



Robert Oppenheimer Prize 2021

Laureate:

Dr. Abraham Lin

Nominator:

Prof. Annemie Bogaerts

Abraham Lin is FWO postdoc, with joint affiliation in my group PLASMANT and the Center for Oncological Research, and he is by far the best postdoc I ever had in my group.

He is a very interdisciplinary researcher. His research topic is plasma oncology, which combines the fields of chemistry, physics, engineering, cell biology, immunology, and medicine. He was the first to demonstrate that plasma can induce immunogenic cell death in cancer cells, which represented an exciting paradigm in plasma oncology. His truly pioneering work has inspired many plasma researchers all over the world to start working in this promising direction, now known as 'plasma onco-immunotherapy'.

Abraham strongly believes that studying a problem with only familiar tools is a serious limitation, and that for substantial scientific progress, it is imperative to build your skill set and collaborate with others that bring complementary expertise. This has driven him to conduct his interdisciplinary research, as demonstrated by his impressive publication record in different fields.

Abraham has extensive experience in both plasma science, engineering and cancer immunology, which gives him a unique position in our plasma community. As an engineer, he was able to design various plasma systems for biomedical applications. He is using his comprehensive knowledge in engineering, plasma chemistry, applied physics, and cancer therapy, to bridge the gap between all these disciplines, and address the clinical challenges in plasma oncology. The major issue nowadays is reproducibility and standardization of treatment. Therefore, Abraham started to collaborate with electromechanical engineers (Prof. Vanlanduit) to develop a controlled plasma treatment system, to address this challenge.

Recently, Abraham decided to add another discipline to his already broad expertise, i.e., cancer bioinformatics. In collaboration with BIOMINA (Prof. Laukens), he is using a combination of experimental and cancer bioinformatics approaches, to study the underlying mechanisms of plasma on cancer cells. This is truly novel, as nobody worldwide has applied bioinformatics yet to plasma oncology.

Abraham is also excellent, and even passionate, in mentoring and supervising students. He is supervising 3 PhD students from 3 different departments/faculties (Chemistry, Applied Engineering, and Medicine).

In summary, I consider Abraham as the most significant rising star in our community. His creativity and drive to learn new tools and techniques (e.g. cancer bioinformatics, robotics) to investigate scientific problems is helping him become an effective, multi-dimensional researcher.

For the aforementioned reasons, I request Rector Herman Van Goethem and Vice-Rector Ronny Blust to honour Abraham Lin with the Robert Oppenheimer 2021 Prize of the University of Antwerp.