

# Mediterranean Green Energy Forum

Special Session Proposal for  
the second Mediterranean Green Energy Forum (MGEF 2015),  
to be held in Marrakech 26 - 28 March 2015

<http://nkms.free.fr/MGEF/MGEF2015.htm>

## High Voltage and Insulation Technologies

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**High voltage and insulation Technologies** is one of the specialty areas of electrical engineering. It has for long been of importance and is likely to remain so. Research in high-voltage engineering at universities will thus retain a valuable place in the training of young electrical engineers, and will help to stimulate and encourage interest in electrical power engineering.

The broad scope of topics, activities and applications not only makes high voltage and insulation engineering an exciting area but also leads to many possible paths for further studies.

The session will represent a collection of research studies undertaken by international academic groups working in the area. Definitely, there have been a large number of developments in the high voltage field over the last two decades. that is to say, there have been a number of key advances in materials. Polymeric insulators are still under major trials for transmission voltages but have become widely used in overhead lines at distribution levels. Cable insulation has moved from paper systems to various polymer-based materials. SF<sub>6</sub> has been found to be an efficient insulation medium in high-voltage switchgear so that GIS substations are now the preferred option for new substations. The excellent overvoltage protection characteristics of ZnO surge arresters have allowed design of modern compact systems. The propagation of lightning and fault currents through grounding systems can be modelled and predicted in much more efficient manner now that numerical methods are better controlled. The breakdown in air and in other materials is now better characterized than it was twenty years ago. instrumentation and experimental techniques have been Improved. So, taking all into account, it seems to be interesting that the session reviews the new advances in **High voltage and insulation Technologies**.

Topics of interest include but are not limited:

### 1. Electromagnetic fields

Computation, Measurements, Environmental Effects

### 2. Transient voltages

Overvoltages, repetitive impulses, lightning protection, surge arrester, insulation coordination.

### 3. Advanced materials and insulation systems

Outdoor, Indoor, Solid, Liquid and Gas insulated

### 4. Diagnostics and monitoring

Partial discharges, evaluation procedures, testing and measuring techniques

### 5. High voltage Applications

Important details of the MGEF 2015 can be seen on the conference Web site:

<http://nkms.free.fr/MGEF/MGEF2015.htm>