15th international workshop on radiation damage to DNA

"Centre Paul Langevin", CAES of CNRS, 24 rue Coin 73500 Aussois

May 27th – June 1st 2018

**Organizing Committee**: Jean-François CONSTANT, Thierry DOUKI, Elise DUMONT, Jean-Luc RAVANAT, Joanna TIMMINS

**Scientific Committee**: Amitava Adhikary (USA) ; Cynthia Burrows (USA) ; Maria Davidkova (CZ) ; Michael Dingfelder (USA) ; George Don Jones (UK) ; Alexandros Georgakilas (GR) ; Antonio Monari (FR) ; Hooshang Nikjoo (SE) ; Kevin Prise (UK) ; Pablo Radicella (FR) ; Evelyne Sage (FR) ; Naoya Shikazono (JP) ; Gisela Taucher-Scholz (DEU); Dmitry Zharkov (RS)
Monday May, 27th

8h30 – 10h15 Chair JL Ravanat, Amitava Adhikary

8h30-8h35: Jean-Luc Ravanat “Opening”

8h35-9h15: Amitava Adhikary “Reactions of Guanine Cation Radical in DNA-models” P12

9h15-9h55: Mehran Mostafavi “Can an excess electron in water induce a dissociative electronic attachment to DNA bases?” P13

9h55-10H15: Aurélien de la Lande « Ultrafast ionization of guanine upon collisions with charged particles: new insights from first principles simulations” P14

10h15-10h45: Coffee break

10h45 - 12h25 Chair Jean-François Constant, Cynthia J. Burrows

10h45 – 11h25: Cynthia J. Burrows “DNA Damage Regulates Gene Expression via Base Excision Repair” P15

11h25 – 12h05: Marc M. Greenberg “Examining How Radiation Damages DNA By Independently Generating Individual Reactive Intermediates” P16

12h05 – 12h25: Hakim Belmouaddine “Femtosecond Laser-Induced Low Density Plasma mediated DNA damage in Aerated Aqueous Solutions” P17

12h30 – 14h00 Lunch Break

14h00 - 16h00 Chair Thierry Douki, Antonio Monari

14h00 – 14h40: Dimitra Markovitsi “Radical Generation in DNA by Direct Absorption of Low-Energy UV Radiation” P18

14h40-15h20: Sheera Adar “High throughput sequencing uncovers patterns of UV damage formation and repair in the human genome” P19

15h20 – 15h40: Lara Martinez-Fernandez “UV-induced DNA-base dimerization mechanisms studied by quantum chemistry” P20

15h40 – 16h00: Florian Heimbach “DNA circuitry as a radiosensitive detector for the quantification of radiation damage” P21

16h00-16h30 Coffee break

16h30 – 18h00 Chair Elise Dumont, Michael Dingfelder

16h30: 17h10: Carmen Villagrasa “Mechanistic simulation of radioinduced DNA early damage with Geant4-DNA” P22

17h10 – 17h50: Michael Dingfelder “Radiation Transport in nano-sized structures” P23

17h50 – 18h10: Katharine Moore Tibbetts “Ultrafast hydrogen atom migration and vibrational coherence in phosphate radical cations” P24

19h00 – 20h00 Dinner

20h00 – 21h30 Posters session
Tuesday May, 28th

8h15 – 10h15 Chair Georges George ‘Don’ Jones, Jean-Pierre Pouget

8h15-9h55: Hiroshi Ide “Direct Observation of Damage Clustering in Irradiated DNA” P25

8h55-9h35: George ‘Don’ Jones “Comet Assay Measures of Cancer Cell Damage Sensitivity In Vitro and In Vivo” P26

9h35-9h55: Madeleine Le Coz « Brn2 protects melanocytes against ionizing radiation P27

9h55 – 10h15: Yanfang Dong “Unified Mechanism for the Generation of Isolated and Clustered DNA Damages by a Single Low Energy (5−10 eV) Electron” P28

10h15-10h45 Coffee break

10h45 - 12h25 Chair Elise Dumont, Gisela Taucher-Scholz

10h45 – 11h25: Jan Schuemann “Estimating radiation damage to DNA with track structure simulation” P29

11h25 – 12h05: Heidi Nettelbeck “Estimating radiation damage to DNA with track structure simulation” P30

12h05 – 12h25: Samia Chaouni “Side effects of scattered versus scanned proton beams on normal tissues in total body irradiated mice: preliminary results” P31

12h30 – 14h00 Lunch Break

14h00 - 16h00 Chair Jean-Pierre Pouget, Evelyne Sage

14h00 – 14h40: Carmel Mothersill “Non DNA-Targeted Effects; The Role of Biophotons and Mitochondria” P32

14h40-15h20: Jean-Pierre Pouget “Direct and bystander effects of targeted radionuclide therapy” P33

15h20 – 15h40: Vincent Lemelin “Cross sections for nanodosimetry: absolute cross sections for vibrational and electronic excitation induced by 1-18 eV electron scattering from condensed dimethyl phosphate” P34

15h40 – 16h00: Nicolas Tang “Influence of chromatin compaction on early radiation-induced DNA damage” P35

16h00-16h30 Coffee break

16h30 – 18h00 Chair Naoya Shikazono, Jean-François Constant

16h30 - 17h10: Naoya Shikazono “Measurement and mutagenic potential of clustered DNA lesions” P36

17h10 – 17h50: Joanna Timmins “Genome maintenance & dynamics in the radiation resistant bacterium Deinococcus radiodurans” P37

17h50 – 18h10: Junran Zhang “RNF126 promotes a novel G2 arrest via interaction with 14-3-3σ” P38

19h00 – 20h00 Dinner

20h00 – 21h30 Posters session
Wednesday May, 29th

8h15 – 10h15 Chair Pablo Radicella, Joanna Timmins

8h15-9h55: Grigory L. Dianov “Regulation of base excision repair in response to DNA damage” P39

8h55-9h35: Bernd Epe “OGG1: a DNA repair glycosylase relevant for both genomic stability and transcription regulation” P40

9h35-9H55: Wei-Ting Lu “Drosha drives the formation of DNA:RNA hybrids around DNA break sites to facilitate DNA damage repair” (Cancelled) P41

9h55 – 10h15: Lei Li “Fanconi anemia and Complex DNA lesions” P42

10h15-10h45 Coffee break

10h45 - 12h25 Chair Dmitry Zarkov, Jean-François Constant

10h45 – 11h25: Neil M. Kad “Using single molecule imaging to investigate the molecular processes of nucleotide excision DNA repair” P43

11h25 – 12h05: Dmitry Zharkov “8-Oxoguanine: How enzymes find a soft spot in DNA” P44

12h05 – 12h25: Laurence Blanchard “Conservation and diversity of DNA repair genes and their regulation in radiation-resistant Deinococcus bacteria” P45

12h30 – 14h00 Lunch Break

14h00 – 19h00 Free afternoon.

19h00 – 20h00 Dinner

20h00 – 21h30 Posters session
Thursday May, 30th

8h15 – 10h15 Chair Gisela Taucher-Scholz, Naoya Shikazono

8h15 - 9h55: Claire Rodriguez-Lafrasse “Why carbon ions better cure radioresistant cancers: specificities of the molecular response” P46

8h55 - 9h35: Gisela Taucher-Scholz “Ubiquitination-dependent regulation of DNA end resection at clustered lesions in G1 cells” P47

9h35 - 9H55: Junjie Chen “Functional proteomic analysis of DNA damage response and tumorigenesis” P48

9h55 – 10h15: Justyna Miszczyk “Determination of cell death modes induced by therapeutic proton irradiation in human peripheral blood lymphocytes” P49

10h15 - 10h45: Coffee break

10h45 - 12h25: Chair Evelyne Sage, Thierry Douki

10h45 – 11h25: Thierry Douki “The contribution of UVA to the for formation of pyrimidine dimers in DNA” P50

11h25 – 12h05: Antonio Monari “Find the enemy hiding in the darkness: DNA repair efficiency rationalized by molecular simulation” P51

12h05 – 12h25: Craig J. Neal “In vivo administration of engineered cerium nanoparticles potentiates cell survival following incidental radiation exposure: mitigation of ROS and double strand breakage” P52

12h30 – 14h00 Lunch Break

14h00 : 16h00 Chair, Pablo J Radicella, Marie Davidkova

14h00 – 14h40: J. Pablo Radicella “Cohesin and Mediator are required for the initiation of Base Excision repair in the nucleus” P53

14h40-15h20: Jason L Parsons “Complex DNA Damage induced by high-LET protons triggers a specific cellular DNA damage response” P54

15h20 – 15h40: Anna Michaelidesová “Response of neural stem cells to ionizing radiation” P55

15h40 – 16h00: Fayyad Nour “Deciphering the role of XPC in DNA Base Excision Repair pathway (BER) and the oxidative stress” P56

16h00-16h30: Coffee break

16h30 – 18h00 Chair Jean-Luc Ravanat, Amita Adhikary

16h30 - 17h10: Colin G. Wu “Repair of G-quadruplexes orchestrated by human FANCJ and REV1” P57

17h10 – 17h50: Jean-Luc Ravanat “Photosensitized Formation Of DNA Lesions” P58

17h50 – 18h10: Reimitz D “Organometallic compounds in the context of DNA strand break induction during irradiation” P59

19h00 – 20h00 Gala dinner