# News Release

**Celanese Corporation**
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## Celanese to Present Technical Papers on Engineered Material Innovations at SPE ANTEC 2014

*Customer application solutions also on display*

**DALLAS** (April 25, 2014) – Celanese Corporation (NYSE: CE), a global technology and specialty materials company, is presenting eight technical papers during the Society of Plastics Engineers (SPE) Annual Technical Conference (ANTEC) April 28-30, 2014, at the Rio All-Suite Hotel & Casino in Las Vegas, Nevada.

Celanese, also an exhibitor at Booth #224, will deliver the papers about material innovations during the two-day Technical Session:

- **10:00 a.m. Monday, April 28: M4 Color & Appearance Session**
  **"Advancements in Lasermarkable Engineering Resins" by Bruce Mulholland**

  Laser marking on plastics is growing in use. Bar codes and product lot data can be marked with lasers on some commodity resins. However, the focus is on the use of lasers to mark functional or decorative information on engineering resins. Because of their inert surface characteristics, these resins can be difficult to mark via printing using ink. Mulholland will focus on the development of specialty grades of engineering resins that yield excellent sharp, clear images when laser marked. Celanese has developed grades for laser marking white characters on black, dark characters on white, and other effects.

- **1:30 p.m. Monday, April 28: M26 Electrical & Electronic Session**
  **"Newly Improved PCT Compound for LED Reflector Resin" by Bing Lu**

  A reflector resin is an important integrated part of LED (light-emitting diode) packaging and its properties play a key role in LED packaging reliability and performance. Lu will discuss how to select proper reflector resins and important resin properties for LED packaging reliability and performance. He will also review a portfolio of high performance Thermx® polycyclohexylene dimethylene terephthalate (PCT) LED grades with outstanding reflectance stability under heat and light, two newly developed PCT compounds with enhanced initial reflectance and reflectance stability, and cover key application attributes, such as silicone adhesion, lead frame compatibility and surface gloss.

- **3:00 p.m. Monday, April 28: M41 Thermoplastic Elastomers Session**
  **"New Low Density and Low Hardness Thermoplastic Co-Polyester Elastomers (COPE)" by Mukul Kaushik**

  New low hardness (60 Shore A to 75 Shore A) thermoplastic polyester elastomers (TPC-ET) deliver excellent performance for a wide variety of automotive and consumer applications. These elastomers have excellent cold temperature impact strength and work

well at a broad range of temperature and humidity conditions. Kaushik will discuss how these recyclable elastomers can be processed via injection molding, blow molding and extrusion, and various grades with a wide range of hardness that are suitable for applications, which require excellent elastic properties, controlled flow and compression set. These new, highly flexible TPC-ET grades fill the property gap between standard thermoplastic polyester urethanes and vulcanized rubbers by providing excellent fatigue strength, chemical resistance and an increased operational lifetime.

- **4:00 p.m. Monday, April 28: M41 Thermoplastic Elastomers Session**
  **"High Performance, Wear Resistant Thermoplastic Co-Polyester Elastomers (COPE)" by Kaushik**

  New wear resistance (WR) thermoplastic co-polyester elastomers (COPE) deliver improved performance over a wide range of speed and load conditions in sliding or moving applications. These elastomers have excellent cold temperature impact strength and work well at a broad range of temperature and humidity conditions, primarily in injection molded articles. Kaushik will discuss various grades with a wide range of hardness that are suitable for applications that require excellent tribological properties and how these elastomers provide outstanding ductility combined with the excellent chemical and environmental resistance properties of polyesters. The unreinforced and higher flexibility COPE grades fill the property gap between standard thermoplastic polyester urethanes and vulcanized rubbers by providing excellent fatigue strength and hence an increased operational lifetime. These elastomers are easy to process, recyclable and retain their impact strength down to -30 degrees Celsius.

- **9:00 a.m. Tuesday, April 29: T6 Electrical & Electronic and Engineering Properties & Structure Session**
  **"Advances in High Performance Polymers for Mobile Devices" by Paul Yung**

- **10:00 a.m. Tuesday, April 29: T18 Product Design & Development Session**
  **"Glass Fiber Reinforced POM with Superior Mechanical Properties — Hostaform® XGC Series" by Kirsten Markgraf**

  Celanese has developed Hostaform® XGC (Xtreme Glass Coupled), a new series of glass fiber reinforced acetal copolymers (POM). Glass fibers are commonly used to enhance stiffness and strength in thermoplastics. The adhesion between the fiber and the polymer matrix plays a predominant role governing the characteristics of the resulting reinforced thermoplastics. Markgraf will discuss the application of a specific coupling technology, together with the modification of the polymer backbone, which leads to a unique mechanical property profile. The advantages of these products are a combination of improved strength and impact performance beyond typically achieved by standard glass fiber reinforced POM grades.

- **10:30 a.m. Tuesday, April 29: T18 Product Design & Development Session**
  **"High Temperature Flexible PPS Products for Harsh Environments" by Rong Lou**

  There is increasing interest in high temperature, flexible materials for industry applications involved in deep ocean oil and gas extraction and automotive under-the-hood fuel handling. This trend is triggering the search for a material that can operate above 130 degrees Celsius and often in harsh chemical environments. Lou will discuss a series of flexible polyphenylene sulfide (PPS) products that Celanese developed to enable high temperature tubing and piping applications for the oil and gas and automotive industries. These new

flexible PPS materials demonstrate superior heat resistance up to 165 degrees Celsius and low temperature impact resistance down to -40 degrees Celsius. The flexible PPS materials also show excellent chemical resistance to fuels, oils and a variety of automotive fluids. More importantly, these materials can be processed into parts, tubes, pipes, tanks, wires, films and sheets using injection molding, extrusion, blow molding and wire coating.

- **10:30 a.m. Tuesday, April 29: T11 Injection Molding – Materials**
  **"New Polyphenylene Sulfide Compounds" by Ke Feng**

  Celanese has developed a new technology that enables polyphenylene sulfide (PPS) to reach full crystallization faster at lower temperatures. Feng will discuss how new PPS compounds with this new technology -- during production scale trials -- have demonstrated several benefits including shorter cycle time, improved de-molding of parts, and improved flatness and dimensional precision. He also will discuss laboratory data regarding the recrystallization behavior and production trial results.

***About Celanese***

*Celanese Corporation is a global technology leader in the production of differentiated chemistry solutions and specialty materials used in most major industries and consumer applications. With sales almost equally divided between North America, Europe and Asia, the company uses the full breadth of its global chemistry, technology and business expertise to create value for customers and the corporation. Celanese partners with customers to solve their most critical needs while making a positive impact on its communities and the world. Based in Dallas, Texas, Celanese employs approximately 7,400 employees worldwide and had 2013 net sales of $6.5 billion. For more information about Celanese Corporation and its product offerings, visit www.celanese.com or our blog at www.celaneseblog.com.*



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