1st New Mexico Workshop on Monte Carlo for Particle Therapy Treatment Planning

Albuquerque, New Mexico

16-18 May 2011

All talks will be held in the UNM Centennial Engineering Center, Room 1026 (112 on map)

Day 1: **Monday**, May 16, 2011

8:45-9:00	Introduction
9:00-9:40	Shirin Enger-Abbasinejad, University of Laval, Geant4 in Medical Radiation Physics: One Physicist's Perspective on Why This is the Monte Carlo Code to Chose
9:40-10:20	Forrest Brown, LANL MCNP
10:20-10:40	Coffee Break
10:40-11:20	Gonzalo Cabal, University of Heidelberg Target Definition and Treatment Planning in Particle Therapy using Monte Carlo Error Propagation Analysis
11:20-12:00	Roger L. Martz, LANL Unstructured mesh capability in MCNP
12:00pm-1:30pm	Lunch - CEC Stamm Room
1:30pm-2:30pm	**Keynote** Rick Chartrand, LANL Information extraction from high-dimensional data
2:30pm-3:10pm	Anil Prinja, UNM Reduced-physics Models for Efficient Treatment of Forward Peaked Scattering and Energy Straggling in Monte Carlo Simulation
3:10pm-3:50pm	Pablo Yepes, Rice University Fast and Accurate Calculations for Proton Therapy
5:00pm	Depart for the Night Out
6:00pm-9:00pm	Night Out on Sandia Peak http://www.sandiapeak.com The night out includes round trip Sandia Tram ticket and dinner at the High Finance Restaurant on Sandia Peak. If you arrive separately from the group, please proceed to the Tram ticket counter and tell them that you are with the group of Shuang (Sean) Luan and UNM and have a reservation for dinner at High Finance at 6pm. They will give you the Tram ticket. DO NOT pay for the tram ticket! It's already paid. Sandia Peak is about 10,000 feet (3,000 meters) above sea level. The temperature is about 10 to 15 degrees lower than Albuquerque. Please bring a jacket.

Day 2: **Tuesday**, May 17, 2011

9:00-9:40	Charlie Ma, Fox Chase Cancer Center Fast Monte Carlo dose calculation for particle therapy treatment planning
9:40-10:20	Niels Bassler, Aarhus University From Russia with love: The future of SHIELD-HIT Monte Carlo particle transport code
10:20-10:40	Coffee Break
10:40-11:20	Stefan Sellner, MPI-K Heidelberg The Heidelberg Ion Therapy (HIT) Facility
11:20-12:00	Dorian Arnold, UNM Trends in High-Performance Computing Systems
12:00-1:30pm	Lunch - CEC Stamm Room
1:30pm-2:10pm	Xun Jia, UCSD GPU-based Monte Carlo simulation for cancer radiotherapy
2:10pm-2:50pm	Roy Keyes, UNM A Supercomputer for Everyone: Cloud Computing for Clinical Radiation Therapy
2:50pm-3:10pm	Coffee Break
3:10 - 3:50pm	Charles Kelsey, LANL Multigroup Monte Carlo Calculations
3:50pm-4:50pm	Roy Keyes, UNM Tutorial on Amazon Cloud Computing I $100 credit for Amazon Web Services for each participant provided by Amazon.com

Day 3: **Wednesday**, May 18, 2011

9:00 - 9:45	UNM Campus Tour: Meet in CEC 1026
10:00-10:40	Michael Holzscheiter, MPI-K/UNM Antiproton Cancer Therapy - an overview of the experimental effort and calculational challenges.
10:20-10:40	Coffee Break
10:40-11:40	Tutorial on Amazon Cloud Computing II