

PROCEEDING OF INTERNATIONAL CONFERENCE 2025

HYBRID EVENT

INTERNATIONAL CONFERENCE 2025
27th – 28th February 2025

Organized By



Co-organized by



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Editorial

We are delighted to extend a warm welcome to all participants attending the International Conference 2025 on 27th – 28th February 2025. This conference provides a vital platform for researchers, students, academicians, and industry professionals from all over the world to share their latest research results and development activities in multidisciplinary fields. It offers delegates an opportunity to exchange new ideas and experiences, establish business or research relationships, and explore global collaborations.

The proceedings for International Conference 2025 contain the most up-to-date, comprehensive, and globally relevant knowledge across various disciplines. All submitted papers underwent rigorous peer-reviewing by 2-4 expert referees, and the papers included in these proceedings were selected for their quality and relevance to the conference. We are confident that these proceedings will not only provide readers with a broad overview of the latest research results but also serve as a valuable summary and reference for further studies.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincerest gratitude and highest respect to the professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also appreciate the efforts of the technical program committee, reviewers, and authors for their dedication.

Since December 2024, the Organizing Committee has received more than 45 manuscript papers, covering various aspects of multidisciplinary research. After review, approximately 16 papers were selected for inclusion in the proceedings of International Conference 2025.

We thank all participants for their significant contribution to the success of the conference. Our gratitude extends to the keynote speakers, individual speakers, technical program committee, reviewers, and the organizing committee for their efforts in making this conference a reality.

Acknowledgement

The International Conference 2025, was successfully held in 27th – 28th February 2025. We extend our heartfelt gratitude to our colleagues, staff, professors, reviewers, and members of the organizing committee for their unwavering support in making this conference a success.

We would also like to thank all the participants who traveled far and wide to attend this conference and those who attended the event virtually, making it a truly global event. This conference provided a platform for students, professionals, researchers, and scientists to share their latest research and developments in various disciplines.

The aim of the conference was to promote research and development activities and to encourage scientific information exchange between researchers, developers, professionals, students, and practitioners from all around the world. Once again, we thank everyone who contributed to making this conference a resounding success.



Dr. Ellowen Wakefield

Secretary

International Society for Applied Research (ISAR)

***Fumaria officinalis* L. Extracts: Cytotoxic, Antioxidant, and Anti-Inflammatory Potential in Human Keratinocytes**

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Abstract:

Fumaria officinalis L. (fumitory, Fumariaceae) is recognized as a valuable source of natural bioactives and is widely used for its diverse pharmacological properties. This study aimed to examine the beneficial effects of fumitory extracts related to skin. Specifically, extracts' cytotoxicity, antioxidant and anti-inflammatory properties, as well as sun protection factor (SPF) were examined. Cytotoxicity was evaluated in HaCaT human keratinocyte cells using a concentration range of 25 to 100 µg/mL, identifying all tested concentrations as non-cytotoxic. The production of intracellular reactive oxygen species (ROS) in HaCaT cells, exposed to the extract with or without hydrogen peroxide treatment, was measured using the H2DCFDA assay (25-100 µg/mL). The results demonstrated that fumitory extracts showed significant *in vitro* antioxidant capacity. The anti-inflammatory potential of the extracts, *i.e.*, the impact of the extracts on pro-inflammatory cytokines: interleukin-1 β (IL-1 β) and macrophage inhibitory factor (MIF) was also evaluated using cell-based ELISA (100 µg/mL). Therefore, it was shown that in bacterial lipopolysaccharide (LPS)-treated cells, fumitory extracts significantly reduced IL-1 β and MIF expression in comparison to LPS alone, confirming the anti-inflammatory activity of the extracts against LPS challenge. Nevertheless, the SPF values of fumitory extracts at tested concentrations (25-100 µg/mL) were low (0.29-1.25). Regarding the results related to antioxidant and anti-inflammatory properties, findings suggest that fumitory extracts represent a promising source of bioactives with potential application in pharmaceutical, cosmetic, or dermo-cosmetic formulations.