International Nuclear Codes Workshop/MCNEG – 2008

3rd – 6th March 2008

Birchwood Conference Centre, Warrington, Cheshire UK

Preliminary programme

Monday

08:45-09:30	**Reception and Coffee**
09:30-12:30	**MCBEND — Adam Bird and Geoff Dobson, Serco**
	MCBEND is a Monte Carlo transport code developed by Serco. Users can benefit from using MCBEND for design and predictive assessment of radiation levels in and around: Reactor plant; Reactor Pressure Vessel; Fuel transport flasks; Reprocessing plants; Fusion devices; Nuclear instrumentation; Borehole logging tools; Waste storage facilities; Food Irradiation Facilities
12:30-13:30	**LUNCH**
13:30-14:30	**MONACO — John Wagner , ORNL**
	Monaco is a new 3-D Monte Carlo code being developed within SCALE for shielding calculations. Monaco is the result of a modernization effort combining the multi-group neutron and photon physics of MORSE with the flexibility of the second-order surface SCALE general geometry package (SGGP), which is shared with KENO-VI.
14:30-17:30	**Attila — Gregory Failla, Transpire**
	Attila is a deterministic transport software system developed by Transpire, Inc. which directly solves the governing transport equations. Attila can import CAD data, and analyses can be set-up through an intuitive graphical user interface. Attila calculates the full solution everywhere in the computational domain, making it well suited for a broad range of applications.
19:00	**International nuclear codes workshop dinner**

Tuesday

08:45-09:30	**Reception and Coffee**
9:30-12:30	**KENO — Brad Rearden, ORNL**
	KENO is a Monte Carlo criticality safety code developed at Oak Ridge National Laboratory as part of the SCALE code system. KENO is employed to determine effective multiplication factors (k-eff) for multidimensional systems. In addition, KENO provides capability to perform sensitivity/uncertainty calculations via the TSUNAMI calculational sequence in SCALE. Two-dimensional colour plots and three-dimensional interactive visualization of the geometry model and calculational results can be generated on Unix, Linux, Windows, and Mac workstation and personal computer platforms.
12:30-13:30	**LUNCH**
13:30-14:30	**Hole Geometry — Adam Bird and Geoff Dobson, Serco Assurance**
	Hole geometry makes use of a technique called Woodcock tracking to improve tracking performance, and to allow the simple description of complex geometries.
14:30-17:30	**MCNP Vised — Randy Schwartz, Visual Editor Consultants**
	MCNP-Vised is a visual editor for MCNP offering a number of features including: Surface Creation/Cell Creation; access to the MCNP Materials/Materials Library; Lattice Creation; Importances; Source Points/Collision Points; KCODE Source Generation Points; 3D Plots; 3D Radiographic Plots; Tally Plotting; CAD Import; A Surface Wizard to assist in the creation of complex MCNP surfaces.

Wednesday

08:30-09:00	**Reception and Coffee**	
09:00-09:15	**Opening of MCNEG 2008**	
	Archaeological Applications	
09:15-09:45	Roger Nathan University of Oxford, UK	"All people are Africans!" adds MCNP.
	Medical Applications I	
09:45-10:15	Tricia Tynan University of Texas, USA	Use of BEAMnrc and DOSXYZnrc to Model Modulated Electron Beams Delivered Through a Photon Multileaf Collimator
10:15-10:45	Zamir Ghani University of Birmingham, UK	BNCT Beam Monitoring, Characterisation and Dosimetry
10:45-11:00	**BREAK**	
	Nuclear applications	
11:00-11:30	Boris Lukhminsky PetroAliance Services Company Russia	Performing the systems of autonomous nuclear logging-tools interpretation for horizontal boreholes
11:30-12:00	Raul Pampin Euratom/UKAEA Fusion Association UK	Radiation transport tools and applications in UK fusion research
12:00-12:30	Topan Setiadipura PPIN BATAN, Indonesia	MCNP Calculation on Neutronic Aspect of Thorium Battery (ThoBatt), a Long Life Small PWR with (Th,U)O2 Fuel
12:30-13:15	**LUNCH**	
	Medical Applications II	
13:15-13:45	Patrick Downes Velindre Cancer Centre, UK	Development and QA of Secondary Collimation Component Modules for beampp
13:45-14:15	Aurélie Desbrée IRSN, France	Personalized Dosimetry Associating Voxel-Based Phantoms with Monte Carlo Calculation in Nuclear Medicine and Radioprotection
14:15-14:45	Hassan Ali Nedaie Tehran University, Iran	MCNP Monte Carlo dose distribution in inhomogeneous phantoms in clinical electron beams

14:45-15:00	**BREAK**	
	Space Applications	
15:00-15:30	Robert Singleterry NASA Langley Research Center USA	Simple Comparisons of Stochastic and Deterministic Codes to OLTARIS for Space Radiation Models and Continuation into a Benchmark Set
	Computational Methods I	
15:30-16:00	Arkady Serikov FZK-EURATOM Germany	Parallel computations for the auto-converted MCNP5 models of the ITER ECRH launcher
16:00-16:30	Jan Jansen Health Protection Agency, UK	Commissioning of a PC Cluster for the calculation of scanner-specific normalised organ doses from CT
16:30-17:00	Palani Selvam Bhabha Atomic Research Centre, India	Inclusion of Bragg-gray stopping-power ratios in the EGSnrc user-code SPRRZnrc
17:00-17:20	**MCNEG AGM**	
17:20-18:30	**Trip to AMEC**	
19:00	**MCNEG 2008 Dinner**	

Thursday

08:45-09:15	**Reception and Coffee**	
	Detector Design and Optimisation	
09:15-09:45	Sébastien Serre IRSN, France	Design of a Bonner sphere spectrometer adapted to high energy neutrons using MCNPX simulations
09:45-10:15	Amokrane Allaoua IRSN, France	Use of Monte Carlo codes for the definition of a nuclei recoil detector for the reference establishment of neutron yields for IRSN-AMANDE facility
10:15-10:45	Nima Ghal-Eh Damghan University of Basic Sciences, Iran	Light transport simulation in scintillators
10:45-11:00	**BREAK**	
11:00-11:30	Mehdi Benmosbah IRSN, France	Response functions calculation of hydrogenous proportional counters using MCNPX
	Validation and Verification	
11:30-12:00	Mark Bailey NPL, UK	Review of Monte Carlo codes by the Modelling Working Group of the Panel on Gamma and Electron Irradiation
12:00-12:30	TBC	
12:30-13:15	**LUNCH**	
13:15-13:45	Daniel Kirby University of Birmingham, UK	A comparison of TRIM 2008, MCNPX 2.4 and 2.5 with measurements in a non-modulated 29 MeV proton beam
13:45-14:15	TBC	
14:15-14:45	Mark Bailey NPL, UK	Modelling a commercial cobalt-60 tote irradiator using the Monte Carlo code egspp, and validation using a real-time dosimeter
14:45-15:00	**BREAK**	
	Computational Methods II	
15:00-15:30	Keith Searson Sellafield Ltd,	Trimmed NURBS Surface Tracking

	UK	
15:30-16:00	Jaakko Leppänen VTT Technical Research Centre Finland	The use of a unionized energy grid in the PSG continuous energy Monte Carlo reactor physics code.
16:00-16:30	Emiliano Spezi Velindre Cancer Centre UK	The RTGrid project: clinical deployment of Monte Carlo simulations for radiotherapy treatments using the UK e-Science Grid
16:30-17:00	Pat Cowan Serco UK	Whole Body modelling using the VOXEL Hole in MCBEND
17:00	**CLOSE OF MCNEG 2008**	