

**Bala Pinnangudi, Ph.D.**  
**Senior Associate**

**Professional Profile**

Dr. Bala Pinnangudi is a Senior Associate in Exponent's Electrical Engineering and Computer Science practice. Dr. Pinnangudi specializes in the field of electrical engineering with emphasis on electrical power systems. His doctoral thesis at Arizona State University was based on life prediction and estimating remaining life of nonceramic/polymer high voltage insulators. He also has broad expertise in analog and digital electronic systems, computer systems, programmable controllers and software systems. Dr. Pinnangudi is a certified six-sigma black belt (a quality assurance and control certification).

At Exponent, Dr. Pinnangudi performs design reviews, safety evaluations, and failure analysis on battery-powered products, including batteries, charging systems, AC adapters, DC adapters, and power backup and management systems and controls. Dr. Pinnangudi also consults on electrical power systems and degradation mechanisms associated with insulators in high voltage systems.

Prior to Exponent, Dr. Pinnangudi was working as a senior consultant at Global Energy Advisors, Sacramento. His job responsibilities included energy forecasts, modeling and assessing regional power/fuel markets, advanced quantitative/qualitative analysis of energy market fundamentals, and serving as an advisor for clients to develop solutions for power business problems.

**Academic Credentials and Professional Honors**

Ph.D., Electrical Engineering, Arizona State University, 2007

M.S., Electrical Engineering, Arizona State University, 2003

B.E., Electrical Engineering, University of Madras, India

Session chair (Oral: General I), IEEE Conference on Dielectrics and Electrical Insulation 2006

Ranked exceptional as a teaching associate, Arizona State University Spring/Fall 2005

**Licenses and Certifications**

Six-sigma black belt, Arizona State University, May 2007

Graduate certificate in statistics, Arizona State University, May 2005

**Languages**

Tamil

## **Publications**

Pinnangudi BN, Gorur RS, Poweleit CD. Degradation dynamics of polymeric housing materials used for HV line and station apparatus. *IEEE Transactions on Dielectrics and Electrical Insulation* 2007; 14(5):1215–1223, October.

Pinnangudi BN, Gorur RS, Poweleit CD. Damage threshold of polymeric housing materials used for HV outdoor insulators. *IEEE Conference on Electrical Insulation and Dielectric Phenomena*, pp. 405–408, October 15–18, 2006.

Pinnangudi BN, Gorur RS, Govinda Raju GR. Arc endurance modeling of polymeric HV outdoor insulating materials. *IEEE Conference on Electrical Insulation and Dielectric Phenomena*, October 14–17, 2007.

Pinnangudi BN, Gorur RS, Poweleit CD. Quantification of degradation in nonceramic insulator housing materials by laser irradiation. *IEEE Transactions on Dielectrics and Electrical Insulation* 2006; 13(2):423–429, April.

Pinnangudi BN, Gorur RS, Poweleit CD. Characterization of field-aged nonceramic insulator. *IEEE Conference on Electrical Insulation and Dielectric Phenomena*, pp. 22–25, October 16–19 2005.

Pinnangudi BN, Gorur RS, Kroese AJ. Quantification of corona discharges on nonceramic insulators. *IEEE Transactions on Dielectrics and Electrical Insulation* 2005; 12(3):513–523, June.

Pinnangudi BN, Gorur RS, Kroese AJ. Energy quantification of corona discharges on nonceramic insulators. *IEEE Conference on Electrical Insulation and Dielectric Phenomena*, pp. 315–318, October 20–24 2002.

## **Presentations**

Pinnangudi BN, Gorur RS, Poweleit CD. Characterization of field-aged nonceramic insulator. *IEEE Conference on Electrical Insulation and Dielectric Phenomena*, pp. 22–25, October 16–19 2005.

## **Prior Experience**

Senior Consultant, Global Energy Advisors, 2007

Six-Sigma Black Belt Intern, ON Semiconductors, 2006–2007

Graduate Teaching Associate, Dept of Electrical Engg, Arizona State University, 2004–2007

Graduate Research Assistant, Dept of Electrical Engg, Arizona State University, 2001–2003