June 7, 2023

PIANOFORTE travel grant mission report

Title: 25th International Symposium on Radiopharmaceutical Sciences (iSRS'23).

Objectives of the conference: The purpose of the symposium was to have a single interdisciplinary academic vocation by blending radioprotection, radiobiology, radiochemistry, radiopharmaceutical science and radiosafety for safe application of radiations for radioimaging and treatment of cancer.

Contribution: Oral presentation

Conference in brief: iSRS has a long history of providing valuable interaction between colleagues in the field of radioimaging and radiotherapy. The conference addressed original research in all aspects of radiopharmaceutical science; synthesis; in vitro and ex vivo studies; in vivo biodistribution and imaging; radiopharmacology; radio-protection; radiopharmaceutical production; translational preclinical and clinical research of new targeted radiotracers; and radiopharmaceutical technology.

Main activities: Several interesting research data were presented either orally or through posters (displayed at the conference lobby) on areas mentioned above. Among the equally important presentations some really caught my eyes including ''*Preclinical characterization of [^{18}F]FB-labeled single-domain antibodies for PET imaging of FAP-α of Folate-α overexpression in cancer*'' by Herlinde Dierick (PhD). This was interesting because FAP-α (fibroblast activated protein) is known to be overexpressed mainly by cancer-associated fibroblast in different cancer types including ovarian and breast cancers, whiles its expression in normal tissues is low or undetectable. Also, Folate-α are elevated in epithelial cancers such as lung and ovarian cancers making FAP-α and Folate-α promising biomarkers for cancer imaging and treatment. The authors concluded that [^{18}F]FB-labeled single-domain antibodies showed favorable biodistribution profile towards FAP-α and Folate-α making these antibodies attractive for further studies as new targeting tools for imaging. Also the talk entitled *''Identification of lymph node metastasis in ovarian cancer mouse models via immunoPET imaging''* by Kyeara Mack was interesting for my area of research as the researchers observed that radiolabeled antibodies could target hypoglycosylated MUC16 isoforms for diagnosis of metastatic lymph node delineation in ovarian cancer patients. Finally it was interesting to learn that

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radiopharmaceuticals can be used to image Alzheimer disease (AD) when a group from Spain headed by prof. Jordi Llop presented a *''longitudinal florzolotau (^{18}F) PET study in a rat model of Alzheimer disease''*. The group concluded that radiolabeled florzolotau was able to distinguish between control and selected AD rat models and presented higher uptake in the cortex and hippocampus compared to the baseline. This study will set the pace for future studies of radiopharmaceuticals applications in AD.

S**ummary:** The conference exposed me to a new world of radiopharmaceutical production and applications which will go a long way in my postdoctoral career. I was able to connect to different world renowned research groups working on radiopharmaceuticals and the next stage is to establish research collaborations with these groups.

I would therefore use this opportunity to say a very big thank you to **PIANOFORTE** mobility program for your support and I believe this is just the beginning.

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