ICTT-27 PROVISIONAL SCIENTIFIC PROGRAM

Monday 11/07

Chair: Barry Ganapol

09:30	**Welcome address**	
10:00	Barry D. Ganapol	Introduction to ICTT-27
11:00	Vincenzo Molinari, Davide Giusti	On the statistical model of the atom
11:25	Vincenzo Molinari, D. Mostacci	Kinetic theory study of pressure and EoS in a strongly degenerate Fermi gas
11:50	Break	
12:10	Laura Laghi	Physics-Informed Neural Networks for Linear One-Dimensional Diffusion-Advection-Reaction Equations
12:35	Jean C. Ragusa	Physics-informed Neural Network with Fourier Features for Radiation Transport in Heterogeneous Media
13:00	Enrico Schiassi	Physics-Informed Neural Networks for the Point Kinetics Equations for Nuclear Reactor Dynamics
13:25	Lunch	

Chair: Domiziano Mostacci

15:00	Barry D. Ganapol	Response Matrix Discrete Ordinates Solution of the 1D Fokker-Planck Equation
15:25	Alberto Previti	Towards a systematic requirement based approach to build a neutronic study platform
15:50	David Labeurthre	About the construction of finite element bases on 3D hexagonal geometries for neutron transport simulation
16:15	Break	
16:35	Dmitriy Anistratov	Analysis of Noise Effects in Hybrid Transport Methods Based on Low-Order Moment Equations
17:00	Farzad Rahnema	A Hybrid High-Order Low-Order COMET Method for Solving Eigenvalue Neutron Transport Problems
17:25	Johan Cufe	On the accuracy of the Ronen Method in plane geometry
17:50	Daniele Sciannandrone	A Novel Angular Discretization method for the Neutron Transport Equation: the MPN method
18:15	close	

Tuesday 12/07

Chair: Vittorio Romano

09:30	Richard Sanchez (keynote)	Analysis of the time spectrum of the kinetic transport operator
10:15	Barry D. Ganapol	Numerical Caseology by Lagrange Interpolation for The 1D Neutron Transport Equation In A Slab
10:40	Marco Tiberga	A Novel High-Order Surface Characteristics Scheme for the Neutron Transport Equation on 2D Unstructured Meshes
11:05	Break	
11;30	Philippe Humbert	Neutron Count Probability Approximations Using Moments, Meixner Polynomial Expansion and N-Forked Approximation
11:50	Torsten Keßler	Entropy-stable Galerkin methods for the Boltzmann equation
12:15	William Bennett	Benchmark Quality Time-dependent Transport Solutions Using a Moving Mesh
12:40	Lunch	

Chair: Richard Sanchez

15:00	Enrico Masiello	Angular flux asymptotic expansion applied to discrete-ordinates source iterations for lattice depletion calculations
15:25	Théophile Bonnet	Analysis of the correlation functions for the neutron and precursor populations at criticality
15:50	Francesco Filiciotto	Non-Conforming 3D Model for PWR Control-Rod Movements without Homogenization and Cusping Effect
16:15	Alberto Previti	Comparative analysis between fuel assembly calculation capabilities using APOLLO2 and APOLLO3® codes
16:40	Break	
17:00	Ana Carpio	Kinetic models for angiogenesis: analysis and simulation
17:25	Gael Poette	Revisiting the learning process in Machine Learning from a partial differential equation point of view: what transport can bring
17:50	Luis L. Bonilla	Swarm formation
18:15	close	

Wednesday 13/07 ***Field trip*** ***no sessions***

Thursday 14/07

Chair: Farzad Rahnema

09:00	Mario Marengo (keynote)	State of the art in cyclotrons for radionuclide production in biomedicine
09:45	Maha Farasat	Efficiency calibration of a stable NaI(Tl) detector for 41Ar for air exhaust systems
10:10	Jorge E. Fernandez	Full Recovering of an X-ray Spectrum from Detector Influence
10:35	Gael Poette	Building and solving efficient reduced models for the uncertain linear Boltzman equation: applications to neutronics (keff) and photonics
11:00	Matteo Stanzani	Gyrokinetic modelling of plasma transport and investigation on test particle dynamics
11:25	Break	
11:45	Shay I. Heizler	Discrete implicit Monte-Carlo (DIMC) scheme for simulating radiative transfer problems
12:10	Richard Vega	Implicit Monte Carlo with High Order Finite Element Spatial Discretization
12:35	Paul Cosgrove	Implementation of the Random Ray Method in the Monte Carlo codes SCONE and OpenMC
13:00	Jan Bartsch	A Monte Carlo framework for optimal control problems governed by multi-species plasma models
13:25	Lunch	

Chair: Maria Groppi

15:00	Martina Conte	Multi-cue kinetic model for cell migration on a fiber network
15:25	Nadia Loy	Direction-Dependent Turning Leads to Anisotropic Diffusion and Persistence
15:50	Youssef El-Khatib	On a regime-switching stochastic epidemic model for COVID-19
!6:15	Davide Laghi	A new V&V philosophy for fusion nuclear data libraries
16:40	Davide Giusti	From Point Kinetics to Pandemic Evolution Modelling
17:05	close	

Friday 15/07

Chair: Dmitriy Anistratov

09:00	Eugene d'Eon (keynote)	Step Correlations in Non-Classical Transport using 1D Point Processes
10:00	Maria Groppi	A mixed BGK-Boltzmann model for inert gas mixtures
10:25	Marzia Bisi	A general kinetic model of Boltzmann type for polyatomic gases
10:50	Francesca Brini	A Rational Extended Thermodynamics description of acceleration waves and oscillating gas bubbles
11:15	Break	
11:35	Vittorio Romano	Charge transport in graphene nanoribbons by means of the semiclassical Boltzmann equation
12:00	Giorgia Vitanza	Wigner equations for charge and phonons transport in graphene
12:25	Massimo. Trovato	The Maximum entropy Principle in solid state physics: General approach for dynamic high-Field transport in semiconductor materials and graphene
12:50	Vito D. Camiola	A bipolar hydrodynamical model for charge transport in graphene nanoribbons
13:15	Lunch	

15:30 **ICTT meeting and closing ceremony**