



# Distinguished Lecturers 2017–2018

**T**he IEEE Industry Applications Society (IAS) Distinguished Lecturer (DL) Program has a long tradition of allowing Chapters to invite experts in fields of interest to visit the Chapter events and give lectures. According to current IAS bylaws (<http://ias.ieee.org/chapters-membership/distinguished-lecturer-program.html>), the DLs will be nominated by the IAS members and Chapters, and they may be IEEE Senior Members and Fellows.

The nominees selected by the Chapters and Membership Department’s DL/Prominent Lecturer (PL) subcommittee will be approved by the IAS Executive Board and appointed to serve as IAS DLs for a two-year term, which may be extended for another two-year term serving as PLs. The DLs and PLs will be reimbursed up to US\$1,000 and US\$600, respectively, per lecture travel. The monetary support of travel invitations is limited to three lectures per year. Since we would like to support the noncommercial events only, conference keynote lecture invitations are allowed, but the travel expenses will not be reimbursed by the DL/PL Program.

Detailed information about the DLs and their lecture topics can be found on the IAS website: <http://ias.ieee.org/chapters-membership/distinguished-lecturer-program.html>. I am pleased to introduce the newly elected IAS DL team members for 2017–2018 along with their lectures.

## 2017–2018 IAS Distinguished Lecturers

### Alireza Khaligh, Region 2



Alireza Khaligh

Alireza Khaligh is a Senior Member of the IEEE and an associate professor and director at the Maryland Power Electronics Laboratory at the Electrical and

Computer Engineering Department and the Institute for Systems Research in the University of Maryland at College Park, United States.

- “High-Efficiency, Isolated Onboard Electric Vehicle Battery Chargers with Ultrawide dc Link Voltage Ranges”
- “Regulated Transformer Rectifier Units for More Electric Aircrafts.”

### Suresh Channarasappa, Region 2



Suresh Channarasappa

Suresh Channarasappa is a Senior Member of the IEEE and fellow engineer at the Westinghouse Electric Company, Monroeville, Pennsylvania, United States.

- “Introduction to IEEE Standards (Nuclear) and Qualification of Electrical and Instrumentation and Control Equipment for Nuclear Power Plants”

- “Seismic Qualification of Safety- and Nonsafety-Related Equipment in Nuclear Power Plants”
- “Environmental Qualification of Safety- and Nonsafety-Related Equipment in Nuclear Power Plants”
- “Overview of AP1000 and Operating Nuclear Power Plant Equipment Qualification”
- “Nuclear Power Overview”
- “Update on Nuclear Power”
- “Basics of Power Generation and Distribution.”

### Wei-Jen Lee, Region 5



Wei-Jen Lee

Wei-Jen Lee is a Fellow of the IEEE and a professor in the Electrical Engineering Department and a director at the Energy Systems Research Center, University of

Texas at Arlington, United States.

- “Arc Flash Hazard and Electrical Safety”
- “Trend of the Smart Grid Development”
- “Seamless Integration of Renewable Energy”
- “PMU-Based Dynamic Equivalent Model Development for Large-Scale Wind Farms.”

### Akshay Kumar Rathore, Region 7

Akshay Rathore is a Senior Member of the IEEE and an associate professor at Concordia University Montreal, Canada.

- “Snubberless Naturally Clamped Soft-Switching Bidirectional Current-Fed Converters”



**Akshay Kumar Rathore**

- “Impulse Commutated Frequency Modulated Soft-Switching Current-Fed Converters”
- “Low-Switching Frequency Control of Medium-Voltage Multilevel Inverters for High-Power Industrial ac Drives”
- “Common-Mode Voltage Elimination in Dual Inverter-Fed Open-End Winding Induction Machines”
- “Single-Reference Six-Pulse Modulation (SRSPM) for High-Frequency Pulsating dc Link Three-Phase Inverters”
- “High-Frequency Soft-Switching PWM and Resonant dc/dc Converter Topologies for Solar/Fuel Cell Applications.”

**Ambrish Chandra, Region 7**



**Ambrish Chandra**

- Ambrish Chandra is a Fellow of the IEEE and a professor in the Electrical Engineering Department, École de Technologie Supérieure, Université du Québec, Montréal, Canada.
- “Hybrid Renewable Energy Stand-alone Systems”
  - “Power Quality: Problems and Mitigation Techniques”
  - “Control of Renewable Energy Sources with Power Quality Improvement Features.”

**Blake Lloyd, Region 7**



**Blake Lloyd**

- Blake Lloyd is a Fellow of the IEEE and director of development at Iris Power, Mississauga, Ontario, Canada.
- “Effects of Modern Variable-Speed Drives on Motor-Winding Insulation”

- “Turbine-Generator Rotor Monitoring Through Air-Gap Flux Monitoring”
- “The Use of Fiber Optic Sensors for Stator Endwinding Vibration Monitoring”
- “Shaft Voltage and Current Monitoring on Large Turbine Generators”
- “Condition-Based Maintenance of Large HV Rotating Machines”
- “Experience with an Online Hydro Generator Expert System Monitoring System.”

**Frede Blaabjerg, Region 8**



**Frede Blaabjerg**

- Frede Blaabjerg is a Fellow of the IEEE and a professor in Power Electronics and Drives, University of Aalborg, Denmark.
- “Wind Power: A Technology Enabled by Power Electronics”
  - “Power Electronics: The Key Technology for Renewable Energy System Integration”
  - “Design for Reliability in Power Electronic Systems.”

**Anthony C. Davies, Region 8**



**Anthony C. Davies**

- Anthony Davies is a Life Fellow of the IEEE and emeritus professor at King’s College London, United Kingdom.
- “Decision Points in Career and Life and Being a Volunteer”
  - “The Introduction of FM Broadcasting in Britain”
  - “British Army Battlefield Radios of the WW2 Era”
  - “The V1 “Flying Bomb” of World War Two”
  - “British Military Wavemeters of the 20th Century.”

**Stephen Jon Finney, Region 8**

Stephen Finney is a Senior Member of the IEEE and a professor in the Power Electronics, Drives, and Energy Conversion Group, University of Strath-



**Stephen Jon Finney**

- clyde, Glasgow, United Kingdom.
- “The Development of Utility Scale Voltage Source Converters”
  - “HVdc Transmission and Multiterminal HVdc”
  - “Renewable Generator Interface”
  - “Energy Collection Architectures.”

**Maria Ines Valla, Region 9**



**Maria Ines Valla**

- Maria Valla is a Fellow of the IEEE and a professor and head at the Power Electronics Group, Industrial Electronics, Control and Instrumentation Laboratory, Electrical Engineering Department, Universidad Nacional de La Plata, Argentina.
- “Finite State Predictive Control Applied to Multilevel Converters”
  - “Multilevel Converters Interfacing Renewable Energies to the Power Grid”
  - “Nonlinear Control of Power Converters”
  - “Application of Multilevel Current Source Inverters in Renewable Energies Interface with the Electric Grid.”

**Mohammad Rezwan Khan, Region 10**



**Mohammad Rezwan Khan**

- Mohammad Khan is a Senior Member of the IEEE and a professor and vice chancellor at the United International University, Dhaka, Bangladesh.
- “Solar PV-Based Stand-Alone Grid Systems for Developing Countries: Advantages of dc Systems”
  - “AC Versus dc: Resurrection of Westinghouse and Edison Debate”
  - “Development of Power Electronics and Enhanced dc Applications”

(continued on p. 81)

some have won awards. He has written virtually all of his poetry in his native language.

What advice does he have for young professionals? "I think people grow best under conditions of challenge, so go outside your comfort

zone. Attempt the harder things. Be humble. Appreciate others." Pillai found the road to his career happiness in the academic tradition, just as his parents did. Whether on or off the university campus, Pillai influences the minds and careers of future engi-

neers in his native country. And through his active involvement in the IAS, he contributes energy and talent to the larger global community, a paradigm that works very well for him.

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## history *(continued from p. 10)*

three-phase line. Utilities often limit the size of a single-phase feeder to 10 hp or lower. For this reason, many pumping applications are powered by expensive gasoline or diesel engine drives.

In 1970, General Electric introduced a line of large, single-phase motors for low-starting torque applications [7]. These motors were for a niche market, primarily rural water irrigation pumps, but other applications were listed. These motors covered the power range of 15–100 hp, 1,800 r/min, 230/460 V, single phase with a starting current approximately 200% of full-load current. The motor design was a capacitor-start, capacitor-run induction motor. At the time, the demand for this product was small, and it slowly faded from the market for lack of sales. Various manufacturers have created products providing an alternative to expensive extensions of three-phase circuits for low annual-load-factor loads. REPC papers on this topic include "Motor Starting Problems on Rural Systems" (1961), "Special Duty Motors for Farmstead Mechaniza-

tion" (1964), "Phase Converters: Their Application and Current Demand" (1965), and "Operating Problems with Large Motors on Single Phase Lines" (1966).

### Cultural Matters

Since 1956, cultural input continues to evolve. Some cultural considerations include

- changing demographics
- "farm policy"
- governmental regulations
- economic cycles.

The political and economic dimensions of these cultural matters are beyond the scope of this article. Interested readers can see the journal *Culture and Technology* for more information. It advocates for the idea that culture drives developments in technology and, in turn, technology influences changes in culture. Attendees at the REPC have reflected the evolution of technology and culture.

### Conclusions

The REPC continues to encourage practical-applications papers addressing issues of today and tomorrow. It

focuses on consumers of and operators of electric utilities serving rural and suburban territory. Cultural considerations are very important to rural life but may be beyond the reach of a technical society.

### References

- [1] L. E. Stetson, J. K. Hicks, and M. T. Fussell, "Forty years of the IEEE rural electric power committee: 1955–1995," in *Proc. 40th Annu. Rural Electric Power Conf.*, Fort Worth, TX, 1996, pp. A5–A1.
- [2] E. L. Owen, "Rural electrification: The long struggle," *IEEE Ind. Applicat. Mag.*, vol. 4, no. 3, pp. 6–17, May/June 1998.
- [3] "L'Abbe Nollet's dispute with Benjamin Franklin," *IET Archives Lettres Sur L'Electricite*. [Online]. Available: <http://www.theiet.org/resources/library/archives/featured/nollet.cfm>
- [4] "Account of death of Georg Richmann," in *Papers of Benjamin Franklin*, vol. 5, 1753–1755, Mar. 5, 1754, p. 239.
- [5] E. L. Owen, "Power system grounding. Part II. RCD and GFCI," *IEEE Ind. Applicat. Mag.*, vol. 2, no. 4, pp. 71–73, July/August 1996.
- [6] C. F. Dalziel, "Electric fence," U.S. Patent 2,401,815, June 11, 1946.
- [7] B. P. Miracle, "Large single-phase motors for low starting torque application," *IEEE Trans. Indust. Gen. Applicat.*, vol. IGA-6, no. 1, pp. 48–51, Jan./Feb. 1970.

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## chapter news *(continued from p. 77)*

- "Future of Power System: A Comparison Between dc and ac."

### Jin-Woo Ahn, Region 10

Jin-Woo Ahn is a Senior Member of the IEEE and a professor in the Department of Electrical and Mechatronics Engineering, Kyungshung University, Busan, Korea.



Jin-Woo Ahn

- "Design and Drive of Switched Reluctance Motors"
- "Application of Switched Reluctance Drives"
- "Research Trends of Switched Reluctance Drives."

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