CONFERENCE AGENDA

	MONDAY, OCTOBER 7	
	7 h 45 – 9 h: Registration	
	9 h – 10 h: Opening session	
W1	Welcome	Organizers
W2	Recent Geant4 developments	V. Ivantchenko
	10 h – 10 h 30: Coffee Break	
	10 h 30 – 12 h 50: Session 1: Imaging (chair: M. Bardiès)	
Im1	Advanced Geant4 photon transport models for imaging and medical physics applications of synchrotron radiation	J. M. C. Brown
Im2	Performance evaluation of Monte Carlo intrinsic spatial resolution estimation for image reconstruction in pinhole SPECT	Z. El Bitar
Im3	Efficient generation of SPECT images using compartmental modelling	M.-P. Garcia
Im4	Geant4 based factorized system matrix for attenuation and detector blurring correction in pinhole SPECT	Z. El Bitar
Im5	Hybrid Monte Carlo / deterministic simulation of X-ray imaging for the correction of scatter in cone-beam computed tomography	S. Rit
Im6	Positron Emission Tomography coincidence detection with photon polarization	A. L. McNamara
Im7	GATE simulations of highly realistic PET acquisitions of patients with atherosclerotic plaques	P. Huet
	13 h – 14 h 30: Lunch on site	
	14 h 30 – 19 h 20: Session 2: Radiotherapy (chairs: B. Faddegon, J. Perl)	
RT1	Simulation Monte Carlo Geant4 of depth-dose of linear accelerator and comparison with experimental measurement	H. Rached
RT2	Geant4 simulation of the Elekta XVI KV CBCT unit for accurate description of potential late toxicity effects of Image-Guided Radiotherapy	F. M. Brochu
RT3	Imaging and radiation Therapy: GATE Monte Carlo simulation of a Megavolt Cone Beam CT	J. Berti
RT4	Integration of the DICOM images in the *iort_therapy* (grid-version) advanced example: a necessary step toward a clinical use	C. Casarino
RT5	Personalized 3D dose prediction for Intrabeam™ treatments based on patient CT imaging with Monte Carlo GATE simulations	J. Bert
RT6	A modular Geant4 model of Leksell GammaKnife Perfexion	J. Pipek
	16 h 30 – 17 h: Tea Break	
RT7	Helical Tomotherapy unit full simulation.	A. Esposito
RT8	Multi-scale hybrid models for radiopharmaceutical dosimetry with Geant4	S. Marcatili
RT9	Intercomparison of Monte Carlo codes GATE and MCNPX on the ICRP/ICRU female reference computational model for internal dosimetry aspects	D. Villoing
RT10	Measuring the absolute energy distribution of the direct electron beam produced by a clinical accelerator	F. Gobet
RT11	The use of tetrahedral meshes and layered mass geometry in GEANT4 brachytherapy applications	G. Landry
RT12	GGEMS-brachy: Fully GPU Geant4-based Monte Carlo Simulation for brachytherapy applications	J. Bert
RT13	Quimera: a treatment planning system based on Monte Carlo methods and parallel computing	A. C. H. Oliveira
	19 h 20: Adjourn	

TUESDAY, OCTOBER 8		
9 h – 12 h 30: Session 3: Protontherapy (chair: S. B. Lee)		
PT1	Status of the TOPAS Monte Carlo System for Proton Therapy	J. Perl
PT2	Experimental benchmarks for Monte Carlo simulation of proton beams used for eye treatment	B. Faddegon
PT3	A high-resolution digital head phantom for Geant4 proton beam simulations	V. Giacometti
10 h – 10 h 30: Coffee Break		
PT4	Sensitivity of beam range estimation in different media in proton therapy using prompt gamma emission	F. Janssen
PT5	Geant4 Monte Carlo simulations for proton beam delivery system at the National Cancer Center (NCC) in Korea	J. H. Jeong
PT6	A Geant4 simulation of an Energy Selection System for laser-accelerated proton beams @ ELI-Beamlines.	F. Romano
PT7	Retrospective Neutron Dose Characterization for Pediatric Proton Therapy	R. A. Hälg
PT8	Simulation and verification of prompt gamma emissions during proton irradiation for in-beam SPECT based *in vivo* dosimetry	A. Mueller
PT9	GPU implementation of Geant4 processes for use in proton therapy	E. Garrido
12 h 30 – 14 h: Lunch on site		
14 h – 17 h 30: Session 4: Hadrontherapy (chair: T. Sasaki)		
HT1	Validation of the Geant4 nuclear reaction models against fragmentation data on thin and thick tissueequivalent targets for Hadrontherapy	M. De Napoli
HT2	95 MeV Carbon fragmentation measurements and comparisons with Geant4 simulations for hadrontherapy	J. Dudouet
HT3	CNAO active scan for ocular tumours hadrontherapy: the Geant4 simulation approach	A. Rimoldi
HT4	The Geant4 simulation of response of the carbon ion beam in track-etched detectors	M. Sefl
HT5	Influence of the biological washout processes in quality assurance of carbon therapy treatments by means of Positron Emission Tomography (PET) : a Geant4/GATE Monte Carlo study	I. Martinez-Rovira
HT6	Hadrontherapy with nanoparticle Geant4 Monte Carlo simulations	C. Belamri
16 h – 16 h 30: Tea Break		
HT7	A Critical Comparison of Dose-Averaged LET Calculation Methods for Clinical Proton Beams	M. A. Cortes-Giraldo
HT8	Design optimization of a TOF-based collimated camera prototype for online hadrontherapy monitoring	M. Pinto
HT9	Spatial fractionation of the dose in hadrontherapy: a Monte Carlo study	Y. Prezado
17 h 30 – 19 h 10: Session 5: Detectors and instruments (chair: Y. Prezado)		
D1	Hampton University Low Energy Linear Accelerator	P. Gueye
D2	Characterising optical photon transport in novel electronic portal imaging devices employing plastic scintillator	S. Blake
D3	The impact of surface properties on optical transport in plastic scintillation detectors	J. Nilsson
D4	GODDeSS - A simulation tool for easy modeling of scintillator tiles with SiPM readout	E. Dietz-Laursonn
D5	Geant4 dosimetric models for archeological objects	L. Martin
19 h 10: Adjourn		

WEDNESDAY, OCTOBER 9		
8h20 – 15h20: Session 6: Towards biological damage (chairs: M. C. Bordage, Z. Francis, Z. Kuncic)		
Bio1	The chemical module of the Geant4-DNA project	M. Karamitros
Bio2	Coupling the Geant4-DNA track structure with RADAMOL code for description of radiation action on short DNA plasmids in water	V. Stepan
Bio3	Nanometric structure and micrometric characteristics of the energy deposition of light ions in the DNA molecule for biological damages evaluation	C. Villagrasa
Bio4	Carbon ion fragmentation effects on the nanometric level behind the Bragg peak depth	Z. Francis
Bio5	Determination of structure sizes for estimating dose to cell nuclei sized targets in radiotherapy	C. M. Poole
10 h – 10 h 30: Coffee Break		
Bio6	DNA breakages from mono-energetic electrons on breast cancer cells – Impact of the dissociative electron attachment process within the Geant4-DNA tool	P. Gueye
Bio7	Interaction of radiation beams with cells: Optimization study on the use of polarized electromagnetic beams	P. Gueye
Bio8	Dosimetric calculations with Auger emitters at the cellular scale	M. C. Bordage
Bio9	Monte Carlo simulation Study about the prediction of proton-induced DNA strand breakage on the double helix structure with DNA composition	J. I. Shin
Bio10	Quantification of proton dose enhancement resulting from the use of gold nanoparticles	J. Schümann
Bio11	Geant4 simulations of biological effects in hadrontherapy	F. Romano
12 h 30 – 14 h: Lunch on site		
Bio12	Microdosimetry spectra and RBE of protons, helium, lithium and carbon nuclei in water studied with Geant4-based simulations	L. Burigo
Bio13	Simulations of Experimental Nanodosimetric Quantities for Applications in Mixed-Field Radiation Therapy	M. Casiraghi
Bio14	Can Monte Carlo radiation transport simulations reveal new clues to the bystander effect ?	Z. Kuncic
Bio15	Developments and validation for the GATE multi-scale platform integrating GEANT4-DNA features	L. Maigne
15 h 20 – 15 h 50: Tea break		
15 h 50 – 17 h 30: Session 7: Computing performance (chair: L. Maigne)		
C1	Graphical user interface for geometry modelling for Geant4	D. Borys
C2	Cached parameterisation for navigating replicated geometry that is larger than memory	C. M. Poole
C3	Speeding up Gate/Geant4 for low energy x-ray dose calculation: two Kerma methods	F. Smekens
C4	Hybrid CPU/GPU GATE: towards GATE V7	J. Bert
C5	GPU Framework Allowing Fast Monte Carlo based Scatter Correction for the MR-BrainPET	J. Bert
17 h 30: adjourn		
17 h 30 – midnight: conference excursion		