

## **Proposal to establish an EFIS Study Group on “Innate immunity in sterile inflammation, autoimmunity, and their resolution”**

Innate Immune cells and mediators are essential effectors in long-lasting pathologies, such as autoimmunity, metabolic disorders, vascular diseases, and cancer, as well as favorable outcomes, like wound repair and resolution of inflammation. In recent years, it has become evident that innate myeloid and lymphoid cells also play key roles in maintaining homeostatic function of the host and that their development and tissue-specific properties are more intricate than initially appreciated.

At large international and national meetings, innate sterile inflammation, autoimmunity, and their resolution take place under overarching umbrellas. The research of innate immune cells and mediators in sterile inflammation and its resolution, as well as their interactions with tissue-resident cells during pathological conditions has expanded significantly in the last decade (and particularly during the COVID-19 pandemic) and more subsets of innate immune cells and their developmental trajectories have been established. The World Congress of Inflammation, which takes place every 3 years and alternates between continents provides inadequate local coverage of these themes, while the recently established “Resolution Days” series of meetings focus on the resolution phase of inflammation (<https://www.resolutiondays.co>). To provide a better solution that will strengthen this community at the European level, we believe that a broader forum directed by EFIS with more extensive activities is timely and necessary.

Our initiative will combine national activities in European countries in one strong consortium and will allow us to strengthen the European innate immunity and inflammation community by paralleling worldwide developments. The comprehensive objective of establishing an **“Innate immunity in sterile inflammation, autoimmunity, and their resolution”** Study Group is to form a European network of innate immunologists working on sterile inflammation, autoimmunity, and cancer that will maximize the use of resources, exchange research ideas, train young scientists as experts in innate inflammation and its resolution, initiate collaborative research, enhance translatability of innovative science, and establish large research groups that will apply for funding by the European Union. The network will be the basis for future constructive research cooperation, scientific exchange, short-term laboratory rotations, and rapid scientific exchange of ideas and reagents. In addition, the network will give members working on the same question, but using different strategies and experimental models, the forum to exchange their ideas. Finally, it will allow us to develop an educational platform for young Europeans working in the field of myeloid cells in health and disease and to integrate groups working in eastern Europe into the Central/Western European Community. The planned Study Group will address these needs by various means:

1. A once-in-two-years meeting of the Study Group’s PIs hosted by one of the leading team PIs will take place. The costs for travel, lodging, and food will be covered by each participant.
2. The Study Group will organize a monthly virtual seminar series that will revolve around key concepts in innate inflammation and its resolution. These seminars will be broadcasted to all study group registrants and to other interested parties overseas and around the globe.
3. The Study Group will host a special issue in the *Immunology Letters* journal that will cover the overarching theme of innate sterile inflammation and its resolution.

4. At the upcoming (winter 2023) 1<sup>st</sup> EFIS Workshop on Innate immunity in sterile inflammation, autoimmunity, and their resolution, group leaders working on basic, developmental, translational, and clinical aspects of innate inflammation and its resolution from European institutions will have the opportunity to meet and plan future educational projects. In particular, we plan to launch the proposal for summer schools on open questions related to innate immune cells (development, role in inflammation and its resolution, new subsets, etc) coordinated by the Study Group and hosted by central institutions in Europe (such as JGU in Mainz, Vrije Universiteit Brussel in Belgium, Institut Cochin in Paris, the Weizmann Institute in Israel, and others).

Future efforts of the European Innate Sterile Inflammation Network will focus on three main open questions related to Innate Sterile Inflammation: i) tissue-specific immunity, ii) aging of the myeloid and lymphoid immune systems and its impact on sterile inflammation, and iii) Innate immune cells in immunologic disorders, such as autoimmunity, allergy, immunodeficiency, and cancer; all of them include basic, translational and clinical aspects.

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