

Workshop Program by Day

Time (PDT)	Monday, August 02, 2021
5:30 AM	Coffee Klatsch
6:00 AM	Henry Wolkowicz: NP-Hard Problems, Doubly Nonnegative Relaxations, Facial Reduction, and Splitting Methods
7:00 am	Russel Luke: Feasibility models: from nanoscale photonic imaging to randomized Algorithms for machine learning
	Howard Heaton, Aviv Gibali: Data-Driven Feasibility Algorithms
8:00 am	Walaa Moursi: The Douglas-Rachford algorithm for solving possibly inconsistent optimization problems
	Coffee Break/Breakout Groups
9:00 am	Matthieu Hentz: Proton CT Reconstruction with Directional TV Using X-ray Priors
	Pierluigi Piersimoni: Latest developments of the Bergen pCT project
10:00 am	Lennart Volz: Investigating different energy detector designs for single-event helium ion imaging
	Esther Bär: Assessment of the impact of CT calibration procedures for proton therapy planning on paediatric treatments
11:00 am	Carla Winterhalter: Monte Carlo simulations for clinical and research applications in proton therapy at PSI
	Keegan McNamara: GPU accelerated Monte Carlo activation calculations for range verification
12:00 pm	<i>Short graduate student research presentation</i>
	Lunch/Dinner Break/Breakout Groups

1:00 PM	Ryan Fullarton: 'A likelihood-based particle imaging filter using prior information
	Arthur Lalonde: Anatomical and setup changes in head and neck intensity-modulated proton therapy: comparison between robust optimization and online adaptation
2:00 pm	Eli Brottman: A Comparison of String Averaging and Component Averaged Row Projection Algorithms Used in Image Reconstruction
	Blake Schultze: Practical Implementation of pCT Algorithms
3:00 PM - 4:00 PM	Breakout Groups Star Party

Time (PDT)	Tuesday, August 03, 2021
5:30 AM	Coffee Klatsch
6:00 AM	Reng Ashokan: New Medical Devices: FDA Regulations and Best Practices – An Overview
7:00 am	Felix Ulrich-Pur: Development of an ion CT system based on 4D-tracking and time-of-flight based residual energy determination George Dedes: Update on fluence modulated proton CT activities and a new pCT artifact reduction method
8:00 am	Chiara Gianoli: Hybrid imaging framework for adaptive ion beam therapy Katrin Schnürle: Small Animal CMOS Integration Mode Proton Imaging at different Treatment Facilities
9:00 am	Coffee Break/Breakout Groups Max Aehle,Viktor Leonhardt: Quantification and Visualization of Uncertainties in CT Reconstruction
10:00 am	Daniel Robertson: Proton radiography with a monolithic plastic scintillator and digital camera Abdelkhalek Hammi: Imaging-based cerebrovasculature and a patient-specific circulatory system to model radiation dose to peripheral blood
11:00 am	Prasanna Palaniappan: '2D-3D image registration framework of treatment planning X-ray CT based on proton radiographies Tim Gehrke: Achievable image quality of helium-beam radiography of high-WET objects with a system based on thin silicon pixel detectors
12:00 pm	<i>Short graduate student research presentation</i> Lunch/Dinner Break/Breakout Groups

1:00 PM	Jordan Hourri: pCT reconstruction based on scatter rejection
	Kamal Singhrao: Implementation of high-quality motion-compensated SART (mcSART) CBCT imaging using the 5D motion model (pre-recorded)
2:00 pm	George Coutracon: pCT image quality comparisons with CARP, DROP and TVS
	Ethan DeJongh: ProtonVDA pCT Update: Algorithms and Images
3:00 PM - 4:00 PM	Breakout Groups Star Party

Time (PDT)	Wednesday August 04, 2021
5:30 AM	Coffee Klatsch
6:00 AM	Marie-Catherine Vozenin: From irradiation at ultrahigh dose rate to FLASH Radiotherapy: Experimental, conceptual and clinical challenges
7:00 am	Stefanie Kaser: The TIGRE toolbox and its application to ion imaging
	Victor Tvrdy: A Phenomenological Approach to Modeling Nanodosimetric Quantities
8:00 am	Natasha Le, Jorge (Naoki) Dominguez: Gold Nanostars (1) Synthesis, Functionalization, and Applications (2) Geant4-DNA Monte Carlo Simulations
	Magdalena Grochowska, Omar Rodriguez: Simulating the Radiation Chemistry of FLASH Radiation using TOPAS-nBio (1) Including Reactions of Biological Importance (2) Combining Heterogeneous and Homogeneous Chemistry
9:00 am	Coffee Break/Breakout Groups
	Sam Flynn: Application of CMOS Detectors to Microbeam Dosimetry.
10:00 AM	Niklas Wahl, Florian Barkmann: matRad (1) Introduction, Ongoing Developments and Related Projects (2) Application of Superiorization to Treatment Planning
	Amit Bennan: Joint optimization of photon-carbon ion combined treatments
11:00 am	Paulina Stasica: Experimental validation of LET spectra in mixed radiation fields with the TimePix technology for advanced radiobiological modeling in proton therapy
	Jorge (Naoki) Dominguez: Plasmid DNA damage simulations in Geant4-DNA using radiation chemistry: Current status and future developments
12:00 pm	<i>Short graduate student research presentation</i>
	Lunch/Dinner Break/Breakout Groups
1:00 pm	Frankis Almaguel: Integrating Theranostics and Radiation Oncology

	Antoni Rucinski: FRED: A GPU Monte Carlo Platform for Clinical Use
2:00 pm	Andrew Best: Decreasing NTCP Through Proton Range Uncertainty Reduction
	Scott Penfold: Proton Therapy and Proton Imaging in Australia
3:00 PM - 4:00 PM	Breakout Groups Star Party