

---

# PREFACE

Professor Emeritus Masanori Hara

---

## Needs of Society and High Voltage Engineering



I have been involved with research and education regarding high voltage (HV) engineering in Universities and an electric power utility for over 40 years. Our circumstances in the HV engineering field changed drastically during this period.

Around 40 years ago, there was a clear mission of development of an a.c. UHV transmission system in HV engineering in Japan. After the completion of basic research for the design of a.c. UHV transmission lines, the HV section in the manufacturers was rapidly downsized and many engineers and scientists in the field of HV engineering retired without the replacement since we have reached the final transmission levels.

The educational reform was executed at the university under such trend in industry. That is, some universities had dropped their power engineering programs and the number of chairs of professor in the field of power/HV engineering was decreased. Young researchers in the field of HV engineering moved gradually from the power engineering field to the fields of applications of discharge, plasma and high electric stress, such as the development of new materials, industrial processes including material processing, chemical processing, food processing, electronic chip manufacturing, environmental control, bio-medicine and so on.

This tendency should be adopted since we are facing the change from a traditional engineering driven industry to an economical/environmental driven industry and the motivation of young engineers and students reflect the needs of industries, utilities and research concerning HV engineering.

Needless to say, the electric energy is essential for the development of industry and an affluent life, and HV engineering plays an important part in it. Hence, HV engineering must renew its content and methods in consideration of the above-mentioned situation.

The Power Academy covering all Japan was founded to revitalize research and education activity in power engineering under the cooperation between universities, utilities, and manufacturers in 2008. The Power Academy in Kyushu also started operations in the Kyushu region in 2009. This attempt might establish new forms of cooperation between universities and industries in HV engineering in the future.

In the meantime, the EINA magazine had featured mainly result of research activities in the field of HV engineering in Japan in the early stages. Today, it seems that the EINA magazine and its Web site (<http://eina.ws>) have served as a platform to network all Asian scientists, engineers, and graduate course students. I hope that the EINA contributes much more to building a partnership in the research and education of HV engineering in Asia.

**Dr. Masanori Hara**  
**Professor Emeritus of Kyushu University,**  
**Japan**