

# Fellowship Profile

**IAEA PROGRAMS**  
AT ARGONNE NATIONAL LABORATORY

## Dosimetry & Medical Physics

### TRAINING SUMMARY

I attended a fellowship at the Emory Proton Therapy Center in Atlanta Georgia in the field of Dosimetry and Medical Physics. The training/visiting program was very well conducted, Proton QA tools and procedures for daily, monthly, and annual were shown and consulted for unclear issues of the dosimetry. The Monte Carlo (MC) dose calculation is offered to be a standard dose calculation in proton therapy. The commissioning of the MC-TPS was presented and discussed for the procedure, evaluation, and verification based on a new task group (which will be published shortly).

Physics and radiation therapist (RTT) shadowing were programmed and succeeded. The physics and RTT workflows were observed and learned to adapt the knowledge in our clinic. Radiation safety and management for the proton center were lectured and the different rules and roles between the USA and Thailand were discussed. The research experiences in flash proton, small target proton irradiation, and eye treatment were shared and knowledge was exchanged. The proton eye treatment for ocular melanoma is still limited and challenged. Continuing studies on adapting infrastructure and exploring techniques such as treatment planning, advanced imaging, or eye tracking would be beneficial for treatment outcomes.

### WHATS NEXT?

The training program's experience, knowledge, and information will improve my experience and skills in medical physics in proton therapy. The experience will be shared with our center, the King Chulalongkorn Memorial Hospital in Bangkok. Related procedures will be updated and implemented in our clinic, and the collaboration in research will support our community for further studies.



"The physicists duties and tasks were well organized, and experiences were shared between the two centers [staff]."

**Sirinya Ruangchan - Thailand**

**September 4th - 15th 2023**

**Hosted by: Emory Proton Therapy Center**