A Brief Report For

Kansas State University IEEE Industry Applications Society (IAS) Activities & Upcoming Events

In order to submit Kansas State University IEEE Industry Applications Society Constitution, several meetings were held in ECE department; in these meetings, Professor Mohammad Shadmand, as the leader of the chapter, professor Don Gruenbacher, as the head of department, and all board members surveyed about technical and non-technical issues of chapter to have an active chapter.

Finally, based on Article VI (Election Process) in Constitution, Board members were elected as follow:

Chair: Mitchell Easley  
Email: mitch01@ksu.edu

Vice-Chair: Mohsen Hosseinzadehtaher  
Email: mhosseinzadehtaher@ksu.edu

Treasurer: Silvanus D’Silva  
Email: sdsilva@ksu.edu

Secretary: Amin Fard  
Email: aminyousefzadeh@ksu.edu

Webmaster: Matt Baker  
Email: bakermw@ksu.edu
For having a well-organized chapter, in each meeting, the secretary prepares a minute of meeting precisely and shares it with all board members. In following a sample of this MOM is seen:
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IEEE Industry Application Society Student Branch Chapter of Kansas State University

Meeting #3  
09.14.2018  
Started: 4:30 PM  
Ended: 6:10 PM  
Location: The Conference Room 3095B

<table>
<thead>
<tr>
<th>Board Members</th>
<th>Role</th>
<th>P. Present</th>
<th>A. Absent</th>
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<tbody>
<tr>
<td>Mitchell Esley</td>
<td>Chair</td>
<td>P</td>
<td></td>
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<tr>
<td>Mohsen Hoseinzadeh</td>
<td>Vice Chair</td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Amin Yousefzadeh</td>
<td>Secretary</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Silvianus Dailko</td>
<td>Treasurer</td>
<td></td>
<td>P</td>
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<tr>
<td>Matt Baker</td>
<td>Webmaster</td>
<td>P</td>
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Dr. Shadmand, IEEE Student Branch Chapter Advisor, attended this meeting.

- The chair discussed about Dr. Gruenbacher’s feedback on the steps which must be taken to be recognized as an official DSO including:
  - Signing up on the OrgSync (The registration process of new members will be discussed)
  - Preparing the constitution & by-laws for the chapter
- Dr. Shadmand asked the board to work on different tasks in parallel. For example, preparing the constitution of the chapter should not make any kind of delay in holding the introduction session of the chapter.
- The board should prepare a proper logo for the chapter which must be a combination of K-State logo, IEEE, and IAS. After this step, some polo t-shirts, mugs, banners, pens, and etc. can be ordered for the introduction session. The board members should wear these t-shirts during the sessions.
- It was suggested that tutorial sessions can be useful for undergrad students.
- Considering bonus points for some courses by the instructors of them could enhance enthusiasm of students for attending the journal clubs, seminars, lectures, field trips, and etc. Board members should request the ECE department’s professors to consider this option to maximize the involvement of students in the chapter’s activities.
- October 5 is selected for the introduction session. This one will be held just for grad students of the ECE department.
- Two different Doodle Polls should be created. The first one will be for determining the number of attendees for the introduction session on October 5. This should be done for buying sufficient food. The second one would ask the ECE students to express their own opinions about their expectations and needs that the chapter can work on.
- Dr. Shadmand suggested Dr. Blaabjerg and Dr. Balog to be invited for a lecture for ECE students.
October 5, 2018

Kickoff meeting
Kansas State University’s student branch chapter started its official activity by holding a kickoff meeting on Friday, October 5, 2018. Purposes and goals of chapter and how the attendees can join and get involved in IAS was explained by Ph.D. Candidate Mitchell Easley, as the chair of chapter. Board members were introduced and their roles in chapter were stated for attendees. Several brief presentations were done by graduate students about their projects from the power and energy specialty of the electrical and computer engineering department.

The IEEE IAS branch at KSU announced that weekly seminars and technical discussion sessions will be organized by inviting experts from industry/academia in the field of power and energy. The chapter will have “Journal Club” too. In this club, students will present their own research or maybe a specific published paper will be explained to other attendees.
October 19, 2018

First Journal Club
The first Journal Club meeting of IAS occurred on Friday, October 19, 2018. Ph.D. Candidate Mohsen Hosseinzadehtaher, as the vice-chair of chapter, presented his research entitled "Load Curve Curtailment Considering Weather Forecasting and Electricity Hourly Price" at the IEEE Industry Application Society (IAS) student branch weekly seminar series at KSU. In this seminar, problems of a power system facing peak demands in short time intervals were presented.
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IEEE Industry Applications Society SB at Kansas State University
Weekly Seminar Series – Fall 2018
Friday, October 19th, 2018, 3:30 – 4:30 p.m., Conference Room 3099A/B
LOAD CURVE CURTAILMENT CONSIDERING WEATHER FORECASTING AND ELECTRICITY HOURLY PRICE

Mohsen Hossein Zadeh, Ph.D. Student
Power Electronics and Autonomous Systems (PEAS) Research Group
Kansas State University
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October 26, 2018

**Typhoon HIL training (tutorial) session**

A training session was conducted by Ph.D. Candidate Silvanus D’silva, as the treasure of chapter, on October 26th, 2018 for all the ECE Undergraduate and Graduate students to familiarize them with Hardware-in-the-loop (HIL) testing and encourage them to get HIL certified. This event was in collaboration with Typhoon HIL Inc. and included an interactive presentation introducing them the Typhoon HIL software environment. The goal of this training session was to familiarize the attendees with HIL testing and making them well versed with this tool that can be used for implementation of their senior design projects. The training concluded by providing each attendee with a free licenses to the Typhoon HIL software for a year. **About 50 students attended the tutorial session of which about 32 students successfully completed the online certification training.**

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**Introductory session for Typhoon HIL online certification training**

**About the Session**

Typhoon HIL is a Hardware-in-the-loop simulation tool that is used in real-time simulation of large/small power electronic circuits and systems and for dynamic controller testing.
November 30, 2018

Visiting session

Professor Wei-Jen Lee, fellow of IEEE and IAS distinguished speaker, visited power electronic & autonomous systems research group (PEAS) Lab on November 30, 2018 and had discussion with graduate students and faculty members.
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November 30, 2018
November 30, 2018

Weekly seminar
As part of weekly seminar series, Prof. Lee, as IAS distinguished lecturer, presented his seminar entitled "Seamless Integration of Renewable Energy". For each event, a professional flyer prepares by Ph.D. Candidate Amin Yousefzadeh Fard, as the secretary of chapter, in order to invite attendees to seminar. Professor Lee’s flyer and seminar pictures are seen as follow:

Seamless Integration of Renewable Energy
Weekly Seminar Series – Fall 2018
Friday, November 30th, 2018, 1:30 – 2:30 p.m., DUR 1073

Prof. Wei-Jen Lee
University of Texas
Fellow of IEEE
IAS Distinguished Lecturer

Professor Wei-Jen Lee received the B.S. and M.S. degrees from National Taiwan University, Taipei, Taiwan, R.O.C., and the Ph.D. degree from the University of Texas, Arlington, in 1979, 1980, and 1986, respectively, all in Electrical Engineering. In 1986, he joined the University of Texas at Arlington, where he is currently a professor of the Electrical Engineering Department and the director of the Energy Systems Research Center. He has been involved in the revision of IEEE Std. 141, 393, 511, 739, 1564, and 2022 B development. He is the Vice President of the IEEE Industry Applications Society (IAS), a Distinguished Lecturer (DL) of IEEE IAS (2017-2019), and an editor of IEEE Transactions on Industry Applications and IEEE Magazine. He is the project manager of IEEE/NASA Collaboration on Arc Flash Phenomena Research Project. Prof. Lee has been involved in research on stability deregulation, renewable energy, smart grid, microgrid, energy storage, and virtual power plants (VPP); arc flash hazards and electrical safety, load and wind capacity forecasting, power quality, distribution automation, and demand side management, power systems analysis, online real-time equipment diagnostic and prognostic system, and microcontroller-based instruments for power systems monitoring, measurement, control, and protection. He has served as the primary investigator (PI) or Co-PI of over one hundred funded research projects with the total amount exceed US$76 million dollars. He has published more than one hundred and fifty journal papers and two hundred sixty conference proceedings. He has provided on-site training courses for power engineers in Panama, China, Taiwan, Korea, Saudi Arabia, Thailand, and Singapore. He has refereed numerous technical papers for IEEE, IET, and other professional organizations. Prof. Lee is a Fellow of IEEE and registered Professional Engineer in the State of Texas.
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November 30, 2018
February 7-8, 2019

TPEC 2019
Ph.D. Candidate Amin Yousefzadeh Fard, as the secretary of chapter, presented his paper at TPEC 2019.

He also was the responsible for explaining IAS activities, publications and inviting student to join IAS.
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February 23, 2019

New Member
As we are expanding our chapter, our activities are becoming more too. So, our advisor recommended to have someone for coordinating events in our chapter.

Therefore, Ph.D. Candidate Fahmid Sadeque, joined to our chapter on 23th February, 2019. He will be our group's event coordinator. We wish the best for him.

IEEE Industry Applications Society SB at Kansas State University

Fahmid Sadeque
Ph.D. Candidate

Ph.D. Candidate Fahmid Sadeque, joined to our chapter on 23th February, 2019. He will be our group's event coordinator.
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February 28 - March 1, 2019

PECI 2019
Ph.D. Candidate Mohsen Hosseinzadehtaher, as the vice chair of chapter, presented his paper at PECI 2019. He also was the responsible for explaining IAS activities, publications and inviting student to join IAS.
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Upcoming event

March 18 - 21, 2019

APEC 2019
Ph.D. Candidate Silvanus D’silva, as the treasure of chapter, will present his paper at APEC 2019. He also will be responsible for explaining IAS activities, publications and inviting student to join IAS.

IEEE Industry Applications Society SB at Kansas State University

Ph.D. Candidate Silvanus D’silva

Autonomous Power Reserve Control Strategy for Photovoltaic systems in DC Microgrid through Constant Power Generation’.
Dr. Sertac Bayhan will be visiting PEAS Lab on March 27, 2019. His seminar is entitled "Microgrids: The Pathway to Smart and Cleaner Energy Future". This talk primarily focuses on design consideration of microgrids, including the current status and also future opportunities of renewables, energy storage, power electronics, microgrid control techniques, and the challenges of integrating microgrids into the electricity grid.

Dr. Bayhan is an associate professor at Gazi University, Turkey. He is also working as scientist at Qatar Environment & Energy Institute (QEERI).
March 27, 2019

Professor Haitham Abu-Rub will be visiting PEAS Lab on March 27, 2019. He will have seminar entitled "Smart Grid and New Energy Paradigm". The talk will focus on the vision of creating new energy paradigm based on the smart grid principle. Enabling technologies, current status and the future Smart Energy System prospective will be discussed.

Prof. Abu-Rub is professor and chair of ECE Department, Texas A&M University at Qatar. He is also the director of Texas A&M Engineering Experiment Station (TEES) Smart Grid Center extension in Qatar.

IEEE Industry Applications Society
The Student Branch at Kansas State University
Power Electronics & Autonomous Systems Research Group (PEAS)

Smart Grid and New Energy Paradigm
Seminar Series – Spring 2019
Wednesday, March 27th, 2019, 03:00 – 03:45 p.m., Room 3099

Professor Haitham Abu-Rub received the M.Sc. degree in electrical engineering from Gdynia Maritime Academy, Gdynia, Poland, in 1996 and the Ph.D. degree from the Gdańsk University of Technology, Gdańsk, Poland, in 2006.

Since 2006, he has been with Texas A&M University at Qatar, Doha, Qatar, where he is currently a Professor. He is currently the Chair of the Electrical and Computer Engineering Program, Texas A&M University at Qatar, as well as the Managing Director of the Smart Grid Center Extension. He has authored more than 350 journal and conference papers and has chaired and supervised many research projects. He is currently leading many projects on photovoltaic and hybrid renewable power generation systems with different types of converters and electric drives. He is the co-author of 4 books, two of which are published by Wiley. He is also an author or co-author of 5 book chapters. His research interests include energy conversion systems, including electric drives, power electronic converters, renewable energy, and smart grid.

Dr. Abu-Rub is an Editor of several IEEE journals. He has received many prestigious international awards, such as the American Fulbright Scholarship, the German Alexander von Humboldt Fellowship, the German DAAD Scholarship, and the Royal Society Scholarship.
April 11, 2019

Steven Schulz, director of Electric Power Conversion at Rivian Automotive, will be visiting PEAS Lab on April 11, 2019. He will have a seminar entitled "Power Electronics to Advance EVs through the Modern Era". This talk will focus on electric vehicles, and discuss the common architecture and key functions which rely on power electronics. We will then discuss in deeper detail the key challenges and trends which are occurring in industry. Lastly, we will explore several opportunities for improvement which exist and could benefit from further.

Steven E. Schulz obtained the M.S. degree in Electrical Engineering from Virginia Tech in 1991, and has been working in the field of power electronics for over 27 years. He has worked on EV and HEV systems since 1992, including such landmark vehicles as General Motors EV1 and the Chevrolet Volt. Mr. Schulz has also spent several years in the aerospace industry working on satellite applications, including power distribution, conversion, and electric propulsion. He previously held the position of Technical Fellow with General Motors until 2013, specializing in power electronics and motor control. He is currently a Technical Fellow with Faraday Future, an electric vehicle manufacturer located in Los Angeles, CA.
October 21, 2019

Professor Thomas Overbye will be visiting PEAS Lab on October 21, 2019. He will have seminar in our chapter. When the title of his presentation will be finalized, the related flyer will be provide by our secretary.

Dr. Thomas J. Overbye

Dr. Thomas J. Overbye is a TEES Eminent Professor in Electrical and Computer Engineering at Texas A&M University (TAMU). Prior to joining TAMU in January 2017 he was the Fox Family Professor of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. He received his BS, MS, and Ph.D. degrees in Electrical Engineering from the University of Wisconsin-Madison. He was employed with Madison Gas and Electric Company from 1983 to 1991. Dr. Overbye is the original developer of PowerWorld Simulator and a co-founder of PowerWorld Corporation. He is also the recipient of the Alexander Schwarzkopf Prize for Technological Innovation, a University of Wisconsin-Madison College of Engineering Distinguished Achievement Award, the IEEE Power and Energy Society Outstanding Power Engineering Educator Award and is a member of the National Academy of Engineering.
March 30 - April 3, 2020

**Professor Georges Zissis** will be visiting PEAS Lab one day from March 30 up to April 3, 2020. He will have seminar in our chapter. When the title of his presentation will be finalized, the related flyer will be prepared by our secretary. Prof. **Georges Zissis** is IAS president now.
Kansas Power and Energy Conference (KPEC)

Establishing KPEC is our next program. 50% acceptance rate is our goal; so, KPEC is getting close and closer to reality. KPEC URL is as follow: https://www.kpec-ksu.org