Mustapha Bouchakour	GE Power Conversion

MARINE TECHNICAL SESSION I	
Monday, September 11, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Ethan Dong, Chair

PCIC-2023-10 Minimizing Rolling Element Bearing Failures in Electric Motors

Charles Yung	EASA
Austin Bonnett	Nidec Motor Corporation

PCIC-2023-11 Selecting Current Transformers and Relay Settings for Low Impedance Differential Relaying

Jeremy Smith	BP

PCIC-2023-12 Three Plane Motor Balancing: Do I Need It or Not

Ryan Queen	Siemens Large Drives LLC

PRODUCTION TECHNICAL SESSION I	
Monday, September 11, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Dane Martindale, Chair

PCIC-2023-13 Alternative Methods of Machine Online Condition Monitoring; Recommendations for Rotating Machines in Petroleum and Chemical Industry

Saeed Ul Haq	GE Power Conversion
Ashish Trivedi	Delom/Wajax
Steve Rochon	Suncor Energie
Madu TS Moorthy	GE Power Conversion

PCIC-2023-14 Cable Sizing Flowchart – a Tool to Help Reinforce the State of Engineering Workforce

Atul Arunkumar Shenoy	Burns & McDonnell
Carles Miller	Burns & McDonnell
Mark Thiele	The Okonite Company

PCIC-2023-15 Electrical Design in Petrochemical Facilities – Considerations for Reducing the Environmental Impact

Kris Sommerstad	Worley
Duane Leschert	Worley

SAFETY TECHNICAL SESSION I	
Monday, September 11, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Tony Parsons, Chair

PCIC-2023-16 Arc Flash Calculations: DGUV-I 203-077 vs. IEEE 1584

Jim Phillips	Brainfiller.com
Albert Marroquin	ETAP
Mike Frain	EAG, Ltd.
Jose Macias	ETAP

PCIC-2023-17 Improving Electrical Safety: The Next Level

Peter Pieters	SABIC
Linda Wright	SABIC

PCIC-2023-18 Comparison of Low-Voltage Arc-Resistant Equipment, Equipment with Isolation Barriers, and Equipment with Energy-Reducing Line-Side Isolation for Reduction of Arc Flash Hazards

Clinton Carne	Schneider Electric
Bill Brown	Schneider Electric
Hank Clark	Chevron
Michael McConnell	Schneider Electric

CHEMICAL TECHNICAL SESSION I	
Tuesday, September 12, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Jason Obermeyer, Chair

PCIC-2023-19 The Integral Role of Electric Motors in Achieving Sustainability

Chris Stockton	ABB
Robert McElveen	Parker Hannifin
Eric Chastain	INEOS

PCIC-2023-20 Consideration of Bus Protection on Gas-Insulated Switchgear, A Three-Phase Fault Case Study

Jixil Johnson	Chevron Phillips Chemical
Sam Chiu	Chevron Phillips Chemical
Imran Jangda	Chevron Phillips Chemical
Yves Zomebot	Meta Inc.

PCIC-2023-21 Stator Winding Insulation System Per IEC 60079-7, What, Why, How, Pros and Cons

Rajendra Mistry	Siemens - Retired
Bharat Mistry	GE - Retired
William Lawrence	FM Approvals

INTERNATIONAL TECHNICAL SESSION I	
Tuesday, September 12, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Allen Kachurowski, Chair

PCIC-2023-22 Modern IED Data Capture Configuration Challenges

Duane Leschert	Worley
Kris Sommerstad	Worley
Jacob Janzen	Shell Canada Ltd.
Craig Wester	GE Grid Solutions LLC

PCIC-2023-23 Challenges in Offshore Power Systems; Pushing HVAC Transmission to the Limit

Abdulwahab H. Alabdulwahab	Saudi Aramco
Rakan El-Mahayni	Saudi Aramco
Johnson Thomai	
Khalid Al-Qahtani	Saudi Aramco

PCIC-2023-24 Variable Shunt Reactor Control for Voltage Compensation for Submarine Cable at Offshore Facility

Abdel Rahman Khatib	Schweitzer Engineering Laboratories, Inc.
Saeed A. Al-Ghamdi	Saudi Aramco
Vinoj Kumar	McDermott Middle East Inc
Tim George Paul	Schweitzer Engineering Laboratories, Inc.

MIDSTREAM TECHNICAL SESSION I	
Tuesday, September 12, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Jonathan Havey, Chair

PCIC-2023-25 Management of Electric Motors Lifecycle at Oil & Gas Industrial Facilities

Rami Dabousi	Aramco
Hussain Balfaqih	Aramco
Yoshio Sekitani	Aramco
Khaled Alquahtani	Aramco

PCIC-2023-26 Testing and Commissioning of Integrated Protection and Control Solutions for Synchronous Motors

Danny Kliebert	Dow
Robert Muzoil	GE Grid

PCIC-2023-27 The Energy Prescription for the Petro-Chemical Industry

John Nelson	NEI Electric Power Engineering - Retired

MINING TECHNICAL SESSION I	
Tuesday, September 12, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Galina Mirzaeva, Immediate Past Chair

PCIC-2023-28 Predictive Motor Failure Prevention in Refinery Using Cloud Based Motor Current Signature Analysis

Mateusz Sadlon	Schneider Electric
Dr. Elena Frey	Schneider Electric
Isaiah Arnold	Schneider Electric

PCIC-2023-29 Development of a Novel Method for Continuous Neutral Grounding Resistor Monitoring

Kristopher R. Jensen	Littelfuse
Mark Pollock	Littelfuse

PCIC-2023-30 The Use of Advanced Catalytic Technology in a Methane Abatement Application

David TenEycke	Thermon
Ben C. Johnson	Thermon
Jarek Szynkarczuk	Thermon

REFINING TECHNICAL SESSION I	
Tuesday, September 12, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding Giovanni Parra: Chair

PCIC-2023-31 Fire and Blast Hazards in Petrochemical Facilities: Design Practices for Electrical Enclosures

Luca Magenes	Powell Electrical Systems Inc.
Thomas Mander	Baker Engineering and Risk consultants
Matthew Brightman	ExxonMobil

PCIC-2023-32 A Comparison of Standards, Practices, Guides, Specifications and Codes & Regulations: How to Maximize their Benefit in the Petrochemical Industry

Rick Mendler	Phillips 66 - Retired
Huda Abbas	Zachry Engineering Corporation
Paul Munroe	Lubrizol

PCIC-2023-33 Considerations for Making the Switch from Steam Turbines to Large Motor Drives for Ethylene

Marybeth McBain	Elliott Company
Tomas Sanchez	Elliott Company
Kalyan Malnedi	Elliott Company
Swaroop Das	Elliott Company

CHEMICAL TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Robbie McElveen Vice-Chair

PCIC-2023-34 Letting the Smoke Out – What to Do if Your Motor Fails.

Anthony Soellner	Siemens Large Drives, LLC
Nick Lang	Siemens Large Drives, LLC
Ian Bahnsen	Siemens Large Drives, LLC

PCIC-2023-35 Voltage Sensing and Measurement Using Ohmic Voltage Sensors: An Improved Approach to Applications Traditionally Requiring 2.4 to 38 kV Voltage Transformers

Mina Youssef	Eaton Corporation
Thomas Dionise	Eaton Corporation
Tilo Kubach	Kries-Energietechnik GmbH & Co. KG
Fernando Lugo	Shell Norco

PCIC-2023-36 Reduced Rated Adjustable Speed Drives Starting for High Power Applications

Daniel Petersen	Siemens Large Drives, LLC
Kevin Wissner	Siemens Large Drives, LLC
Frank DeWinter	DeWinter Tech LLC

INTERNATIONAL TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Rakan El-Mahayni, Vice-Chair

PCIC-2023-37 Challenges of Upgrading Gas Turbines from Simple Cycle to Combined Cycle for the Oil Field

Abdel Rahman Khatib	Schweitzer Engineering Laboratories, Inc.
Jeetest Desai	Saudi Aramco
Niannian Cai	Google LLC
Maaz Kazmi	Schweitzer Engineering Laboratories, Inc.

PCIC-2023-38 Investigation of Lightning and Grounding Installation Practices that Resulted in a Catastrophic Failure within an LNG Supplied Generation Plant

José M. Vallejo	Universal Star Energy Services
David Shipp	Capstone Power Systems Engineering

PCIC-2023-39 Load Commutated Inverter Modeling: Impacts and Solutions for an Isolated Power System

Asad Mohammad	Schweitzer Engineering Laboratories, Inc.
Benjamin Armstrong	Schweitzer Engineering Laboratories, Inc.
Abdel Rahman Khatib	Schweitzer Engineering Laboratories, Inc.
Scott Manson	Schweitzer Engineering Laboratories, Inc.

MIDSTREAM TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Manish Verma, Vice-Chair

PCIC-2023-40 To ASD or not to ASD: Are You Saving or Wasting Money?

Henk De Swardt	Timken Power System

PCIC-2023-41 VFD With Evaporative Liquid Cooling for Extreme Conditions in Oil and Gas Installations

Joable Andrade Alves	WEG
Jaime Mourente Miguel	Petrobras
Allan Diego Maffezzoli	WEG
Élvis Arnoldo Bugs Dörr	WEG

PCIC-2023-42 Concepts for Hybrid Electric-Gas Turbine Driven Compressors

Ranier Kurz	Solar Turbines
Jay Mistry	Solar Turbines

MINING TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Nicole Neuman, Vice-Chair

PCIC-2023-43 Design for Reliability (DFR) of DC-Link Capacitors for Multilevel Inverter Topologies Operating in Hostile Environments

Caio Eduardo Silva	Federal University of Uberlândia (UFU)
André Mendonça Alzamora	Federal University of Uberlândia (UFU)
Marco Túlio Alves Êvo	Federal University of São João del-Rei (UFSJ)
Hélder de Paula	Federal University of Uberlândia (UFU

PCIC-2023-44 High Performance Control of Power Converters in Mining Applications

Galina Mirzaeva	The University of New Castle
Douglas Carter	The University of New Castle

PCIC-2023-45 A Comparative Study of SVPD-PWM and Multiband Hysteresis Through Digital Implementation for a Type G Converter

Daniel Franco Leal — CEFET-MG
Marcelo Stopa — CEFET-MG
Alex-Sander Amável Luiz — CEFET-MG

REFINING TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 8:15 a.m. to 11:15 a.m.	Presiding: Patrick Loupe, Vice-Chair

PCIC-2023-46 Cyber Security Fundamentals – Not Just for Industrial Control Systems When Guidance and Direction are Available

Donald Dunn — WS Nelson
Eric Cosman — OIT Concepts, LLC

PCIC-2023-47 Turn-Around Risk Mitigation on Electrical Capital Projects

Sina Ghods — Fluor Corporation
Aaron Johnson — Marathon Petroleum Co.
Giovanni Parra — Fluor Corporation

PCIC-2023-48 Modernizing a Refinery Brushless Motor P&C System to Maximize Availability — A Case Study

Christine Crites — GE Grid Solutions
Ray Luna — GE Grid Solutions
Mourad Dib — PEMEX Deer Park
Michael L. Johnson — PEMEX Deer Park

ELECTROCHEMICAL AND EMERGING TECHNOLOGIES SESSION II	
Wednesday, September 13, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Richard Anderson, Vice-Chair

PCIC-2023-49 Critical Infrastructure Protection with Modern Protection Relays

Daniel Ransom — GE Grid Solutions

PCIC-2023-50 Expected Sources of Energies in Hazardous Spectrum and Their Control

Rehan Hasan — Pepperl+Fuchs Inc
Ryan Brownlee — Pepperl+Fuchs Inc
Rick Mendler — Phillips 66 (Retired)
Merwyn D'Souza — Worley

PCIC-2023-51 Enabling EPC 4.0 Using Integrated Power & Process Strategies

Shebin Jalal — Schneider Electric USA Inc
Pratik Shah — Fluor Corporation
Ganesh Cherukuri — Air Products

MARINE TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Karen Johnson, Vice-Chair

PCIC-2023-52 Fundamentals of Microgrid Dead Bus Arbitration

Fernando Calero — Schweitzer Engineering Laboratories, Inc.
Dirk Danninger — Schweitzer Engineering Laboratories, Inc.
Scott Manson — Schweitzer Engineering Laboratories, Inc.

PCIC-2023-53 Power Automation on a Floating Production System

Breno Freitas	Siemens
Scott Salter	Audubon Companies
Rodrigo Munoz	Siemens

PCIC-2023-54 Experience with On-line Ground Fault Protection in Medium Voltage Drive Systems

Stan Simms	EATON
Irving A. Gibbs	EATON
Thomas A. Farr	EATON
Gabriel Braga	PWP Lab

MINING TECHNICAL SESSION III	
Wednesday, September 13, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Nicole Neuman, Vice-Chair

PCIC-2023-55 Energy Efficiency using a VSD in a Mining Installation, Analysis, and Measured Results

Jose Simpson	ABB, USA
Navid Binesh	ABB, USA
Marco Rivera	ABB, Chile
Carlos Monroy	CMP,Chile

PCIC-2023-56 Evaluating a New Configuration for Medium-Voltage Drive Systems in a Mining Plant

André Alzamora	Federal University of Uberlândia (UFU)
Caio Eduardo Silva	Federal University of Uberlândia (UFU)
Marco Túlio Alves Êvo	Federal University of São João del-Rei (UFSJ)
Hélder de Paula	Federal University of Uberlândia (UFU)

PCIC-2023-57 Online Estimation of Stator Resistance in Induction Machines Using the Zero-Sequence Component of the Stator Current

Lorrane Prado Silva do Carmo	CEFET-MG
Marcelo Stopa	CEFET-MG
Allan Fagner Cupertino	CEFET-MG
Alex-Sander Amável Luiz	CEFET-MG

PRODUCTION TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Matthew Marchiano, Vice-Chair

PCIC-2023-58 Ushering in a New Era of Power Management for a Centenarian Oil Field

Pradeep Sangaraju	Schweitzer Engineering Labs
Nevil Herbert	Chevron Corporation
Dr. Abdel Rahman Khatib	Schweitzer Engineering Labs
Morne MacKenzie	Schweitzer Engineering Labs

PCIC-2023-59 A Mathematical Model to Simulate Vertical Motors and Calculate Reed Critical Frequency

Herendra Singh	GE Industrial Motors (a Wolong Company)
Ravi K. Musinana	GE Industrial Motors (a Wolong Company)
Sanjay Gupta	GE Industrial Motors (a Wolong Company)

PCIC-2023-60 Improving the Bottom Line: How Gas-Insulated Substations Can Offer Operational Cost Savings for Petrochemical Facilities

George Brashear	Beta Engineering
Vaibhav Singh	Hitachi Energy

SAFETY TECHNICAL SESSION II	
Wednesday, September 13, 2023 – 2:00 p.m. to 5:00 p.m.	Presiding: Jim Phillips, Vice-Chair

PCIC-2023-61 Safety Through Speed

John Kay	Consultant
Philip Allen	Grace Technologies, Inc
Eric Norton	Grace Technologies, Inc

PCIC-2023-62 Auditing Your Electrical Safety Management Program: A Method to Identify Key Gaps in Electrical Safety at Your Site

D. Ray Crow	DRC Consulting
Daleep Mohla	DCM Consulting

PCIC-2021-63 Evolving Design and Worker Safety Standards for DC Power

Lloyd Gordon	Specialized Electrical Safety Services, LLC
Eric Stromberg	Los Alamos National Laboratory
Jose Marrero	Southern Company

IEEE-IAS-PCIC

Annual Technical Conference
Orlando, Florida USA
September 15 – 18, 2024

The premier international forum for the exchange of electrical technology applications for the petroleum and chemical related industries

2024 IEEE-IAS-PCIC Conference – Call for Papers

The PCIC is the premier conference for practicing electrical engineers and other professionals that deals with electrical installations in the oil and gas industry. It is highly regarded for providing top-quality papers on various relevant subjects aimed at the all-important electrical industry.

Abstracts are being requested on topics related to the practical application of new electrical technology, standards, equipment, and systems of interest in the petroleum and chemical industries within the scope of the PCIC Technical Subcommittees. All papers must be **"PCIC Presentation First"** as original works that have not been previously presented. Papers will be subject to thorough technical and peer reviews. Papers accepted will be published in the conference record. Papers deemed appropriate may be directed to the IEEE Transactions on Industry Applications or the IEEE Industry Applications Magazine for additional publication.

The following information must be included with all paper proposals:

1. Complete all pertinent information on the abstract collection webpage.
2. A maximum of five (5) authors per paper with four (4) or less authors preferred.
3. Post your abstract using unformatted text. Copying and pasting bullets or other special formatting may result in a less than ideal presentation.
4. Important Notice: An acknowledgement will be sent to confirm receipt of all proposals from this system. If you do not receive this communication, contact Paul Sullivan, PCIC Vice-Chair, Paul.B.Sullivan@ieee.org.

Submission Deadlines:

- Authors submit abstracts to Technical Program Chair via the PCIC website ..... August 25, 2023
- PCIC notifies authors of acceptance status ..... October 15, 2023
- Authors submit finished paper for peer review ..... February 3, 2024
- Authors submit final manuscripts for final check ..... April 7, 2024

For additional key dates for authors, see the Authors Resources page on the PCIC website.

Abstract interest polling by registered conference attendees this year will be performed prior to the New Orleans Conference via an online platform. After the interest levels are compiled, the General Subcommittee will select seven papers for the General program. The remaining abstracts will then be sent to the individual technical subcommittees based on the authors request for committee and topic prior to 2:00 p.m. on Tuesday, September 12, 2023. Prospective authors are invited to speak to their abstract at their assigned Technical Subcommittee's meeting on Tuesday afternoon.

If the paper is accepted, at least one author must register & attend the conference in 2024 to present the paper. Other co-authors attending must also register for the conference.

To Submit a paper abstract, go to: https://ieeepcic.com/conference/abstract-submission-form/.

For more information, visit the IEEE/IAS-PCIC website at https://ieeepcic.com/.

2024 IEEE-IAS-PCIC Conference Call for Papers (Continued)

Below are the topics of specific interest of the different PCIC subcommittees and the Mining Industry Committee.

Chemical Subcommittee
Scope: Technical papers related to the application, installation and/or operational experiences as they relate to electrical technology for the general chemical industry.

Electrochemical and Emerging Technologies Subcommittee
Scope: Technical papers that grow and preserve the knowledge base used in the electrolytic production of metals and chemicals and papers that introduce or further explore emerging technologies including LNG, renewable energy technologies, oil sands & shale; methanol, ethanol, & hydrogen, and subsea technologies.

General Program Subcommittee
Scope: Technical papers of broad interest to the petroleum and chemical industry.

International Subcommittee
Scope: Technical papers related to petroleum and chemical industry applications outside of North America.

Marine Industry Subcommittee
Scope: Technical papers related to ships, barges, and other floating structures used in the petrochemical industry.

Midstream Subcommittee
Scope: Technical papers related to pipelines, pumping stations, and terminals as well as other means of transporting oil and gas.

Mining Industry Committee
Scope: Technical papers related to electrical applications and operations in mines.

Production Subcommittee
Scope: Technical papers related to onshore and offshore, fixed and floating drilling, well head, and production facilities.

Refining Subcommittee
Scope: Technical papers related to petroleum refineries and petrochemical facilities.

Safety Subcommittee
Scope: Technical papers related to all aspects of electrical safety affecting the petrochemical industry.

For Additional Information see Author Resources
https://ieeepcic.com/conference/author-resources/

IEEE IAS IEEE INDUSTRY APPLICATIONS SOCIETY PCIC IEEE • IAS Petroleum and Chemical Industry Committee

2023 IEEE-IAS-PCIC Conference Tutorials

The IEEE-IAS-PCIC 2023 Tutorial Subcommittee is sponsoring eight half-day tutorials on Thursday, September 14, 2023. For those who apply for a Continuing Education Certificate evaluation, forms will be distributed prior to the start of each tutorial. The completed evaluation forms must be returned to the presenter at the end of each the session (see page 13 for more details). Included in your tutorial registration fee are breakfast from 7:00 a.m. to 8:00 a.m., lunch from 12:00 p.m. to 1:00 p.m. and light refreshments during breaks, these are an excellent networking opportunity to meet the other tutorial attendees.

First time attendees registered for the entire conference are eligible to attend one tutorial for the reduced rate of $50.00. A second tutorial can be attended by paying full registration cost. This must be indicated on the registration form and completed prior to September 1, 2023, or the full tutorial fee will apply.

NOTE: Pre-registration for tutorials is necessary as it allows the presenter to prepare sufficient handout materials. If space permits, conference attendees not pre-registered can attend tutorials by paying full price at the registration desk (handout material may be subject to availability).

Tutorial PCIC 2023-1: Review of the new NFPA 70B Standard

Thursday, September 14, 2023 8:00 a.m. – 11:45 a.m.

Abstract: This tutorial is a review of the new NFPA 70B Standard for Electrical Equipment Maintenance. 70B was previously a recommended practice that had many good recommendations. Since most arc flashes may occur due to lack of maintenance NFPA 70E has been specifying that conditions of maintenance need to be considered in the risk assessments. This has exposed a lack of understanding regarding what the minimum requirements for maintenance are for facilities that want to be safe. NFPA and the 70B technical committee has responded to the needs to address this gap by changing the recommended practice to a standard. This tutorial should provide a good introduction to the requirements to help organizations develop their electrical maintenance plans.

Instructor(s):

Karl Cunningham has 40 years global experience in project design, operations, maintenance, and safety. He simultaneously served as an apprentice program coordinator, evaluator, and instructor for 14 years. Karl is on Code Making Panel 12 of NFPA 70 National Electrical Code and the Technical Committees of NFPA 70B Standard for Electrical Equipment Maintenance and NFPA 70E Electrical Workplace Safety. Karl has previously presented at IEEE ESW, IEEE PPIC, published in American Society of Engineering Education, and in the International Aluminium Industry journal. Karl has been the responsible engineer for the electrical safety programs for 26 years of his career; all without having any electrically related injuries. He has managed electrical safety audits for facilities throughout the USA, Iceland, China, Spain, Saudi Arabia, Mexico, Norway, and Canada involving commercial and heavy industrial facilities in mining & metals, refinery, pulp & paper, auto, food processing, hospitality, seaway, and power generation facilities.

Michael Kovacic is an Occupational Safety Consultant with 30 years experience. He has managed teams for electrical safety assessments, is involved in development of database applications for the industry and participates in flash hazard risk assessment projects for all types and sizes of installations. Mr. Kovacic has experience in incident investigation and legal assistance and has authored detailed electrical safety and LOTO programs for major corporations, private and governmental facilities worldwide. His written programs include globally applicable documents that reconcile the differences between NFPA 70E and EN 50110 and as well as the ANSI and IEC differences. He is a member of IAEI, IEEE, NFPA and a voting member on the ASTM F-18 Committee. Michael is recognized in the OSHA Subpart S preamble, and has published in Occupational Hazards Magazine and ASSE Safely Made, as well as an editor for Illustrated Guide to Electrical Safety, 5th and 6th editions, among other publications. He has been a past presenter at IEEE Electrical Safety Workshops and is a regular presenter at the United Steelworkers annual safety workshop.

Tutorial PCIC 2023-2: How to Work Safely with Direct Current
Thursday, September 14, 2023 8:00 a.m. – 11:45 a.m.

Abstract: The design and safe work practice standards for evolving technologies using Direct Current (DC) are evolving rapidly, including for batteries, capacitors, and supercapacitors used in battery energy storage systems (BESS), electric transportation, backup power for wind generators, variable frequency drives (VFD), high power rectification/inversion for DC power transmission, and more. This tutorial will first review the rapidly evolving design standards for batteries, supercapacitors, and capacitors and the design standards for systems that they are used in, such as BESSs, VFDs, electric vehicles, and invertor/rectifiers. Taking into account these engineering controls, the tutorial will teach how to properly implement safe work practices for all applications of DC arc flash, and will include risk assessments for DC shock, DC arc flash, and acoustic hazards. Sample risk assessments will be presented.

Instructor(s):

Lloyd B. Gordon, PhD in Electrical Engineering, Texas Tech University, 1981. He performed experimental research for DOE, and at Auburn University and University of Texas in topics of pulsed power engineering, space power, plasma physics and dielectric engineering from 1981 to 1998. From 1998 to 2021 he worked at Los Alamos National Laboratory (DOE) managing and publishing in electrical safety. Dr. Gordon has 25 years of experience in experimental high-energy research, 45 years of experience as an educator and trainer, and has focused his efforts on R&D electrical safety over the past 25 years. He has lectured to and trained over 100,000 scientists and engineers throughout the DOE, DOD, NASA, and industry over the past 35 years in R&D Electrical Safety. He serves on the NFPA 70E, Chapter 3 task group and is a member of the IEEE 1584, and several IEEE working groups on battery safety and risk assessment. Dr. Gordon is a senior life member of IEEE and has been a member for 50 years.

Kyle Carr graduated from the U. S. Naval Academy in 1983 with a BS degree in Physics. He has been an electrical engineer for the Los Alamos National Laboratory (LANL) of Los Alamos NM since 1998. He served on the LANL Electrical Safety Committee as part of the Authority Having Jurisdiction (AHJ) for NFPA 70E and NFPA 70. He is a member of the IEEE 1584.1 working group and a member of the Electrical Safety Task Group for the U.S. Department of Energy Facility Contractor's Group (EFCOG). He is a registered professional engineer in the state of New Mexico. Kyle is a senior member of IEEE.

Tutorial PCIC 2023-3: [Electrical] Engineering – The Energy Transition
Thursday, September 14, 2023 8:00 a.m. – 11:45 a.m.

Abstract: There is an increased focus on the environmental impact of the energy the world uses. While the preferred approach to mitigating environmental impact is being debated on a national and global level, two themes have emerged: 1) transitioning some energy consumers from hydrocarbons to electricity and lowering the emissions of the electrical generation, and 2) substitution of traditional hydrocarbon fuels with alternative fuels or technologies that have a lower environmental impact. Numerous technologies and solutions have been proposed and are progressing through the research stage, pilot projects, and scale-up.

This tutorial provides a technical, electrically focused introduction across four general areas: changes within existing production and petrochemical facilities, demand and end use changes, new adjacent businesses, and electricity grid impacts.

Technologies covered include oil & gas production electrification, fuel gas replacement, gas and steam turbine driver conversion, carbon capture utilization and storage, hydrogen, sustainable aviation fuel, electric vehicles, transmission congestion, energy storage, and renewable power generation.

Instructor(s):

Mark A. Metzdorf is currently the Lead Electrical Technical Authority at bp, based in Chicago. In this role he provides technical oversight on safety and operating risk aspects within the electrical discipline across bp's global operations. Previously he was in a central engineering team within the Downstream business where he provided electrical power system technical support to operating sites. Prior to joining bp, Mark was an electrical engineer at the LyondellBasell chemicals plant in Channelview, TX supporting maintenance, reliability, and projects on the electrical distribution system. Mark has authored three previous papers at PCIC and ESW and, has previously presented a tutorial at PCIC, He contributed to the development of an Energy Institute publication on arc flash risk. He is the Chair of the API Subcommittee on

Electrical Equipment and represents bp on the API Motors Task Force. Mark holds a BSEE degree from Purdue University and is a registered professional engineer in the state of Texas.

Douglas BeCraft graduated from Vanderbilt University in 2008 with a BSEE degree. He currently works for bp as a Senior Electrical Engineer in the Innovation & Engineering group and is based in Chicago, IL. In this role, he provides electrical power system technical support to bp's global project portfolio and operating assets, including both hydrocarbon and new energy businesses. He has previously held roles as Asset Maintenance Leader, Instrumentation and Electrical Engineering Superintendent, Electrical Engineering Superintendent, and Electrical Engineer at the bp Whiting, IN refinery. Prior to joining bp in 2012, he was employed at Marathon Petroleum Company working in maintenance and major capital project electrical engineering roles at multiple US refineries. Doug is an IEEE Senior Member and has been a co-author and co-presenter on a previous PCIC paper.

Jeremy D. Smith is a Senior Electrical Engineer in the bp Innovation & Engineering group where he performs conceptual design, project oversight, and drafts standards supporting projects across bp's portfolio, including oil and gas production, oil refineries, onshore and offshore wind generation, and electric vehicle charging facilities. He was previously a Power Systems Engineer with GE Engineering Services focusing on power system analysis and protective relaying, and has worked in maintenance, reliability, and project roles in several refineries. He is a registered Professional Engineer in Ohio and holds one patent. Currently Jeremy is the Chair of IEEE P1458 and is also a member of API, IEEE, and IOGP standard working groups. He has also published PCIC papers. He is a past Technical Program Chair of the IEEE IAS Electrical Safety Workshop.

Ryan Rockwell is a Senior Electrical Engineer in the bp Offshore Wind Engineering organization. He is currently a multi-disciplinary Engineering Lead performing NOJV technical oversight of bp's 50% stake in the Empire and Beacon Offshore Wind projects in the US Northeast. In his prior role with bp, Ryan was in the central engineering team providing electrical power system technical support to bp's global project portfolio and operating assets with a focus on bp's entry into new energy businesses. Throughout his career Ryan has also held electrical power system focused roles in bp US Pipelines, GE Grid Solutions, and Marathon Petroleum Refining spanning operations, maintenance, reliability, construction, and projects. Ryan holds BSEE and BS Computer Science & Engineering degrees from the University of Toledo and is a Chartered Engineer with the IET.

Tutorial PCIC 2023-4: Form Wound Insulation Systems: Designs, Applications, Failures Mechanisms and Preventive Measures

Thursday, September 14, 2023. 8:00 a.m. – 11:45 a.m.

Abstract: Instructors will cover every aspect of the form wound insulation system of large electric rotating machines being used in petroleum and chemical industry. Typically, the Form Wound system is being used for the motors above 1000VAC to 13,800VAC either in synchronous or asynchronous machines. The tutorial will discuss on the types of design and applications of insulation systems to cover turn, ground insulation and corona suppressing materials etc. along with VPI (vacuum pressure impregnation). The qualification process along with in process and final tests during manufacturing will be covered following applicable industry standards. The various case scenarios of failure mechanisms at sites will be presented along with preventive measures in order to increase the life of system will be discussed. This material may help to users, engineering companies and many others in understanding Form Wound insulation system.

Instructor(s):

Bharat Mistry received his Bachelor of Engineering degree from South Gujarat University, Surat, India in 1972. Since 1988, he has been a registered Professional Engineer in Ontario, Canada. Presently retired from General Electric Company from 2017. He has served industries for more than 35 years in the area of regulatory compliance engineering, design and application of large electric rotating machines for hazardous/non-hazardous locations. Published many IEEE/IAS/PCIC papers and Tutorials. He serves on many technical standards such as IEEE 1349, IEEE 303, CANENA, IEC 60079 and C22.2 No. 100.

Tutorial PCIC 2023-5: IEEE Std 1349-2021 Electric Machines in Hazardous Locations – Worldwide Applications

Thursday, September 14, 2023 1:00 p.m. – 4:45 p.m.

Abstract: This tutorial presents an overview of IEEE Std 1349-2021, a Guide that assists individuals, organizations, and suppliers with the application of electric machines in Zone 2 and Class I, Division 2 locations, where flammable gases and vapors may occasionally be present. AC generators and motors, including synchronous, induction, and permanent magnet, with ratings 0.18 kW (1/4 hp) and larger are covered. Primary emphasis is on the use of open or non explosionproof or non flameproof enclosed motors as covered in the National Electrical Code® (NEC®) (NFPA 70) and the Canadian Electrical Code® (CE Code®) for fixed speed and adjustable speed drive (ASD) applications. Precautions against excessive surface temperatures and sparking are included. To mitigate hot surface temperatures and sparking, this document provides guidance for selecting, operating, and maintaining motors. Example applications, including the new Discharge Energy Calculator, will be presented.

Instructor(s):

Lorraine K. Padden is Co-founder and President of Padden Engineering, LLC, Katy, TX. Ms. Padden provides electrical engineering services in power systems. She received a BSEE degree from SDSM&T and worked for Shell. She is Chair of IEEE Std 3004.8 (Motor Protection) and Chair/Co-Chair of IEEE Std 1349 for 2001, 2011, and 2021 editions and contributes to IEEE and API standards. Ms. Padden is a recipient of the IEEE Standards Medallion and PCIC David C. Azbill awards and is a Professional Engineer in CA, TX, and WA.

Bharat Mistry graduated with Bachelor of Engineering degree from South Gujarat University, Surat, India in 1972. He is a Professional Engineer in Ontario, Canada and retired from General Electric. He served industries over 35 years in regulatory compliance engineering, design and application of large electric rotating machines for hazardous and non-hazardous locations. He serves on technical standards including ICHL, IEEE 1349, IEEE 303, CANENA and IEC 60079, C22.2 No. 100.

Bill Lockley received the Bachelor's Degree in electrical engineering from the University of Sydney, Sydney, Australia, in 1966. He has worked for utility, defense, manufacturing, and service organizations. In 1988, he started Lockley Engineering, Calgary, AB, Canada, a consulting business. He is a Past Chair of the PCIC International and Transportation Subcommittees and contributes to IEEE and API standards. He is a Professional Engineer in the Province of Alberta, Canada.

Chris Heron received his BSEE from the University of New Brunswick, Canada in 1989. He has designed machines and systems for industrial and specialty applications for 32 years. Now he works for Integrated Power Services' Renewables Division as Regional Engineer. He contributes to standards (IEEE, IEC) related to the specification, design, manufacture, protection, refurbishment, and testing of ac and dc electrical machines and is currently Vice Chair of the IEEE-IAS Pulp and Paper Committee.

Tutorial PCIC 2023-6: Overcurrent Protection and Coordination Fundamentals

Thursday, September 14, 2023 1:00 p.m. – 4:45 p.m.

Abstract: This tutorial will focus on key overcurrent protection topics found in industrial distribution systems. Among the topics that will be covered are Time-Current-Curve (TCC) fundamentals, fuse-fuse coordination, fuse-relay coordination, relay-relay coordination, transformer overcurrent elements for primary to secondary device coordination, and transformer phase-shift considerations. Attendees will also be presented with (and perform) fault current and cold/hot load calculation methods used to assist in the coordination of device pairs. To further aid in the attendees understanding, specific characteristics of common overcurrent protective devices and instruments (e.g., CT's) will be examined.

Instructor(s):

Peter C. Pietramala, P.Eng, MScEE has 35 years in the power systems industry in a variety of roles including heavy industrial and utility design and analysis. He currently specializes in dynamic simulation, short circuit, load flow, and transient switching analysis as well as protection application at both the distribution and transmission levels.

He also has a key lead role in Eaton as a trainer of numerous engineering training courses such as overcurrent protection, overvoltage protection, power systems analysis, and CYME analysis software. The last several years he has taught engineering principles to hundreds of engineers throughout North America and has authored IEEE technical papers and lead IEEE tutorials in past conferences (PCIC and ESTMP).

Scott P Basinger, P.Eng has worked in the electrical industry for 26 years supporting industrial and commercial power systems. He currently works as a Senior Application Engineer with Eaton Corporation supporting consulting engineers and complex power system projects in Alberta, Canada. Scott is an active Senior Member of the IEEE as an author, panel discussion participant, reviewer, and tutorial instructor. He is currently serving as Vice Chair for the IEEE IAS ESTMP 2024 Conference., Past IEEE Tutorials Scott has presented include Overcurrent Protection, and Application of Medium Voltage Breakers.

Tutorial PCIC 2023-7: Integration of Solar PV in an industrial facility
Thursday, September 14, 2023 1:00 p.m. – 4:45 p.m.

Abstract: This tutorial provides an overview of considerations for adding solar PV to an industrial facility. After the overview, the presenters will dive into the details of solar PV designs including pitfalls and best practices. After attending the tutorial, the attendee should understand favorable and unfavorable locations to add PV as well as the areas to spend extra effort based on the attendee's site-specific factors. The content is not limited to electrical topics but also includes civil and structural considerations since they play a significant role. In addition, the entire project lifecycle will be discussed, however, the primary focus is on design.

Instructor(s):
Carson Bates received his BSc in engineering with electrical specialty in 2010 and PhD in 2018 from Colorado School of Mines. He works at NEI, where he performs HV and MV electric power engineering for the utility, petrochemical, and renewable industries. He serves in PCIC as IT Chair, IAS I&CPS as PSP Chair, PES Insulated Conductors and PES Renewable Systems Integration Coordinating.

Tyler Mori received his BSc in engineering with electrical specialty from Colorado School of Mines. He possesses 10 years of experience in the renewable industry focused on solar PV design and is an expert in combining multidiscipline engineering judgement, strategic customer management, and commercial coordination to yield excellence through design. He has comprehensive multi-disciplinary knowledge of engineering design applicable to the development and construction of wind, solar, BESS, and T&D projects. He works as a technical director at NEI and is involved in many industry groups and conferences.

Tutorial PCIC 2023-8: Changes to the next NFPA 70E standard
Thursday, September 14, 2023 1:00 p.m. – 4:45 p.m.

Abstract: OSHA considers NFPA 70E an industry consensus standard. Safety practices and mitigation techniques included in NFPA 70E are used industry wide to reduce the risk of electrical injury to employees in the workplace. Over the past two years, the 45+ member NFPA 70E Technical Committee has been reviewing and acting on proposed changes by the public for the 2024 edition of the Standard. Presented by members of the NFPA 70E Technical Committee, this tutorial will provide the rationale of key changes anticipated for the 2024 edition of NFPA 70E.

Instructor(s):
Louis Barrios is a Principal Technical Expert in electrical engineering for Shell. He has been with the company for 34 years. Louis received BS and MS degrees in electrical engineering in 1987 and 1989, respectively, from Louisiana Tech University. After graduation he joined Shell at the Norco Manufacturing Complex outside of New Orleans and has held various technical and leadership positions in electrical engineering. He is currently Shell's Electrical Global Discipline Lead and leads Shell's global electrical safety team. Louis has been a member of the NFPA 70E committee for 22 years representing API, and has served as the Technical Committee Chair for the past two revision cycles (6 years). Louis is also a principal member of NEC Code Panel 1, member of the API RP 500/505 TF on electrical area

classification, past chair of the API Subcommittee on Electrical Equipment, and past Chair of the IEEE Petroleum and Chemical Industry Committee (PCIC).

Paul Dobrowsky, Principal of Innovative Technology Services, has over 45 years of experience in electrical and occupational safety, machinery and equipment standards, electrical construction, maintenance, program and policy development, instructing, and over 15 years enforcing electrical codes and standards. He is a Licensed Master Electrician, IAEI Certified Electrical Inspector, and a certified OSHA Construction Safety and Health Instructor. He currently teaches NFPA training seminars on NFPA 70E, NFPA 79 and the NEC. He has been a member of the NFPA 70E Committee since 2003.

2024 IEEE-IAS-PCIC Conference – Call for Tutorial Proposals

The Tutorial Subcommittee strives to offer a tutorial slate that will appeal to a wide cross section of PCIC attendees depending upon their experience, discipline, and responsibilities. All tutorials are presented by experts and are intended to help experienced professionals update or refresh their knowledge base and to accelerate development of those new to the profession. The tutorial program is intended to provide all PCIC attendees with an opportunity to expand their PCIC experience, providing even more value from the conference because of their participation the tutorials.

Any individual (s) interested in presenting a tutorial of topics relevant to PCIC attendees, is encouraged to fill out the form below. PCIC guidelines for non-commercialism available at the PCIC website are required to be followed for all presentations and handout materials. Due to limited time available for tutorials, each tutorial shall be of four hours duration.

The Lead Instructor is responsible for submitting the completed form electronically to the Tutorial Subcommittee Chair.
All tutorial instructors are required to register for the PCIC Conference

Schedule:

- Lead Instructors submit proposals to Tutorial SC Chair ..... November 1, 2023
- Tutorial SC Chair notifies lead instructor of tutorial status ..... February 1 ,2024
- Lead Instructor submits finished tutorial for non-commercialism check ..... August 1, 2024

Simple Steps to follow to submit a tutorial proposal

- Or complete the 2024 PCIC Tutorial Proposal form below, and email it to;
  - D Ray Crow – Chair, draycrow@aol.com,
    - cc. Daleep Mohla Vice Chair d.c.mohla@ieee.org, and Neeraj Bhatia- Secretary nbhatia@bechtel.com
- Or go to http://ieeepcic.com/operating-subcommittees/tutorials and complete the on-line form 2024 Tutorial Proposal

Tutorial Proposal Form – for PCIC 2024

Please see notes below before submitting - Submit Biography of each instructor with the proposal.

1.) Title of Tutorial: *(maximum of 100 characters including spaces)*

2.) Abstract *(maximum of 1000 characters including spaces)*

3.) Lead Instructor: *(see notes 3, 4 below)*

Name: _____ Title: _____
Company: _____ Telephone: _____
Address: _____
_____
City/State/Zip: _____
Email: _____

4.) Other Instructor(s) Name & Company affiliation: *(see note 5 below)*

_____
_____

5.) Send To: Daleep Mohla – Chair, PCIC Tutorial Subcommittee
DCM Electrical Consulting Services, Inc.
Email to: d.c.mohla@ieee.org, cc: Draycrow@aol.com; nbhatia@bechtel.com

Notes:

1) The title should accurately reflect material to be addressed in the tutorial. It should be limited to a maximum 100 Characters with spacing.

2) The abstract limited to 1000 characters with spaces should summarize material to be covered in the tutorial and should be in complete sentences (no bulleted list). Please note that tabs, fonts and bullets may be lost in formatting. Only the use of spaces and carriage returns will be retained.

3) Lead Instructor is responsible for all submissions and serves as the main contact for all tutorial related correspondence. He or she is responsible to ensure that the presentation and handout material (printed or electronic) is free from any commercialism to comply with PCIC policies. This includes logos and screen savers used in the slides used during presentation.

4) The Lead Instructor shall submit Biographies of all the instructors. The biography of the instructors should be limited to one thousand characters with spaces. If there are more than two instructors, the total characters with spaces for all instructors should not exceed two thousand. Please note that tabs, fonts, and bullets may be lost in formatting. Only the use of spaces and carriage returns will be retained.

5) addition to the paper copies. Power point slides should be printed a maximum of two slides per page for clarity

6) The number of instructors for the tutorial should be a minimum of two and a maximum of four (including the lead instructor) with not more than two from any one company or organization.

IEEE IAS IEEE INDUSTRY APPLICATIONS SOCIETY PCIC IEEE • IAS Petroleum and Chemical Industry Committee

Guest Tour Information

Guest tours are offered by the IEEE-IAS-PCIC Local Committee on Sunday September 10, 2023, through Wednesday September 13, 2023, of the conference. The tours allow the guest to experience local areas of interest. Tour tickets are non-refundable – unless cancelled but may be exchanged or sold between guests. Exchange information will be made available in the Guest Hospitality Suite.

Tours will operate rain or shine.

Those registered for tours will meet at the Guest Hospitality Suite in the New Orleans Marriott. It is recommended guests arrive approximately 15 minutes to check in with your guide.

*Please note PCIC reserves the right to cancel tours if registrations are less than the minimum capacity levels required.

Sunday, September 10, 2023

Tour 1 – Large Airboat Adventures Swamp Tour (54 max)	9:00 AM – 12:30 PM	$92.00

Travel at speeds up to 40 mph across the bayou in an airboat then slow down for unforgettable photo opportunities and fascinating information from the local captains who grew up near the fishing village of Lafitte, named for the French pirate Jean Lafitte. He and his band of buccaneers used the labyrinth between New Orleans and the Gulf to operate a smuggling empire. These agile airboats take you deep into the marsh where traditional boats don't dare to go. Once deep in the wetlands, you will be in the prime location for viewing the fragile beauty and plentiful wildlife of Sportsman's Paradise.

What's included: Private round-trip transportation from New Orleans, tour guide to meet group in lobby of hotel and provide commentary enroute, 1.5-hour tour in 15-27 passenger airboat, live albino alligator exhibit, ear protection provided for use during tour, and all gratuities for tour guide, driver and swamp boat captain.

What's excluded: Snacks are available for purchase in the gift shop.

Tour 2 – National WWII Museum with roundtrip transfers (100 max)	9:30 AM – 2:30 PM	$58.50

New Orleans' #1 attraction covers the epic and global scale of the war that changed the world. Designated by Congress as the official WWII museum of the United States, The National WWII Museum is located in downtown New Orleans on a six-acre campus, where five soaring pavilions house historical exhibits, on-site restoration work, a period dinner theater and restaurants.

The National WWII Museum's exhibits are housed in four buildings, each arranged around central themes of the war. They cover the epic and global scale of the war that changed the world, in a voice that is intimate and personal. Interactive features, oral histories, and personal vignettes add a meaningful perspective. Exhibits not only highlight the role of world leaders, but also the everyday men and women who found the strength and courage to accomplish the extraordinary.

Beyond All Boundaries, narrated and produced by Tom Hanks exclusively for The Museum, is a unique and powerful 4-D cinematic experience available nowhere else in the world. The 48-minute production plunges viewers into the 20th century's most titanic struggle and tells the tale of the Greatest Generation's journey from Pearl Harbor into the fire of epic battles to America's final victory in the words of the veterans themselves.

What's included: Entry fee, admission to National WWII Museum campus, self-guided tour of exhibits, Beyond All Boundaries 4-D Film.

What's excluded: Food and drinks (but they can be purchased).

Tour 3 – French Quarter Walking Tour (100 max) 10:00 AM – 12:00 PM $33

Walking the streets of the French Quarter, you will see how New Orleans' unique past shapes the life and culture of today's residents.

New Orleans has enjoyed eras of prosperity and celebration few can imagine. The city has also risen above fires, epidemics, hurricanes, floods, wars, slavery, and social conflict. And that was just the first 100 years!

For centuries this port city has been a cultural haven where creativity has flourished in art, architecture, music, literature, cuisine, and politics. This tour presents New Orleans' oldest neighborhood during a pivotal point in a long and colorful history.

The French population doubled, sugar empires rose, Baroness Pontalba transformed Jackson Square, steamboats connected New Orleans with the Western "frontier", and European and American ideals clashed in a place where Free People of Color were among the social elite.

From the Ursuline nuns who educated the colonists to the pirate Jean Lafitte who supplied luxury items to the wealthiest corridor on earth, learn how the saints and sinners of our Creole past shaped the heart and soul of today's New Orleans.

What is included: Entry/admission fee, tour guide to meet group in lobby of hotel, two-hour guided walking tour of the French Quarter, all taxes, and gratuities.

What is not included: The sidewalks of the French Quarter can be uneven and may be unsuitable for wheelchairs or those with limited mobility. Snacks are available for purchase in various locations along the tour.

Monday, September 11, 2023

Tour 4 – Houmas House & Gardens with lunch (54 max) 9:00 AM – 3:00 PM $126

As you enter the iron gates of Houmas House Plantation & Gardens, you can instantly see why it is called the "Crown Jewel of River Road." The striking Greek Revival mansions is softened by a 38-acre panorama of indigenous Louisiana plant life and stunning waterscapes.

Pathways wind around the property, through courtyards, around ponds and atop hillside terraces, revealing unique spaces that are both spectacular and intimate at the same time. Sitting areas are placed throughout the lush paradise, so that visitors can relax and enjoy the estate as a treasured guest.

In fact, the entire experience at Houmas House is accessible and welcoming. On the one-hour mansion tour, a friendly guide in period attire plays the part of hostess, leading guests through every room on the first and second floor. There are no velvet ropes or off-limit areas.

You'll learn how the mansion and its legacy evolved with each new owner over 245 years. There are fascinating stories behind the acquisition of much of the original art and rare collectibles in the mansion and throughout the grounds and the guides love to share those tales with curious visitors.

After your tour, enjoy a delicious buffet overlooking the stunning grounds.
Buffet with non-alcoholic drink and coffee. All taxes and gratuities included. Chicken & andouille gumbo, Caesar salad, Fried Catfish, Barbeque Glazed Roasted Chicken, Crawfish Alfredo Pasta, Red Beans & Rice, Corn Maque Choux, White Chocolate Bread Pudding, Subject to change based on availability.

Adjacent to the estate is the (optional) Great River Road Steamboat Museum, a 35,000 square foot museum of exhibits and artifacts showcasing the commerce, folklore, music, and culture of the lower Mississippi River. Steps away is a handicap accessible bridge from the Houmas House estate to the river, providing a safe and fun way to cross River Road and see over the levee.

Don't miss the Turtle Bar, located in a garçonnière, or boys' room, built in 1836. Many guests order a Mint Julep, but this quaint bar also offers 250 bottles of whiskey, rare bourbons, local beers, and a full liquor selection. Feel free to walk the grounds with your beverage. You are, after all, a guest.

What is included: Private round-trip transportation from the New Orleans Marriott, entry/admission fee, buffet with non-alcoholic drinks, all taxes and gratuities.

What is not included: As there are no elevators or ramps, this tour includes some areas that are not wheelchair accessible. Pathways are either bricked or graveled. Alcoholic beverages are available for purchase.

Tour 5 – Exclusive Garden District Walking Tour with lunch (31 max) 9:00 AM – 1:45 PM $199.00

A few miles upriver from the French Quarter is one of the most well-preserved historic neighborhoods in America – the Garden District. Like many New Orleans neighborhoods, it began as a plantation, later subdivided and sold to a rising mercantile class. Newly wealthy in the years following the Louisiana Purchase, these Americans built estates to outshine the Creole's French Quarter.

As you stroll along your guide will point out these architectural styles and features and share the stories of those who lived behind these grand facades.

After your tour you will enjoy an elegant three course lunch on the veranda of the newly reimagined Garden District oasis, at the Saint Vincent Hotel. Even more impressive is the woman who, in 1861, used funds from her successful bakery to build the Saint Vincent's Infant Asylum. A penniless Irish orphan herself, Margaret Haughery made her way to New Orleans, built great success and is cherished for her lifelong legacy of philanthropy. The nearby statue of her is the second public monument of a woman to be erected in the United States.

What is included: Private round-trip transportation from the New Orleans Marriott, entry/admission fee, cocktail on arrival at Saint Vincent Hotel (circa 1861), three course lunch on the veranda, all taxes and gratuities.

What is not included: The sidewalks of the Garden District can be uneven and may be unsuitable for wheelchairs or those with limited mobility. Alcoholic beverages are available for purchase.

Tuesday, September 12, 2023

Tour 6 – Oak Alley Plantation with Southern Brunch (54 max) 8:30 AM – 2:00 PM $119.00

As Oak Alley comes into view and you instantly understand why she is the most photographed plantation ever. Her quarter-mile long alley of 28 magnificent oak trees, each nearly 300 years old, is an impressive welcome and the ultimate symbol of grandeur at the heart of this sugar empire. Before touring the Greek Revival mansion, one of the most iconic homes in the United States, you'll enjoy a delicious Creole brunch on the grounds.
You'll soon learn that there is much more to the story of Oak Alley than the unimaginable wealth of a sugar plantation. Extensive research by the Friends of Oak Alley Foundation has revealed the lives and legacies of the many people who have called Oak Alley home.

The grounds provide a self-guided experience for you to explore:

- Film on sugar cane production from the 1800s to modern times.
- Reconstructed slave cabins and a slavery exhibit with an interpreter.
- Exhibit on the dozen families who have owned the property.
- Civil War encampment with a Confederate general historian.
- Blacksmith working with the plantation's original forge.

What is included: Private round-trip transportation from the New Orleans Marriott, entry/admission fee, buffet with non-alcoholic drinks, guided 30-minute tour of mansion, self guided tour of grounds, all taxes and gratuities.

What is not included: As there are no elevators or ramps, this tour includes some areas that are not wheelchair accessible. Pathways are either bricked or graveled. Alcoholic drinks (available for purchase).

Tour 7 – Steamboat Natchez Lunch Cruise & Hospitality Suite (80 max) 10:45 AM – 1:30 PM $107.00

At the height of the Steamboat Era there were 4,000 steamboats navigating the water highways of America. Today there is only one steam powered paddle wheeler left on the Mississippi River: The Steamboat NATCHEZ. Your group will enjoy a special VIP hospitality suite with an open bar while on board during the harbor cruise.

As the iconic red paddle churns the Mighty Mississippi, the NATCHEZ glides past the French Quarter and through one of the world's most active ports. The live jazz band sets the tone for a relaxing cruise, perfect for socializing with your friends and colleagues or simply enjoying the scenery. A delicious Creole buffet, prepared fresh daily in the galley, will be served in the Main Dining Room.

For all its history and romance, the excitement of riding a steamboat is as rich and genuine today as it was a century ago.

What is included: One-way transportation from the Marriott, Entry/Admission fee, buffet with non-alcoholic drinks, live jazz music, Captain's narration during band breaks, private hospitality suite in Captain's Salon (live jazz piped in), open call bar package with wristband to drink at all bars on board (adult tickets only, must be 21), all taxes and gratuities.

What is not included: This tour is wheelchair accessible, however the top and bottom decks are stairs only. NOTE : Return transportation to the Marriott is not included but the dock is a short walk from the hotel.

Wednesday, September 13, 2023

Tour 8 – Swamp Cruise (54 max)	8:45 AM – 12:30 PM	$69.50

Entertaining Cajun captains, homegrown in the bayous and swamps of Louisiana, will introduce you to the primitive beauty of the moss draped cypress swamp and its many native inhabitants, including the American Alligator. With no other public boats accessing the bayous, alligators recognize the tour boats as part of their normal environment. Unafraid and responsive to the captain's call, they frequently come directly to the boat and jump out of the water for food! You'll get fantastic instgrammable pictures of the unspoiled, mystical swamp as well as live action shots of jumping gators, all from the safety and comfort of the covered vessel. Only 25 miles from downtown New Orleans, it feels like a journey back to the early days of swamp exploration.

What is included: Private round-trip transportation from the New Orleans Marriott, entry/admission fee, private guided swamp cruise, all taxes and gratuities.

What is not included: Food and beverages are available for purchase in the gift shop and can be brought on board the vessel.

Tour 9 – Laura Plantation: Louisiana's Creole Heritage Site (54 max)	9:00 AM – 1:30 PM	$85.00

One of the best history tours in the United States, this is an unvarnished view of all who lived on the Creole Heritage Site.
Laura is a classic Creole plantation researched and restored. The guided tour is adapted from Laura's personal memoir spanning four generations of female owners and supported by 5,000 pages of legal documents.

It's the story of a Creole dynasty and how it responded to the encroaching Anglo world. Rich in detail, the tour is intimate and honest in its portrayal of all who lived here.

When Laura Plantation opened to the public in 1994, it became the first historic attraction in Louisiana to include stories of enslaved Africans as part of the tour. As the leading interpreter of the experience of enslaved people in Louisiana and following years of extensive research in the United States and France, in February 2017, Laura Plantation opened a Slavery Museum dedicated to telling the authentic story of the slave community of this Creole farm.

The exhibit is designed around different themes reflecting the complex layers of life on the plantation, illustrating how the lives of the enslaved people, both Créole and American, were intertwined with those of their owners.

One of the largest plantation complexes, all twelve buildings are on the National Register, many built by the skilled craftsmanship of enslaved Africans.

See original artifacts, family heirlooms and furnishings and authentic slave cabins where the West African folk tale of Br'er Rabbit was recorded.

What is included: Private round-trip transportation from the Marriott, tour guide to provide commentary enroute, 70-minute guided tour of the Laura Plantation history, self-guided tour of the Slavery Museum, selection of sweet and savory snacks for return trip, and all taxes and gratuities.

What is not included: As there are no elevators or ramps, this tour includes some areas that are not wheelchair accessible. Pathways are either bricked or graveled.

Tour 10 – Culinary & Cocktail Experience (50 max)	11:30 AM – 4:15 PM	$155.00

Our foodie experience and cocktail tour is the story of a French outpost and how it evolved into the thriving port city we love today, where customs shared over time created a distinct New Orleans cultural identity. In the words of James Beard, “Food is our common ground.

Begin your afternoon at the Riverview Room in JAX Brewery with amazing views of the Mississippi River and the French Quarter. A chef from the New Orleans School of Cooking will teach you how to cook three classic New Orleans dishes like gumbo and jambalaya in an entertaining and interactive two-hour demonstration of New Orleans culinary history.

As you finish your praline, the chef will hand you off to a local guide. Surely, you’re ready for something stronger than iced tea!
New Orleans has long been a muse with an unquenchable taste for revelry, muddling sophistication and fancy in equal parts. Drink in her rich history as you explore the French Quarter, where the hour is always happy. It's no wonder that the craft cocktail scene began early in New Orleans! In fact, the word "cocktail" and America’s first cocktail, the Sazerac were both born here.

Select your clothing to be indoors for the cooking class and outdoors for the walking tour. The attire is resort casual.

What is included: Entry/Admission fee, tour guide to meet group in lobby of hotel, two-hour private cooking demonstration at the Riverview Room by New Orleans School of Cooking, 3 course meal: Chicken & Andouille Gumbo, Shrimp Creole, Bananas Foster + pralines, recipe cards, private cocktail walking tour with licensed tour guide, visit 3-4 establishments, 3 classic cocktails, served in a "to go" cup, all taxes and gratuities. Patrons must be at least 21 years old with valid ID to enter establishments on tour.

What is not included: The sidewalks of the French Quarter can be uneven and may be unsuitable for wheelchairs or those with limited mobility. All establishments are accessible.

IEEE-IAS-PCIC 2023 Conference Hotel Contact Information

New Orleans Marriott

555 Canal Street, New Orleans,
Louisiana, USA, 70130
Telephone: +1 (504) 581-1000

Facilities:

New Orleans Marriott welcomes you to Louisiana with style, substance, and unparalleled service. Our 4-star hotel is nestled on NOLA's Canal Street, between the French Quarter and the Warehouse District. We're a short walk from Jackson Square, the Audubon Aquarium of the Americas and Harrah's Casino. Many of our intuitively designed rooms and suites offer views of the Mississippi River and downtown New Orleans. They all feature spacious work areas, 55-inch flat-screen TVs and premium bathroom amenities. Enjoy a meal at Canal Street Burger Bar and Canal Street Pantry or a drink and an appetizer at 55 Fahrenheit, a favorite among both hotel guests and New Orleans residents. Break a sweat in the gym or take a dip in the heated outdoor rooftop pool. Adventure awaits at New Orleans Marriott.

Sheraton New Orleans Hotel

500 Canal Street, New Orleans,
Louisiana, USA, 70130
Telephone: (504) 525-2500

Directly across from the famed French Quarter and steps from the Central Business District, Sheraton New Orleans Hotel welcomes you to Louisiana with pet-friendly rooms, premium amenities and 105,000 square feet of flexible function venues. Located on Canal Street, our hotel is steps from the buzz of Bourbon Street, offering easy access to the Caesars Superdome and Smoothie King Center. Relax in our guest rooms and suites, which boast plush bedding, spacious work areas and floor-to-ceiling windows overlooking the French Quarter and Mississippi River. Upgrade your stay with premium Sheraton Club Lounge access or reboot in our fully equipped Sheraton Fitness Center. Kickstart your day in New Orleans at our lobby Starbucks, or wind down with cocktails and local fare at Pelican Bar. A leading events destination in New Orleans, our hotel features the largest exhibition room outside the convention center and an 8th-floor ballroom overlooking the French Quarter.

Additional Information for both Hotels

Concierge Desks:

The New Orleans Marriott and Sheraton New Orleans hotels both offer Concierge Services to assist PCIC attendees with travel and entertainment arrangements while at the hotel.

COVID-19 Information

As part of Marriott International's family of brands, the hotels have implemented a variety of new protocols and elevated practices, in response to the COVID-19 pandemic and keeping with our high standards of cleanliness and commitment to providing excellent service.

Ground transportation from New Orleans International Airport (MSY):

The New Orleans Marriott and Sheraton New Orleans hotels do not provide shuttle service to the airport. Public transit and other travel options are available. NOTE: Downtown New Orleans is about 15 miles from the airport.

Public Transportation

Jefferson Transit Authority (JET)

Bus fare for the Veterans-Airport (E1) bus operated by JET is $2.00. The fare boxes will accept $1, $5, $10, $20 dollar bills and all U.S. coins. The Veterans-Airport (E1) bus provides service from the Louis Armstrong New Orleans International Airport, to Downtown, with a total travel time of approximately fifty (50) minutes. For more information on public transit in the area, including accessibility, route, and fare information, please visit the Jefferson Transit website https://jptransit.org/. If you choose JET as your public transit method note that bus stops are located approximately every two blocks. The closest stop to the hotel is Basin and Canal and is 0.4 miles or a 9-minute walk to the conference hotels.

Regional Transportation Authority (RTA)

The Regional Transit Authority (RTA) provides the Airport Express (202) Bus with service to and from the Louis Armstrong New Orleans International Airport into New Orleans. Pick up locations for the Airport Express (202) Bus in New Orleans include two separate Downtown New Orleans locations. Bus stops include Elk Place at Cleveland, or the Union Passenger Terminal/Bus Bay 2. Bus fare for this route is $1.25. For complete bus schedule information, pick up locations, and route information, go to https://www.norta.com/ If you get off at Elk Place and Cleveland the walk to the hotel is 0.5 mile and approximately 11 minutes. This is the preferred stop as the Union Passenger Terminal is 1.1 miles from the conference hotels.

Taxis, Limos and Rental Cars

Taxis pick up passengers in a dedicated taxi loading zone on the Arrivals Curb outside of Level 1 Baggage Claim Door 7. Taxi rides cost about $37.00 from the airport to the Central Business District (CBD) or French Quarter (west of Elysian Fields) for up to two (2) passengers. For three (3) or more passengers, the fare will be $15.00 per passenger. Taxis are required to accept credit card payments. Prices are subject to change but are regulated by the City.

Ride Share Services KREWECAR, Lyft and Uber serve New Orleans's Louis Armstrong airport, the pickup locations is outside of Level 1 Baggage Claim on the middle curb. Airport officials suggest waiting to request your ride until after you've claimed your luggage. Apps are available for download on Apple App Store and Google Play.

Limousines – New Orleans has several limousine operators available to provide you with a VIP experience to and from the airport and around the city. A typical limousine from the airport to the Marriott will cost $125-150 and up depending on number of passengers and type of vehicle selected. Here are links to a few limousine service companies. www.jazzytransportation.com, www.burtontransit.com, and www.limolivery.com

Airport Express Shuttle – If you have a large group of 10 or more and want to have a shuttle service, please call 504-522-3500 or visit www.airportshuttleneworleans.com to reserve your transportation.

Rental Cars - Nine rental car companies operate at Louis Armstrong New Orleans International using a Consolidated Car Rental Center. Rental car center location is 600 Rental Boulevard, Kenner, LA 70062. You can connect to the MSY Rental Car Center using the MSY Rental Car Lot Shuttle. The shuttle is available in front of the long-term parking garage. Exit the terminal on level 1 baggage claim and walk towards the long-term parking garage. Shuttles typically depart every 5 minutes. Passengers with special needs should contact MVI Field Services at 615-318-3108.

Parking Information

Parking in NOLA can be challenging, and considerations needs to be taken to ensure parking rules are being followed. Please be sure to read parking signs carefully to avoid a potentially costly violation.

The hotel on-site has Valet parking only at $49 per day for regular sized vehicles and $55 per day for oversized vehicles (height limit 5'9").
There are several off-site self-parking facilities located within a short walking distance of the hotel. Pricing ranges from $20 to $60 per day (most have no in-out privileges).

Premium Parking has a lot located at 716 Iberville St (0.2 miles/4 min walk) that offers parking rates at ~$23.00 per 24-hour period. Visit https://www.premiumparking.com/P145. Parking can be booked in advance on their website.

Conference Registration Fee Schedule (US Dollars)

Full Registration includes: All technical sessions, all open subcommittee sessions, all luncheons, and Monday Night Social for registrant and registered guest in addition to an electronic copy of the Conference Record of papers.

One Day Registration includes: Admittance to the selected days' paper presentations, lunch, and an electronic copy of the Conference Record of papers. It does permit the registrant to visit the hospitality suites. Monday "One-Day Registrations" do not include the admittance to the PCIC Evening Social.

Bound copies of the Conference Record may be purchased with conference registrations received prior to August 22, 2023, at a price of $40.00 for both IEEE Members and Non-Members (order below). A limited number may be available at the conference on a first-come first-serve basis.

Conference Record download will be available in the Conference Website and Conference App.

① REGISTRATION OPTIONS	IEEE Member	Non-Member	Total
O Early-Bird Full Registration prior to July 29, 2023	$550.00	$780.00	
O Full Registration from July 29 to August 31, 2023	$650.00	$880.00	
O Full Registration after August 31, 2023, or at the conference	$800.00	$1030.00	
O Additional Fee for "Not being registered at the Conference Hotel" (i.e., staying elsewhere)	$200.00	$200.00	
PCIC New Orleans Official Hotel Confirmation Number: _____ *A valid confirmation number must be provided otherwise the fee shown above will be applied: (Note: No after-the-fact rebates will be issued)*			
O IEEE Life Member or Student $0.00	$0	---	$0
O Any One-Day Registration – O Monday, O Tuesday, or O Wednesday (Monday does not include Monday social)	$325.00	$525.00	
O Certificate for Personal Development Hours (PDH) ✧	$40.00	$40.00	

② ADDITIONAL ITEMS				
Qty	Description	IEEE Member	Non-Member	Total
	Additional Monday or Wednesday Luncheon	$70.00	$70.00	
	Additional Monday Evening Social	$100.00	$100.00	
	Additional Tuesday Luncheon	$55.00	$55.00	
	Conference Record download	included	included	$0
	Bound Copy of Conference Record	$55.00	$55.00	

③ TUTORIAL REGISTRATION (Thursday – ½ day each): ☆		IEEE Member	Non-Member	Total
O One Day Registration – Thursday (If not already registered at conference)		$100.00	$130.00	
O Tutorial 1	Review of the new NFPA 70B Standard	$130.00	$150.00	
O Tutorial 2	How to Work Safely with Direct Current	$130.00	$150.00	
O Tutorial 3	[Electrical] Engineering – The Energy Transition	$130.00	$150.00	
O Tutorial 4	Form Wound Insulation Systems: Designs, Applications, Failures Mechanisms, and Preventive Measures	$130.00	$150.00	
O Tutorial 5	IEEE Std 1349-2021 Electric Machines in Hazardous Locations – Worldwide Applications	$130.00	$150.00	
O Tutorial 6	Overcurrent Protection and Coordination Fundamentals	$130.00	$150.00	
O Tutorial 7	Integration of Solar PV in an industrial facility	$130.00	$150.00	
O Tutorial 8	Changes to the next NFPA 70E standard	$130.00	$150.00	
O Continuing Educational Unit (CEU) Certificate(s) (Price is per tutorial, maximum of $40) ✧		$20.00 per	$20.00 per	
O Professional Development Hours (PDH) Certificate ✧		$40.00	$40.00	

☆ *First time attendees registered for the entire conference are eligible to attend one tutorial for the reduced rate of $50 if registered before September 1, 2023. Tutorial selection must be made at time of registration otherwise the full tutorial fee will apply. (See note on Page 7)*

✧ *Pre-registration for CEU and/or PDH Certificates is mandatory, requests to obtain these must be made when registering for the conference (See page 13).*

④ GUEST TOURS			
Tour #	Description	Date	Price Each
Tour #1	Large Airboat Adventures Swamp Tour (54 max)	Sunday 9/10/23 9:00am – 12:30pm	$92.00
Tour #2	National WWII Museum with roundtrip transfers (100 max)	Sunday 9/10/23 9:30am – 2:30pm	$58.50
Tour #3	French Quarter Walking Tour (100 max)	Sunday 9/10/23 10:00am – 12:00pm	$33.00
Tour #4	Houmas House & Gardens with lunch (54 max)	Monday 9/11/23 9:00am – 3:00pm	$126.00
Tour #5	Exclusive Garden District Walking Tour with lunch (31 max)	Monday 9/11/23 9:00am – 1:45pm	$199.00
Tour #6	Oak Alley Plantation with Southern Brunch (54 max)	Tuesday 9/12/23 8:30am – 2:00pm	$119.00
Tour #7	Steamboat Natchez Lunch Cruise with Hospitality Suite (80 max)	Tuesday 9/12/23 10:45am – 1:30pm	$107.00
Tour #8	Swamp Cruise (54 max)	Wednesday 9/13/23 8:45am – 12:30pm	$69.50
Tour #9	Laura Plantation: Louisiana's Creole Heritage Site (54 max)	Wednesday 9/13/23 9:00am – 1:30pm	$85.00
Tour #10	Culinary & Cocktail Experience (50 max)	Wednesday 9/13/23 11:30am – 4:15pm	$155.00

Note 1: Space on some tours may be limited therefore reservations cannot be guaranteed. If tour minimums not met, PCIC reserves the right to cancel the tour and will provide a full refund.
Note 2: Tickets for Guest Tours may be obtained at the conference for an additional $10.00 per ticket if space is available.

CONFERENCE LOGO SHIRTS

The official conference with the IEEE-PCIC New Orleans logo embroidered on the left chest. Shirts ordered prior to August 1, 2023, will be available for pick up at the conference during registration. See the conference web site for photo of the shirts.

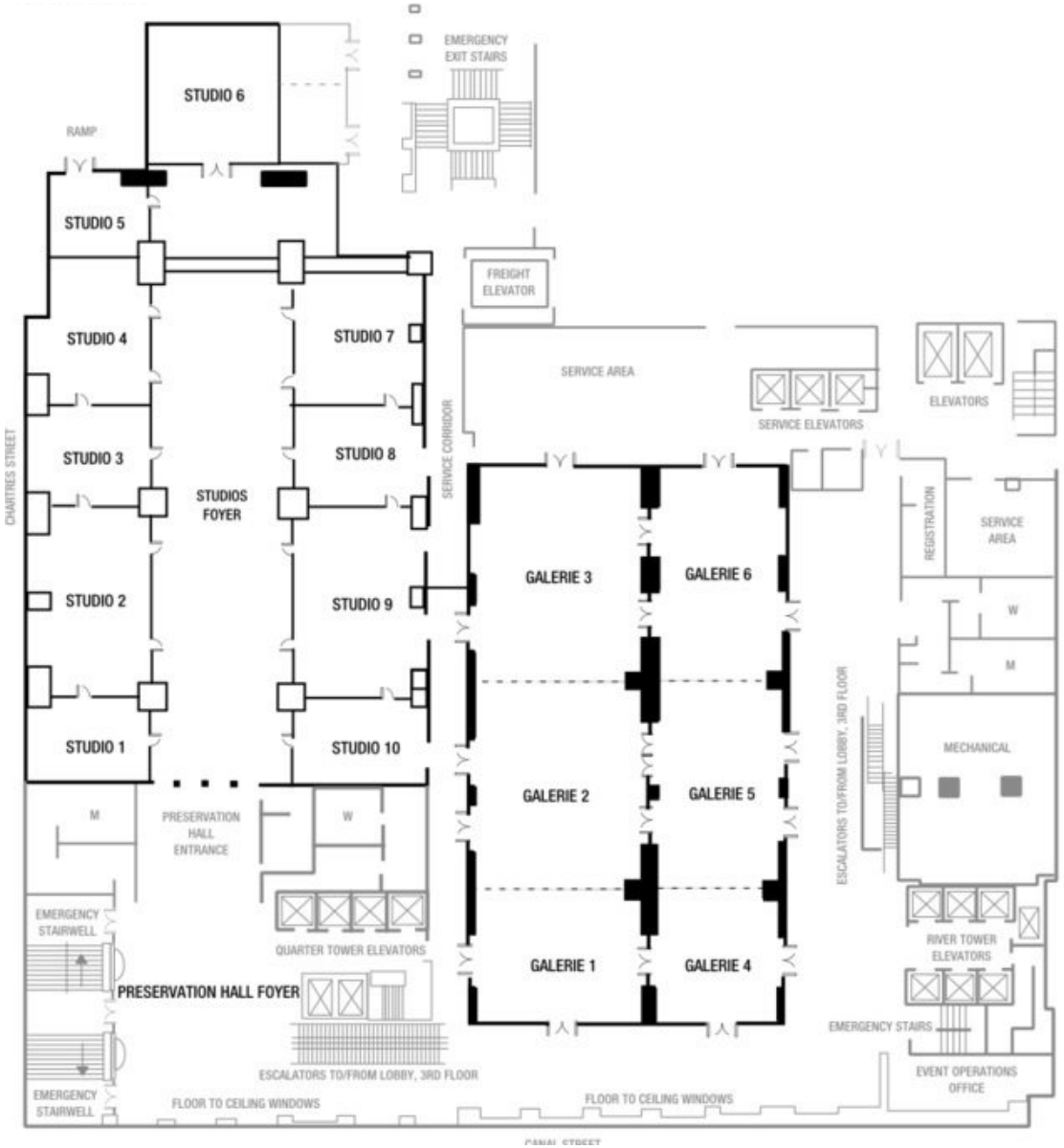
⑤ Conference Logo Long Sleeve Shirt / Polo	PRICE EA
Unisex (*Long Sleeve*) XS, S, M, L, XL, 2XL, 3XL, 4XL, 5XL	$60.00
Men's (*Polo*) XS, S, M, L, XL, 2XL, 3XL	$55.00
Women's (*Polo*) XS, S, M. L, XL, 2XL, 3XL	$55.00

Summary of Conference Fees

Registration and Other Fees	Totals from above
① REGISTRATION OPTIONS	
② ADDITIONAL ITEMS	
③ TUTORIAL REGISTRATION	
④ GUEST TOURS	
⑤ CONFERENCE SHIRTS	
TOTAL	

New Orleans Marriott Layout and Room Locations

2nd Floor

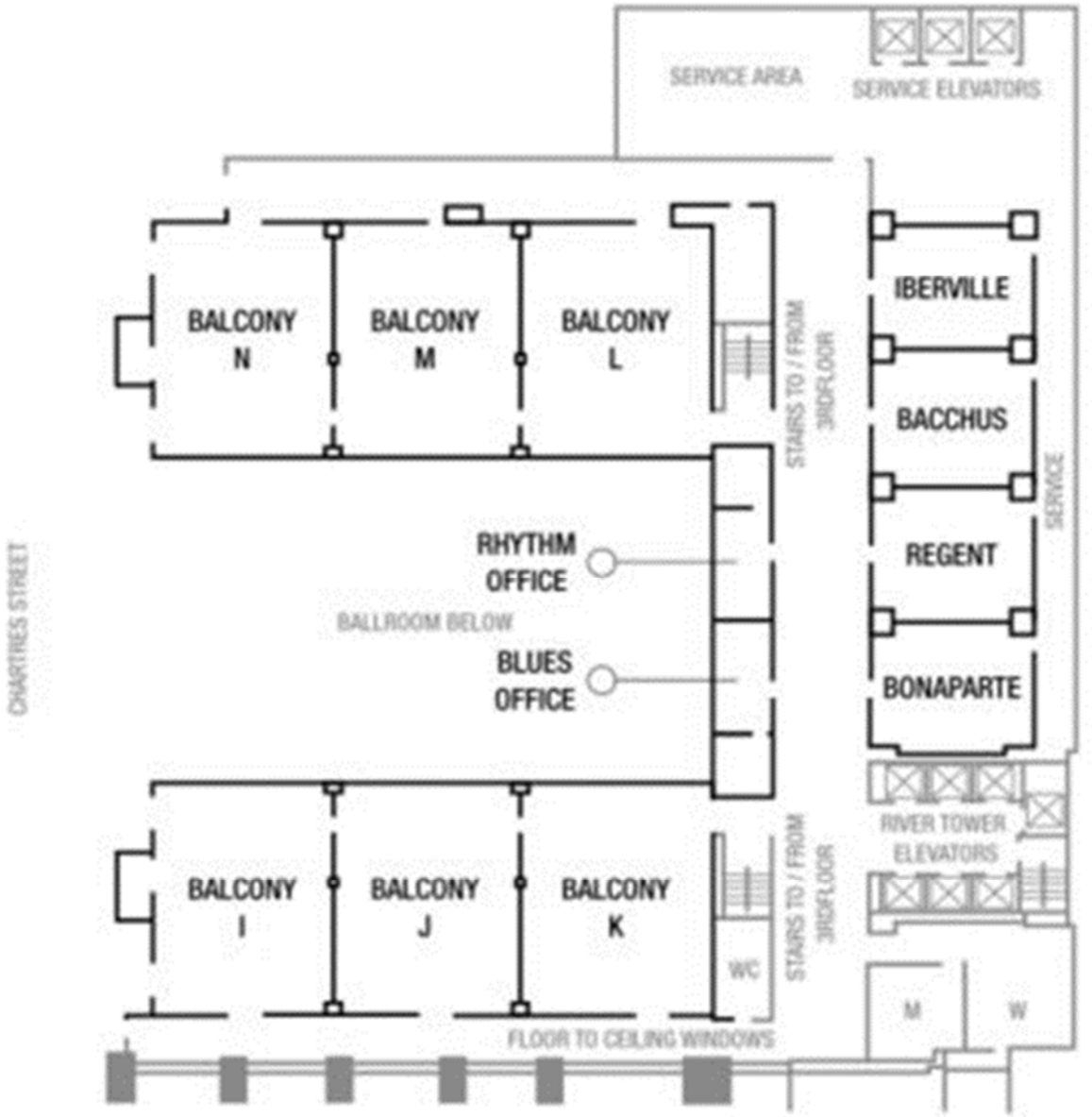


New Orleans Marriott Layout and Room Locations

3rd Floor

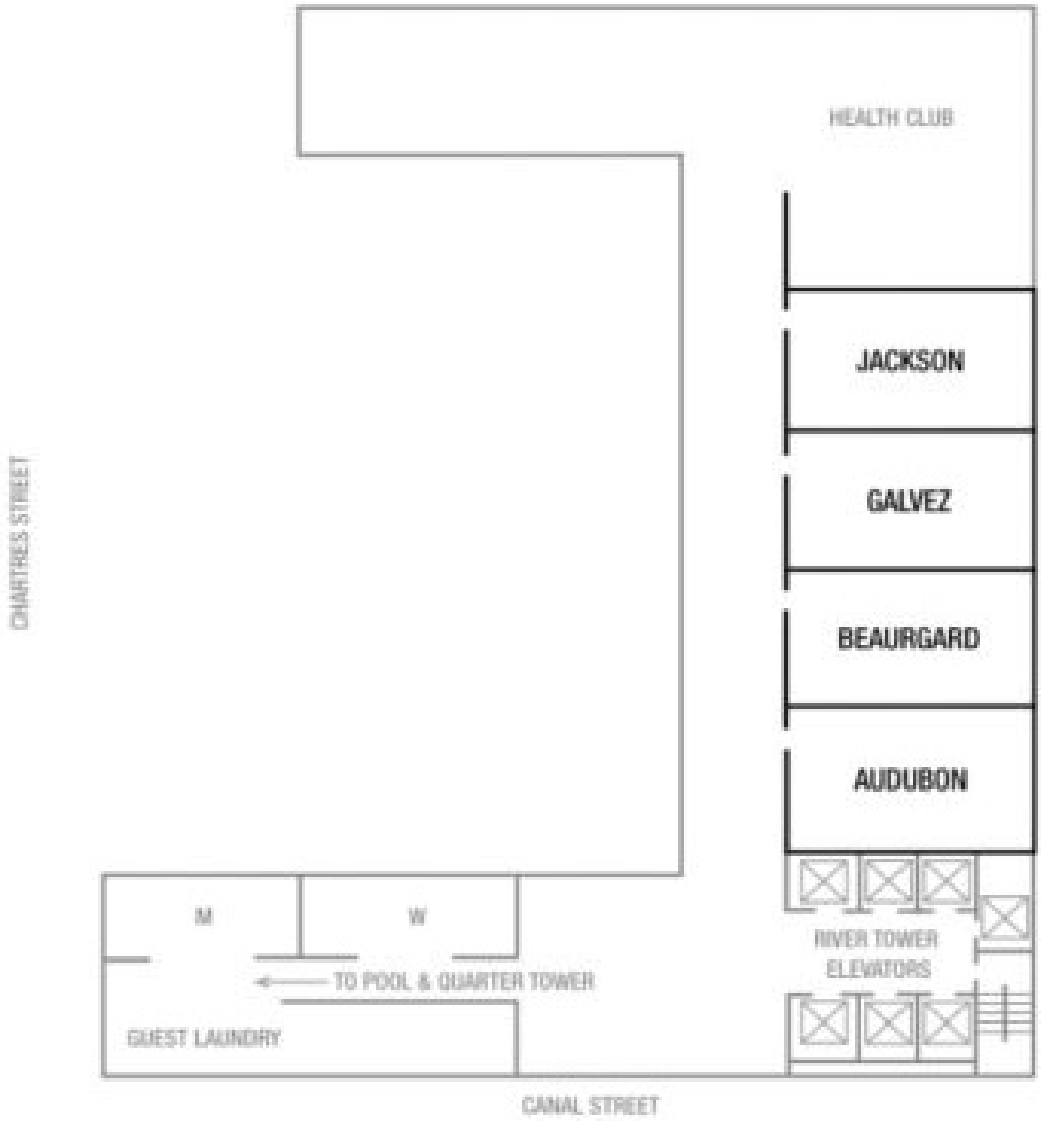
New Orleans Marriott Layout and Room Locations

4th Floor



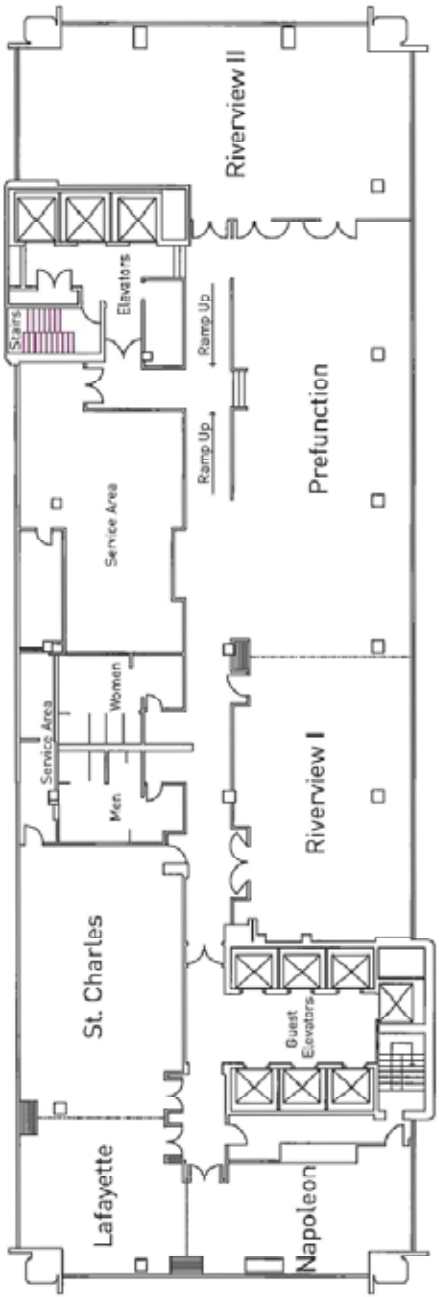
New Orleans Marriott Layout and Room Locations

5th Floor



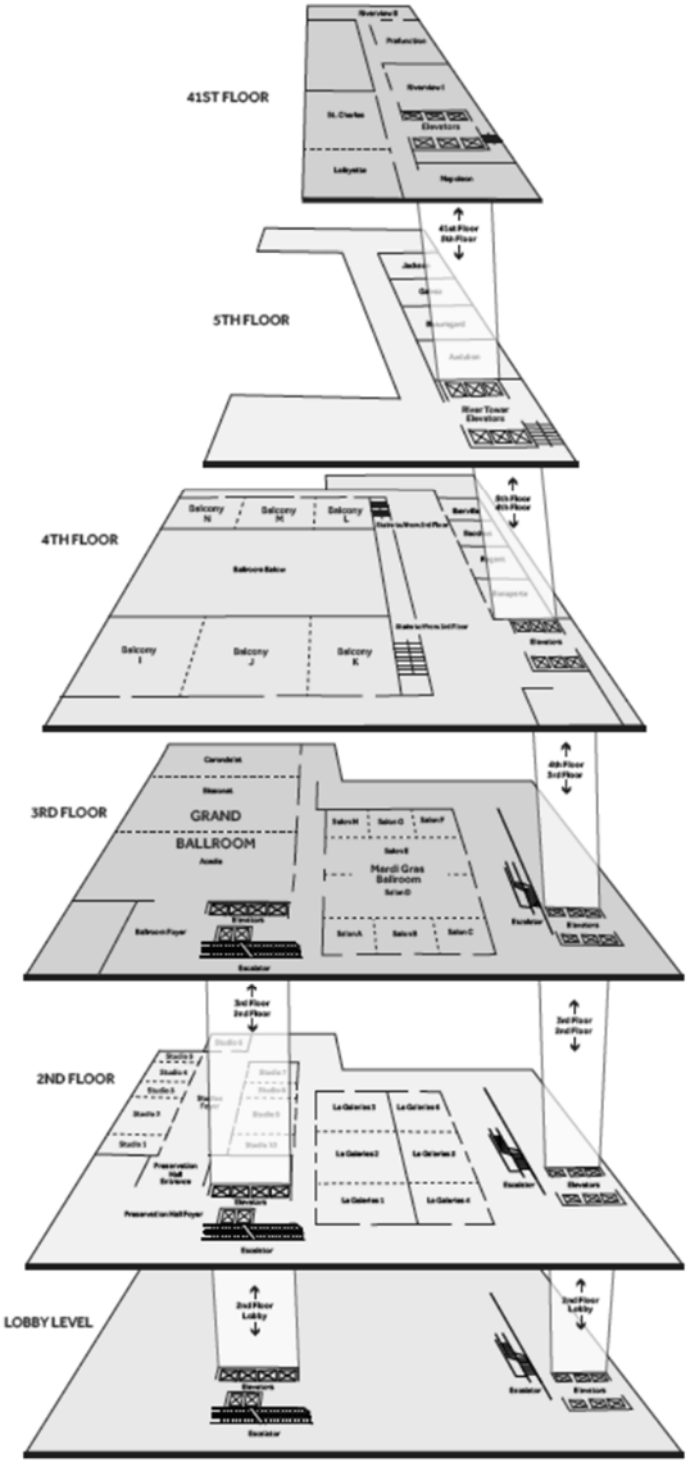
New Orleans Marriott Layout and Room Locations

41st Floor

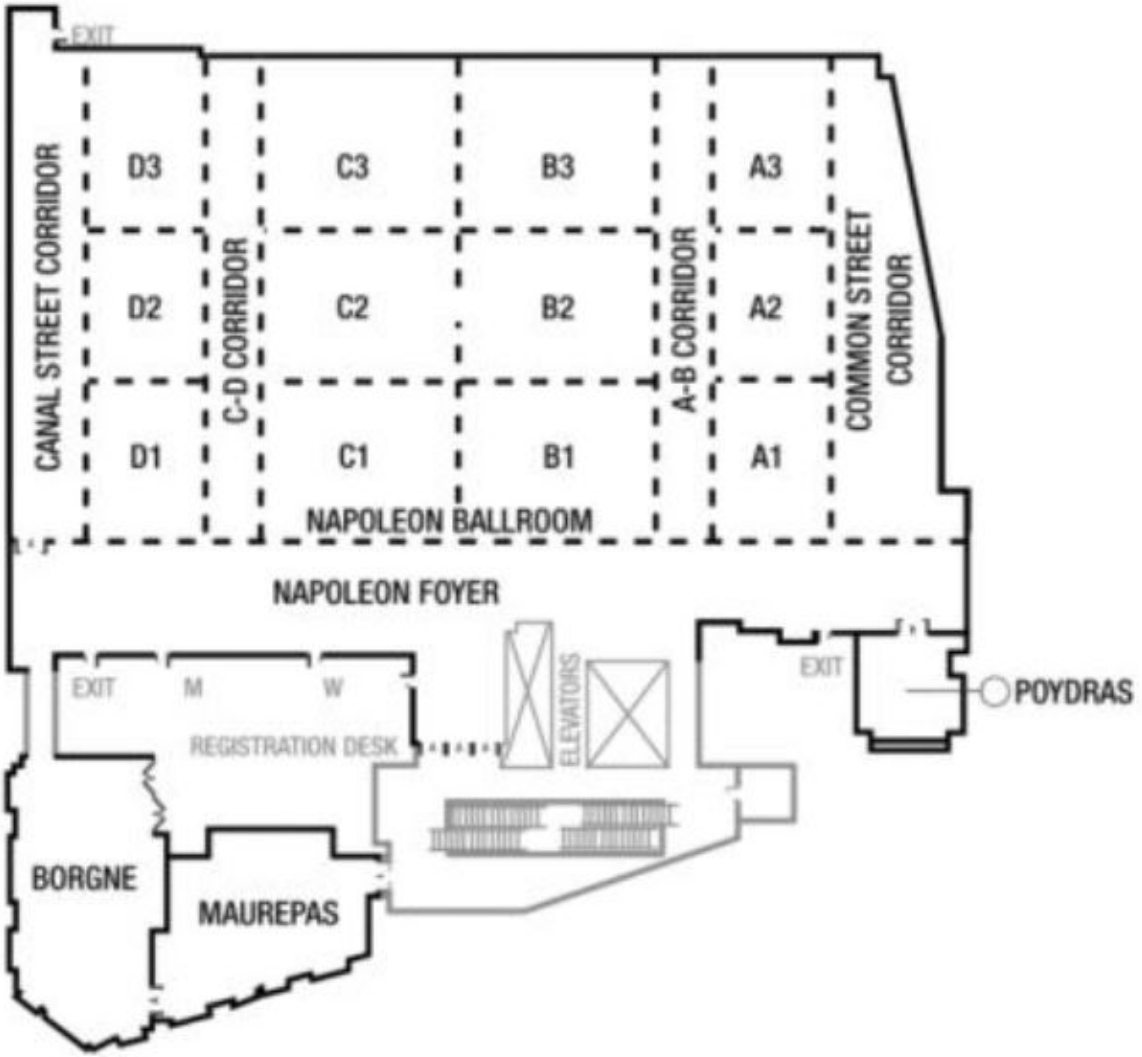


New Orleans Marriott
Layout and Room Locations

3-D View



Sheraton New Orleans Hotel Layout and Room Locations



It's time to start planning to attend the

71st IEEE IAS Petroleum and Chemical Industry Committee Conference

IEEE PCIC 2024
Orlando, Florida
September 15 to 18, 2024