Xheme, Univ. of Bologna to Present on Essential Oil, Nanotech Combo at First International Conference on Antioxidants

New antioxidant technology with novel auto-oxidation inhibition mechanism shows promise as additive for food, cosmetics, pharmaceutical & healthcare industries

NEWTON, MA, UNITED STATES, May 4, 2023 /EINPresswire.com/ -- Xheme, Inc. and the University of Bologna will present on a novel antioxidant combination that effectively retards the auto-oxidation of an organic compound at the First International Conference on Antioxidants in Barcelona, Spain on Friday, May 12, 2023.

Lipid peroxidation represents a major hurdle in fields ranging from food storage to biomedical applications. Many antioxidant strategies have been put forward to address this problem. Interest first focused on the use of synthetic additives, but more recently it has turned to natural inhibitors—such as essential oils—with a food-grade or GRAS status, especially for food and pharmaceutical applications.

Antioxidants present in oregano and citrus essential oils have demonstrated antioxidant activity but are also unstable and degrade quickly. Adding the inorganic Xheme Nano Additive to organic additives that release gamma-terpene—such as oregano and citrus essential oils—reduces oxidation without degradation, can be incorporated into packaging, and will not migrate into protected material. The auto-oxidation inhibition mechanism based on these new materials is the first report of an inorganic antioxidant that is effective to retard the auto-oxidation of an organic compound.

These findings are important to understand the mechanism of the antioxidant activity of nanomaterials and for future practical exploitation of the potential antioxidant activity of essential oils. The discovery has multiple technological applications, such as reducing the oxidation under an air of varnishes and paints, avoiding rubber perishing, and protecting oils and food from going rancid or spoiling. This novel combination could allow for significant reduction of food waste due to spoilage, advancing sustainability initiatives.

Patents for the joint technology for polymers, resins, plastics, and packaging materials have been applied for: #17/664,253 and #17/817,858.

PRESENTATION DETAILS

First International Conference on Antioxidants, May 10-12, 2023
Barcelona, Spain

Title: Pro-aromatic terpenes from essential oils: a natural strategy to enhance the radical trapping activity of antioxidants and nanomaterials

Authors: Riccardo Amorati, PhD, an Associate Professor in the Department of Chemistry “G. Ciamician” at the University of Bologna, and Kumar Challa, PhD, President & Chief Scientific Officer of Xheme, Inc.

Session Type and Track: Session 3, Part II – Natural and Synthetic Antioxidants: Sources, Analysis and Mechanisms of Action

Session Date & Time: Friday, May 12, 2023 at 12:00 p.m. CET

For additional information, visit the ICA webpage: https://ica2023.sciforum.net/.

ABOUT XHEME, INC.

Xheme, Inc. is a specialty materials company based in Newton, MA, working to revolutionize bioplastic, coating, and film manufacturing by eliminating the need for single-use/single-function additives through the use of one multifunctional additive that provides the same, or better, performance. From blood bags to paints, its programmable Xheme Nano Additive allows for a new generation of non-toxic plastics and coatings without compromise, protecting the environment from a growing single-use additive ecological footprint. Xheme has a robust intellectual property portfolio and is working with global industry leaders to transform additive discovery.

media@xhemeinc.com
Ellen Leventry
Xheme, Inc.
Visit us on social media:
LinkedIn