EFCE Spotlight Talks

Working Party on Static Electricity in Industry

26 October 2026

14:00-15:30 CET

EFCE

Triboelectricity: Fundamentals and Applications in Industry

Triboelectric charging, the electrification of materials through contact or friction, has been known since ancient times and represents the earliest observed manifestation of electricity. Despite its long history, the fundamental mechanisms governing charge transfer remain only partially understood. Many questions still exist regarding the dynamics of charge exchange, the factors influencing triboelectrification, and the methods used to characterize this phenomenon.
This webinar will provide an overview of the current understanding of triboelectrification in solid materials, highlighting both established knowledge and the challenges that continue to stimulate research in this field. It will then illustrate how triboelectric charging can be exploited in practical applications, with a particular focus on electrostatic separation technologies.

The first presentation, delivered by Prof. Daniel Lacks (Case Western Reserve University, USA), will discuss the fundamental physical mechanisms underlying triboelectrification, reviewing current knowledge as well as the key questions that still require deeper understanding.
The second presentation, delivered by Prof. Lucian Dascalescu (University of Poitiers, France) will focus on the application of triboelectricity to material separation processes. He will present the principles and advances of electrostatic separation technologies used for material sorting and recycling.

PROGRAM

14:00	**Welcome and introduction** Prof. Pedro Llovera, Chair of the WP on Static Electricity, Energy Technological Institute, Polytechnic University of Valencia - Spain Boelo Schuur, EFCE Scientific Vice-President
14:10	**What is known and what remains unknown about triboelectric charging** Prof. Daniel Lacks, Case Western Reserve University - USA
14:40	**Triboelectrostatic separation of materials in industry** Prof. Lucian Dascalescu, University of Poitiers – France
15:10	**Concluding remarks** Prof. Pedro Llovera-Segovia, Chair of WP Static Electricity in Industry

REGISTRATION

free of charge but mandatory

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