

## *Industrial, Academic Synergy Forum for Advanced in Research in Material Engineering*



*The Center of Excellence for Research in Material Engineering (CEREM) will sponsor a two-day seminar in the King Saud University for groups interested in promoting the quality of research in Material Engineering.*

*CEREM will bring together distinguished researchers that are representatives of the interested groups in materials engineering to determine the critical level of resources for research success.*

*Three discussion groups are invited to this conference that would represent the academic institutions throughout the Kingdom of Saudi Arabia, leading national industry companies,*

*and selected international experts. The objective of the conference is to brainstorm ideas about the research needs, prioritization of research, determine the best mechanisms to produce quality research programs, and to establish contact between parties.*

*Representative of the leading local industrial companies are expected to bring to the discussion table on-going problems, topics of research interest, issues facing the progress of research and development in Saudi Arabia, and identify technology advancements needed to solve materials related problems.*

*Academic institutions' representatives are expected to identify shortage of technical knowledge, facilities, and equipments to achieve higher caliber research; also the on-going underutilization (if any) of human resources, facilities, and research tools.*

*The international experts are expected to present their capabilities and establish contact with local researchers for possible cooperation and collaboration opportunities so that research funds and effort would also benefit the advancement of research in materials engineering worldwide. Also, this group would provide recommendations to assist CEREM in directing research programs.*

*CEREM will work on utilizing the recommendations resulted from the seminar to establish research programs, develop partnership between local researchers in universities and industry to achieve credible and higher quality research.*

### **1<sup>st</sup> AREA OF INTEREST -- POLYMER /COMPOSITES**

*Fiber-reinforced Composites (E-glass), Advanced Composites (S-glass), Carbon Fiber Composites are used in Oil, Gas and Energy sectors. E-Glass and S-glass are used in oilfield. Revolutionary advances in composites are expected to occur from the use of nanotechnology, wireless technology and self-healing mechanisms. The CEREM plans its composite research activities in the following areas:*

- *Fiber Reinforced Polymer Composite (FRPC)*
- *Metal Matrix Composite (MMC)*
- *Polymer Composite (PC)*
- *Conductive Polymer Composite (CPC)*
- *Smart Composite (SC)*

### **2<sup>nd</sup> AREA OF INTEREST -- METALLIC MATERIALS**

*CEREM will focus on material characterization, processing techniques, and technology that can expand to produce new materials with advanced properties. This will include*

*characterization of nanostructure, inter-metallic, and analyzing super alloys texture of metallic materials with advanced characterization, and identifying the process methods that would influence the mechanical properties of the materials.*

**3<sup>rd</sup> AREA OF INTEREST – CORROSION**

*Corrosion will encompass a high quality failure analysis services, research on the development of thin film coatings and applications of computer modeling and simulation in corrosion field. This area will also include the development of corrosion protection advanced material processing and computer modeling and simulation.*

<i>CEREM</i>	<i>Composites/ Polymer</i>	<i>Metallic Materials</i>	<i>Corrosion</i>
<i>Industry</i>			
<i>Academic</i>			
<i>Int. Experts</i>			