Proposal for the establishment of ILC collaborative network (acronyme: ILCollnet)

Innate lymphoid cells (ILC) are primarily located at barrier surfaces where they play essential roles in maintaining tissue homeostasis, responding to infections, and in aiding tissue repair. As tissue-resident cells, they occupy defined tissue niches in which they receive and interpret signals from surrounding stromal, epithelial and immune cells but also from the external environment (e.g., microbiota, nutrients), thereby significantly influencing both local and systemic immune responses and tissue function. Various subpopulations of ILC, including ILC1, ILC2, ILC3, LTi cells, and NK cells, have distinct functions in immune regulation. Definition of ILC presents a challenging task due to their variable signature markers influenced by tissue origin and inflammatory status. In addition, ILC display a high degree of plasticity raising questions about the interrelatedness of the various ILC subsets. Since their discovery in the early 2010s, the elucidation of their roles, functions, and modulation has resulted in over 8000 papers, according to PubMed data. The importance of ILC in health and disease has been acknowledged through the establishment of the *International Conference on ILC* (ILC5 just took place this year in Cambridge). However, a unified network of investigators on the European level focused on ILC is still missing and this lack of communication slows the pace of new ILC-related discoveries. It is imperative to thoroughly characterize these cells and leverage this knowledge to develop novel predictive and therapeutic strategies for a range of human diseases including infectious, inflammatory and autoimmune diseases and cancer.

The primary objective of the **ILC collaborative network** is to establish a collaborative network across Europe focused on characterizing ILC in both humans and laboratory animals. This network will work towards standardizing the classification of ILCs, refining methods for their isolation and cultivation, and advancing their application in predicting and treating various forms of disease. The network will adopt a multidisciplinary approach, integrating expertise from fields such as immunology, molecular biology, biochemistry, medicinal chemistry, systems biology and bioinformatics. By consolidating these diverse perspectives, the initiative aims to deepen our understanding of the immune system and facilitate the development of innovative therapies. Establishing this network requires the collective effort of experts who will collaborate, share findings, and foster cross-disciplinary dialogue. Through this collaborative endeavor, we can unravel the complexities of ILC biology and harness their therapeutic potential for the benefit of patients worldwide.

As interest in science among the younger generation has been declining over the years, the **ILC collaborative network** aims to address this by offering a comprehensive range of opportunities specifically designed to support the growth and career development of early-career investigators. This includes organizing webinars and meetings for knowledge exchange, while also connecting those eager to advance in ILC research with the leading experts in the ILC field. That way, early career investigators will have the chance to engage in interdisciplinary collaboration, expand their professional networks, and gain hands-on experience with advanced methodologies.

The **ILC collaborative network** will address the indicated challenges through:

1. Organization of biennial meetings 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. Organization of 3-4 webinars per year dedicated to specific functional properties of ILC in health and disease. These webinars will be open to all EFIS members, but registration is required due to a limited number of available participant slots (for technical reasons).

3. Suggestion of two symposiums for the program of ECI2027. A satellite meeting of the Study group participants will be organized during the congress.
4. Hosting a special issue in the Immunology Letters journal that will cover the contemporary advance in the field of ILC.
5. Connecting early-career investigators with the renowned experts in the ILC field to promote their career prospects.
The coordinator and the proponents have already applied for COST action funding with the title of the proposal "Innate lymphoid cells – the European quest for innovative cancer prognosis and immunotherapy". If granted, this action will provide additional financial means for meetings and mobility of the Study group early-career participants.

Anticipated outcomes of the ILC collaborative network: joint publications (position papers, white papers), designing one Special Issues of Immunology Letters about the role of ILC in health and disease, mobility of early-career scientists, common project proposals.

Group's nominated speaker/coordinator: Dr. Ivana Stojanović, **Serbia** ivana@ibiss.bg.ac.rs

The core group of proponents:
Prof. Dr. Andreas Diefenbach, **Germany** andreas.diefenbach@charite.de
Dr. Aranzazu Cruz Adalia, **Spain** arancruz@ucm.es
Dr. Peter Balogh, **Hungary** balogh.peter@pte.hu
Dr. Guido Ferlazzo, **Italy** guido.Ferlazzo@unige.it
Dr. Đorđe Miljković, **Serbia** djordjem@ibiss.bg.ac.rs
Dr. Marina Babić Čač, **Croatia** marina.babic@medri.uniri.hr

List of tentative participants:
Dr. Dominik Filipp, **Czech Republic** dominik.filipp@img.cas.cz
Dr. Dominique Bullens, **Belgium** dominique.bullens@kuleuven.be
Dr. Christoph Klose, **Germany** christoph.klose@charite.de
Prof. Dr. Günnur Deniz, **Turkey** gdeniz@istanbul.edu.tr
Dr. Giuseppe Sciumè, **Italy** giuseppe.sciume@uniroma1.it
Dr. Bojan Polić, **Croatia** bojan.polic@uniri.hr
Dr. Michel Mickael, **Poland** m.mickael@igbzpan.pl
Dr. Rachel Golub, **France** rachel.golub@pasteur.fr
Dr. Joana Pereira Das Neves, **UK** joana.pereira_das_neves@kcl.ac.uk
Dr. Tim Halim, **UK** tim.halim@cruk.cam.ac.uk
Dr. Jan Dobeš, **Czech Republic** jan.dobes@natur.cuni.cz
Dr. Marko Šestan, **Croatia** marko.sestan@medri.uniri.hr
Dr. Thierry Walzer, **France** thierry.walzer@inserm.fr
Dr. Eric Vivier, **France** vivier@ciml.univ-mrs.fr
Dr. Henrique Veiga Fernandes, **Portugal** henrique.veigafernandes@research.fchampalimaud.org
Dr. Chiara Romagnani, **Germany** chiara.romagnani@charite.de
Dr. Georg Gasteiger, **Germany** georg.gasteiger@uni-wuerzburg.de
Dr. Adelheid Cerwenka, **Germany** adelheid.cerwenka@medma.uni-heidelberg.de
Dr. Kalle Malmberg, **Sweden** kalle.malmberg@ki.se
Dr. Jenny Mjoesberg, **Sweden** jenny.mjosberg@ki.se