# 8th Annual LLU Algorithm Workshop - Agenda

| Time (PDT) | Monday, July 18, 2022 | Tuesday, July 19, 2022 | Wednesday July 20, 2022 |
|---|---|---|---|
| 5:30 AM | Coffee Klatsch | Coffee Klatsch | Coffee Klatsch |
| 6:00 AM | Francisco Aragón Artacho: **Split minimization problems arising in IMRT tackled with superiorization with restarts** | George Dedes: **Methods for improving the precision of ion beam radiation therapy of cancer** | Cecile Ronckers: **Quantitative Modeling of Long-term Outcomes in Cancer Survivors treated with Radiation Therapy** |
| 7:00 AM | Coffee Break/Breakout Groups | Coffee Break/Breakout Groups | Coffee Break/Breakout Groups |
| 8:00 AM | Yair Censor: **Finding a Best Approximation Pair of Points for Two Polyhedra** | Alexander Pryanichnikov: **Development of Imaging Beam for Protom Synchrotron and Correlated Noise Properties Study in Iterative pCT** | Elisabetta Gargioni: **TCP/NCTP modelling with focus on head and neck cancers** |
| 8:30 AM | Walaa Moursi: **How to project onto the intersection of a closed affine subspace and a hyperplane** | Stefanie Götz: **Evaluation of the impact of a scanner prototype on pCT and HeCT image quality and dose efficiency with Monte Carlo simulation** | Sonwabile: **An Investigation of Nanodosimetric Parameters Around a Proton Track** |
| 9:00 AM | Joao Seco: **An update on preclinical FLASH research** | Adam Zieser **Reconstructed pCT Images Using Monte Carlo Simulations of a Scintillating Glass Detector** | Monika Mietelska: **Nanodosimetry based radiobiological outcomes prediction** |
| 9:30 AM | Houda Kacem: **Impact of temporal structure of electron and proton beams on G°(H2O2), G(H2O2), DNA damage, and Zebrafish embryos** | Oscar Ariel Marti Villarreal: **A novel approach for beam characterization and online monitoring in particle therapy** | Adrianna Tartas : **Investigation of DNA damage repair dynamics of NBS1 foci in U2OS cells exposed to mixed beams** |
| 10:00 AM | Ákos Sudár: **Searching for New Proton CT Image Reconstruction Techniques** | Karol Brzezinski: **Detecting range shifts in proton beam therapy using the J-PET scanner** | Irina Kempf: **Simulating and improving the compact ion-counting track structure detector** |
| 10:30 AM | Max Aehle: **Design of a Modular CT Reconstruction Framework** | Ha Nguyen: **Finite Element Analysis of Customized Alternating Electric Field (AEF) Transducers for Small Animal Applications** | Natasha Le: **Gold Nanostars: Synthesis, Functionalization, & Application** |
| 11:00 AM | Lunch/Dinner Break/Breakout Groups | Blake Schultze: **A unified frame work for pCT image analysis** (TBC) | João Canhoto: **Repair kinetics of DSB-foci induced by proton and helium ion microbeams of different energies** |
| 11:30 AM | | Lunch/Dinner Break/Breakout Groups | Hanh Nguyen: **A Deep Convolutional Neural Network Approach for Particle Recognition in Mixed Radiation Field** |
| 12:00 PM | | | Lunch/Dinner Break/Breakout Groups |
| 12:30 PM | | | |
| 1:00 PM | Stefanie Kaser: **Updates and future plans of ion imaging at MedAustron** | Nils Krah: **Time-of-flight proton CT** | Cristina Oancea: **In-field and out-of-field microdosimetric characterization of proton beams using the Timepix3 detector** |
| 1:30 PM | Sam Flynn: **Monitoring pencil beam scanned proton radiotherapy using a large format CMOS detector** | Ilaria Rinaldi: **Machine logfile-based patient QA via independent Monte Carlo fully replaces measurements in our proton therapy facility** | Sam Ingram: **PyFoci: A model-based approach to quantifying miscounting of radiation-induced double-strand break immunofluorescent foci** |
| 2:00 PM | Ethan DeJongh: **First Test of pCT in a Gantry System: Results and Challenges** | Joseph Piet: **Using Chi Squared analysis for alignment of proton radiographs to planning CT** | Andrew Best: **Progress In Quantifying NTCP Reduction By Reducing Proton Range Uncertainty** |
| 2:30 PM | Suart Rowland: **Motion Adapted Reconstruction** | Kirk Duffin: **Correcting Detector Plane Misalignment with Projective Geometry** | Lawrence Orijuela: **Definition of the 3D Position and Motion Status of the Moving Heart based on 2D Projections** |
| 3:00 PM | Breakout Groups | Breakout Groups | Stephen Sampayan: **Linear induction accelerators as intense, high pulse rate, bremsstrahlung sources for FLASH-RT** |
| 4:00 PM | Star Party | Star Party | Abdelkhalek Hammi: **The Impact of Ultra-High-Dose Rate (FLASH) Radiation Dose to Circulating Lymphocytes** |
| 4:00 PM | | | Breakout Groups |
| 5:00 PM | | Proton Center Tour | Star Party |