Report on the activity in the framework of the European Inventor Network

Name of the alumnus who implemented the activity
Sylviane Muller

Short description of the activity
The DDD (Drug Discovery and Development) Challenge of IMS provides Master students with the opportunity to engage in a research project very early in their training trajectory. In the frame of the DDD Challenge, Master students propose a breakthrough solution they imagine to make a significant contribution to an area they identify by themselves in which there is a clear unmet therapeutic need for human kind; the objective for them is to fill this orphan therapeutic niche.

Working in pairs, two students from different disciplines, and mentored by academic and industrial coaches, conceive their own project, meeting the IMS requirements in terms of novelty, innovation, and potential for transfer (patent, creation of start-up, contract with existing biotech). The students present their interdisciplinary project to an international jury consisting of academic and industrial researchers and the winners are each awarded PhD funding along with an operating budget to support the launch of the project.

Date and place of the activity
All along the academic year with the final decision taken and announced during the IMS day on the 6th of May 2024.

Audience (number and age of the participants)
Ten master students (age 23-26) assisted by ten coaches (5 academic, 5 industrials)

Outcomes and achievement
The final day of the DDD Challenge took place on May 6th, 2024. Thanks to two cofounders (Laboratoires Pierre Fabre and Mutuelles AXA), two projects could be selected by the jury.
The first project (winning students: Ms Lucie Mazzucotelli and Ms Ida Staccioni) aimed at developing a novel generation of circRNA-PROTAC probes targeting RNA-binding proteins (RBP) in cancer. These probes will be generated using innovative bioconjugation strategies and will consist of a circRNA, a chemical linker and a ligand targetting a RBP overexpressed in intrahepatic cholangiocarcinoma, the second most common malignancy arising from the liver. The originality and novelty of this project relies on the use of circRNAs to increase the stability of the PROTAC probe.
The second project (winning students: Ms Elsa Barbé and Ms Sarah Griesbaum Dubourg) aimed at accelerating the development of new cancer treatments exploiting the potential of the immune system. Innovative fluorescent-based imaging sensors grafted on immune cell engagers (ICEs) will

be developed to visualize the interaction between immune cells and cancer cells, and to more rapidly test the efficacy of these ICEs.

Recommendations

Attachments


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