

Références ORCID : Philippe Barberet : 0000-0002-1565-3296 ; Guillaume Devès 0000-0002-3401-8351 ; Franck Gobet : 0000-0001-8863-9172 ; Sébastien incerti : 0000-0002-0619-2053 ; Claire Michelet : 0000-0002-4947-5520 ; Hervé Seznec, 0000-0001-6180-8925

Références Bibliographiques (2015 -2021)

1. Advances in Geant4 applications in medicine. Incerti S, Brown JMC, Guatelli S. Phys Med. 2020 Feb 5. pii: S1120-1797(20)30022-3. doi: 10.1016/j.ejmp.2020.01.019. PMID: 3203580
2. Microdosimetric calculations of the direct DNA damage induced by low energy electrons using the Geant4-DNA Monte Carlo code. Margis S, Magouni M, Kyriakou I, Georgakilas AG, Incerti S, Emfietzoglou D. Phys Med Biol. 2020 Jan 14. doi: 10.1088/1361-6560/ab6b47. PMID: 31935692
3. Assessment of Radio-Induced Damage in Endothelial Cells Irradiated with 40 kVp, 220 kVp, and 4 MV X-rays by Means of Micro and Nanodosimetric Calculations. Tang N, Bueno M, Meylan S, Perrot Y, Tran HN, Freneau A, Dos Santos M, Vaurijoux A, Gruel G, Bernal MA, Bordage MC, Emfietzoglou D, Francis Z, Guatelli S, Ivanchenko V, Karamitros M, Kyriakou I, Shin WG, Incerti S, Villagrasa C. Int J Mol Sci. 2019 Dec 9;20(24). pii: E6204. doi: 10.3390/ijms20246204. PMID: 31835321
4. A simulation study of gold nanoparticles localisation effects on radiation enhancement at the mitochondrion scale. Francis Z, Montarou G, Incerti S, Bernal M, Zein SA. Phys Med. 2019 Nov;67:148-154. doi: 10.1016/j.ejmp.2019.10.038. PMID: 31707141
5. Determination of fast neutron RBE using a fully mechanistic computational model. Zabihi A, Tello J, Incerti S, Francis Z, Forozani G, Semsarha F, Moslehi A, Bernal MA. Appl Radiat Isot. 2019 Nov 2;108952. doi: 10.1016/j.apradiso.2019.108952. PMID: 31735447
6. Reducing the ionizing radiation background does not significantly affect the evolution of Escherichia coli populations over 500 generations. Lampe N, Marin P, Coulon M, Micheau P, Maigne L, Sarramia D, Piquemal F, Incerti S, Biron DG, Ghio C, Sime-Ngando T, Hindre T, Breton V. Sci Rep. 2019 Oct 17;9(1):14891. doi: 10.1038/s41598-019-51519-9. PMID: 31624294
7. A Geant4 simulation for three-dimensional proton imaging of microscopic samples. Michelet C, Li Z, Yang W, Incerti S, Desbarats P, Giovannelli JF, Barberet P, Delville MH, Gordillo N, Devès G, Seznec H. Phys Med. 2019 Sep;65:172-180. doi: 10.1016/j.ejmp.2019.08.022. PMID: 31494371

8. Monte-Carlo dosimetry and real-time imaging of targeted irradiation consequences in 2-cell stage *Caenorhabditis elegans* embryo. Torfeh E, Simon M, Muggiolu G, Devès G, Vianna F, Bourret S, Incerti S, Barberet P, Seznec H. *Sci Rep*. 2019 Jul 22;9(1):10568. doi: 10.1038/s41598-019-47122-7. PMID: 31332255
9. Electron track structure simulations in a gold nanoparticle using Geant4-DNA. Sakata D, Kyriakou I, Tran HN, Bordage MC, Rosenfeld A, Ivanchenko V, Incerti S, Emfietzoglou D, Guatelli S. *Phys Med*. 2019 Jul;63:98-104. doi: 10.1016/j.ejmp.2019.05.023. PMID: 31221415
10. Computational approach to determine the relative biological effectiveness of fast neutrons using the Geant4-DNA toolkit and a DNA atomic model from the Protein Data Bank. Zabihi A, Incerti S, Francis Z, Forozani G, Semsarha F, Moslehi A, Rezaeian P, Bernal MA. *Phys Rev E*. 2019 May;99(5-1):052404. doi: 10.1103/PhysRevE.99.052404. PMID: 31212425
11. Evaluation of early radiation DNA damage in a fractal cell nucleus model using Geant4-DNA. Sakata D, Lampe N, Karamitros M, Kyriakou I, Belov O, Bernal MA, Bolst D, Bordage MC, Breton V, Brown JMC, Francis Z, Ivanchenko V, Meylan S, Murakami K, Okada S, Petrovic I, Ristic-Fira A, Santin G, Sarramia D, Sasaki T, Shin WG, Tang N, Tran HN, Villagrasa C, Emfietzoglou D, Nieminen P, Guatelli S, Incerti S. *Phys Med*. 2019 Jun;62:152-157. doi: 10.1016/j.ejmp.2019.04.010. PMID: 31109825
12. Remote imaging of single cell 3D morphology with ultrafast coherent phonons and their resonance harmonics. Liu L, Viel A, Le Saux G, Plawinski L, Muggiolu G, Barberet P, Pereira M, Ayela C, Seznec H, Durrieu MC, Olive JM, Audoin B. *Sci Rep*. 2019 Apr 23;9(1):6409. doi: 10.1038/s41598-019-42718-5. PMID: 31015541
13. Photochemistry on the Space Station-Aptamer Resistance to Space Conditions: zParticles Exposure from Irradiation Facilities and Real Exposure Outside the International Space Station. Coussot G, Le Postollec A, Incerti S, Baqué M, Faye C, Vandenabeele-Trambouze O, Cottin H, Ravelet C, Peyrin E, Fiore E, Vigier F, Caron J, Chaput D, Przybyla B, Berger T, Dobrijevic M. *Astrobiology*. 2019 Aug;19(8):1063-1074. doi: 10.1089/ast.2018.1896. PMID: 30817199
14. Photochemistry on the Space Station-Antibody Resistance to Space Conditions after Exposure Outside the International Space Station. Coussot G, Le Postollec A, Faye C, Baqué M, Vandenabeele-Trambouze O, Incerti S, Vigier F, Chaput D, Cottin H, Przybyla B, Berger T, Dobrijevic M. *Astrobiology*. 2019 Aug;19(8):1053-1062. doi: 10.1089/ast.2018.1907. PMID: 30817173
15. Influence of chromatin compaction on simulated early radiation-induced DNA damage using Geant4-DNA. Tang N, Bueno M, Meylan S, Incerti S, Tran HN, Vaurijoux A, Gruel G, Villagrasa C. *Med Phys*. 2019 Mar;46(3):1501-1511. doi: 10.1002/mp.13405. PMID: 30689203
16. Influence of track structure and condensed history physics models of Geant4 to nanoscale electron transport in liquid water. Kyriakou I, Ivanchenko V, Sakata D, Bordage MC, Guatelli S, Incerti S, Emfietzoglou D. *Phys Med*. 2019 Feb;58:149-154. doi: 10.1016/j.ejmp.2019.01.001. PMID: 30642767
17. TOPAS-nBio: An Extension to the TOPAS Simulation Toolkit for Cellular and Sub-cellular Radiobiology. Schuemann J, McNamara AL, Ramos-Méndez J, Perl J, Held KD, Paganetti H,

- Incerti S, Faddegon B. *Radiat Res.* 2019 Feb;191(2):125-138. doi: 10.1667/RR15226.1. Epub 2019 Jan 4. PMID: 30609382
18. MPEXS-DNA, a new GPU-based Monte Carlo simulator for track structures and radiation chemistry at subcellular scale. Okada S, Murakami K, Incerti S, Amako K, Sasaki T. *Med Phys.* 2019 Mar;46(3):1483-1500. doi: 10.1002/mp.13370. PMID: 30593679
 19. Validation and investigation of reactive species yields of Geant4-DNA chemistry models. Peukert D, Incerti S, Kempson I, Douglass M, Karamitros M, Baldacchino G, Bezak E. *Med Phys.* 2019 Feb;46(2):983-998. doi: 10.1002/mp.13332. PMID: 30536689
 20. Simulation of early radiation-induced dna damage on different types of cell nuclei. Tang N, Bueno M, Meylan S, Incerti S, Clairand I, Villagrasa C. *Radiat Prot Dosimetry.* 2019 May 1;183(1-2):26-31. doi: 10.1093/rpd/ncy237. PMID: 30535369
 21. Biological outcomes of γ -radiation induced DNA damages in breast and lung cancer cells pretreated with free radical scavengers. Petković VD, Keta OD, Vidosavljević MZ, Incerti S, Ristić Fira AM, Petrović IM. *Int J Radiat Biol.* 2019 Mar;95(3):274-285. doi: 10.1080/09553002.2019.1549753. PMID: 30451568
 22. A New Standard DNA Damage (SDD) Data Format. Schuemann J, McNamara AL, Warmenhoven JW, Henthorn NT, Kirkby KJ, Merchant MJ, Ingram S, Paganetti H, Held KD, Ramos-Mendez J, Faddegon B, Perl J, Goodhead DT, Plante I, Rabus H, Nettelbeck H, Friedland W, Kunderát P, Ottolenghi A, Baiocco G, Barbieri S, Dingfelder M, Incerti S, Villagrasa C, Bueno M, Bernal MA, Guatelli S, Sakata D, Brown JMC, Francis Z, Kyriakou I, Lampe N, Ballarini F, Carante MP, Davidková M, Štěpán V, Jia X, Cucinotta FA, Schulte R, Stewart RD, Carlson DJ, Galer S, Kuncic Z, Lacombe S, Milligan J, Cho SH, Sawakuchi G, Inaniwa T, Sato T, Li W, Solov'yov AV, Surdutovich E, Durante M, Prise KM, McMahon SJ. *Radiat Res.* 2019 Jan;191(1):76-92. doi: 10.1667/RR15209.1. PMID: 30407901
 23. Evaluation of the influence of physical and chemical parameters on water radiolysis simulations under MeV electron irradiation using Geant4-DNA. W.-G. Shin, J. Ramos-Mendez, B. Faddegon, H. N. Tran, C. Villagrasa, Y. Perrot, S. Okada, M. Karamitros, D. Emfietzoglou, I. Kyriakou, M. C. Bordage, D. Sakata, S. Guatelli, H. J. Choi, C. H. Min, S. B. Lee, S. Incerti. *Journal of Applied Physics* 126, 114301 (2019); doi:10.1063/1.5107511
 24. Track structure simulations of proximity functions in liquid water using the Geant4-DNA toolkit, S. Incerti, I. Kyriakou, M. C. Bordage, S. Guatelli, V. Ivanchenko, D. Emfietzoglou. *J. Journal of Applied Physics* 125, 104301 (2019) Doi: 10.1063/1.5083208
 25. Geometrical structures for radiation biology research as implemented in the TOPAS-nBio toolkit. McNamara AL, Ramos-Méndez J, Perl J, Held K, Dominguez N, Moreno E, Henthorn NT, Kirkby KJ, Meylan S, Villagrasa C, Incerti S, Faddegon B, Paganetti H, Schuemann J. *Phys Med Biol.* 2018 Sep 6;63(17):175018. doi: 10.1088/1361-6560/aad8eb. PMID: 30088810
 26. Accounting for radiation-induced indirect damage on DNA with the Geant 4-DNA code. de la Fuente Rosales L, Incerti S, Francis Z, Bernal MA. *Phys Med.* 2018 Jul;51:108-116. doi: 10.1016/j.ejmp.2018.06.006. PMID: 29908994
 27. Geant4-DNA example applications for track structure simulations in liquid water: A report from the Geant4-DNA Project Incerti S, Kyriakou I, Bernal MA, Bordage MC, Francis Z, Guatelli

- S, Ivanchenko V, Karamitros M, Lampe N, Lee SB, Meylan S, Min CH, Shin WG, Nieminen P, Sakata D, Tang N, Villagrasa C, Tran HN, Brown JMC. *Med Phys*. 2018 Jun 14. doi: 10.1002/mp.13048. PMID: 29901835
28. Mechanistic DNA damage simulations in Geant4-DNA part 1: A parameter study in a simplified geometry. Lampe N, Karamitros M, Breton V, Brown JMC, Kyriakou I, Sakata D, Sarramia D, Incerti S. *Phys Med*. 2018 Apr;48:135-145. doi: 10.1016/j.ejmp.2018.02.011. PMID: 29628360
29. Geant4-DNA track-structure simulations for gold nanoparticles: The importance of electron discrete models in nanometer volumes. Sakata D, Kyriakou I, Okada S, Tran HN, Lampe N, Guatelli S, Bordage MC, Ivanchenko V, Murakami K, Sasaki T, Emfietzoglou D, Incerti S. *Med Phys*. 2018 May;45(5):2230-2242. doi: 10.1002/mp.12827. PMID: 29480947
30. In Situ Detection and Single Cell Quantification of Metal Oxide Nanoparticles Using Nuclear Microprobe Analysis. Muggiolu G, Simon M, Lampe N, Devès G, Barberet P, Michelet C, Delville MH, Seznec H. *J Vis Exp*. 2018 Feb 3;(132). doi: 10.3791/55041. PMID: 29443063
31. Development of a new Geant4-DNA electron elastic scattering model for liquid-phase water using the ELSEPA code, W. G. Shin, M.-C. Bordage, D. Emfietzoglou, I. Kyriakou, D. Sakata, C. H. Min, S. B. Lee, S. Guatelli, S. Incerti. *Journal of Applied Physics* 124, 224901 (2018). Doi:10.1063/1.5047751
32. Last Geant4 developments for PIXE applications, S. Bakr, D. Cohen, R. Siegele, S. Incerti, V. Ivanchenko, A. Mantero, A. Rosenfeld, S. Guatelli. *Nucl. Instrum. Meth. B* 436 (2018) 285-291 Doi:10.1016/j.nimb.2018.10.004
33. 2D modeling: a new approach for assessing heterogeneous beta dose rates in materials dated by the luminescence and ESR methods, I: Theory and verification, L. Martin, F. Fang, N. Mercier, S. Incerti, R. Grün, Y. Lefrais. *Quat. Geochronol.* 48 (2018) 25-37. Doi:10.1016/j.quageo.2018.07.004
34. Recent progress of Geant4 electromagnetic physics for calorimeter simulation, S. Incerti, V. Ivantchenko, M. Novak, *JINST* 13 (2018) C02054 (link)
35. Numerical insight into the Dual Radiation Action Theory. Tello JJ, Incerti S, Francis Z, Tran H, Bernal MA. *Phys Med*. 2017 Nov;43:120-126. doi: 10.1016/j.ejmp.2017.10.022. PMID: 29195554
36. Mechanistic DNA damage simulations in Geant4-DNA Part 2: Electron and proton damage in a bacterial cell. Lampe N, Karamitros M, Breton V, Brown JMC, Sakata D, Sarramia D, Incerti S. *Phys Med*. 2018 Apr;48:146-155. doi: 10.1016/j.ejmp.2017.12.008. PMID: 29371062
37. Simulation of early DNA damage after the irradiation of a fibroblast cell nucleus using Geant4-DNA. Meylan S, Incerti S, Karamitros M, Tang N, Bueno M, Clairand I, Villagrasa C. *Sci Rep*. 2017 Sep 20;7(1):11923. doi: 10.1038/s41598-017-11851-4. PMID: 28931851
38. Flagged uniform particle splitting for variance reduction in proton and carbon ion track-structure simulations. Ramos-Méndez J, Schuemann J, Incerti S, Paganetti H, Schulte R, Faddegon B. *Phys Med Biol*. 2017 Jul 6;62(15):5908-5925. doi: 10.1088/1361-6560/aa7831. PMID: 28594336

39. Live cell imaging of mitochondria following targeted irradiation in situ reveals rapid and highly localized loss of membrane potential. Walsh DWM, Siebenwirth C, Greubel C, Ilicic K, Reindl J, Girst S, Muggiolu G, Simon M, Barberet P, Seznec H, Zischka H, Multhoff G, Schmid TE, Dollinger G. *Sci Rep.* 2017 Apr 25;7:46684. doi: 10.1038/srep46684. PMID: 28440317
40. Single α -particle irradiation permits real-time visualization of RNF8 accumulation at DNA damaged sites. Muggiolu G, Pomorski M, Claverie G, Berthet G, Mer-Calfati C, Saada S, Devès G, Simon M, Seznec H, Barberet P. *Sci Rep.* 2017 Jan 31;7:41764. doi: 10.1038/srep41764. PMID: 28139723
41. Monte Carlo simulations for medical physics: From fundamental physics to cancer treatment. Guatelli S, Incerti S. *Phys Med.* 2017 Jan;33:179-181. doi: 10.1016/j.ejmp.2017.01.002. PMID: 28111100
42. In situ quantification of diverse titanium dioxide nanoparticles unveils selective endoplasmic reticulum stress-dependent toxicity. Simon M, Saez G, Muggiolu G, Lavenas M, Le Trequesser Q, Michelet C, Devès G, Barberet P, Chevet E, Dupuy D, Delville MH, Seznec H. *Nanotoxicology.* 2017 Feb;11(1):134-145. doi: 10.1080/17435390.2017.1278803. PMID: 28044465
43. Validation of Geant4 Fragmentation for Heavy Ion Therapy, D. Bolst, G. Cirrone, G. Cuttone, G. Folger, S. Incerti, V. Ivanchenko, T. Koi, D. Mancusi, L. Pandola, F. Romano, A. B. Rosenfeld, S. Guatelli. *Nucl. Instrum. Meth. A* 869 (2017) 68-75. doi:10.1016/j.nima.2017.06.046
44. Microdosimetry of electrons in liquid water using the low-energy models of Geant4, I. Kyriakou, D. Emfietzoglou, V. Ivanchenko, M. C. Bordage, S. Guatelli, P. Lazarakis, H. N. Tran, S. Incerti. *Journal of Applied Physics* 122, 024303 (2017). Doi:10.1063/1.4992076
45. Calculation of ionisation lineal energies for water and DNA bases using the Rudd model cross sections, Z. Francis, Z. El Bitar, S. Incerti, M. A. Bernal, M. Karamitros, H. N. Tran. *Journal of Applied Physics* 122, 014701 (2017) Doi:10.1063/1.4990293
46. Low-energy electron dose-point kernel simulations using new physics models implemented in Geant4-DNA, J. Bordes, S. Incerti, N. Lampe, M. Bardies, M.-C. Bordage. *Nucl. Instrum. Meth. B* 398 (2017) 13-20 Doi:10.1016/j.nimb.2017.02.044
47. Geant4 Standard and Low Energy electromagnetic libraries, V. Ivantchenko, S. Incerti, EPJ Web of Conferences 142, 01016 (2017) (link)
48. Biochip-based instruments development for space exploration: influence of the antibody immobilization process on the chip resistance to freeze-drying, temperature shifts and cosmic radiations, G. Coussot, T. Moreau, C. Faye, F. Vigier, M. Baqué, A. Le Postollec, S. Incerti, M. Dobrijevic, O. Vandenabeele-Trambouze. *Int. J. Astrobiol.* 16 (2017) 190-199 DOI: 10.1017/S1473550416000173
49. Geant4-DNA simulation of electron slowing-down spectra in liquid water, S. Incerti, I. Kyriakou, H. N. Tran. *Nucl. Instrum. Meth. B* 397 (2017) 45-50 Doi:10.1016/j.nimb.2017.02.034
50. Irradiation effects on antibody performance in the frame of biochip-based instruments development for space exploration, M. Baqué, M. Dobrijevic, A. Le Postollec, T. Moreau, C. Faye, F. Vigier, S. Incerti, G. Coussot, J. Caron, O. Vandenabeele-Trambouze. *Int. J. Astrobiol.* 16 (2017) 82-90 DOI: <https://doi.org/10.1017/S1473550415000555>

51. Local dose enhancement of proton therapy by ceramic oxide nanoparticles investigated with Geant4 simulations. McKinnon S, Guatelli S, Incerti S, Ivanchenko V, Konstantinov K, Corde S, Lerch M, Tehei M, Rosenfeld A. *Phys Med.* 2016 Dec;32(12):1584-1593. doi: 10.1016/j.ejmp.2016.11.112. PMID: 27916516
52. Optimizing dose enhancement with Ta₂O₅ nanoparticles for synchrotron microbeam activated radiation therapy. Engels E, Corde S, McKinnon S, Incerti S, Konstantinov K, Rosenfeld A, Tehei M, Lerch M, Guatelli S. *Phys Med.* 2016 Dec;32(12):1852-1861. doi: 10.1016/j.ejmp.2016.10.024. PMID: 27866898
53. Radiation damage to neuronal cells: Simulating the energy deposition and water radiolysis in a small neural network. Belov OV, Batmunkh M, Incerti S, Lkhagva O. *Phys Med.* 2016 Dec;32(12):1510-1520. doi: 10.1016/j.ejmp.2016.11.004. PMID: 27865670
54. Simulating the Impact of the Natural Radiation Background on Bacterial Systems: Implications for Very Low Radiation Biological Experiments. Lampe N, Biron DG, Brown JM, Incerti S, Marin P, Maigne L, Sarramia D, Seznec H, Breton V. *PLoS One.* 2016 Nov 16;11(11):e0166364. doi: 10.1371/journal.pone.0166364. eCollection 2016. PMID: 27851794
55. Implementation of new physics models for low energy electrons in liquid water in Geant4-DNA. Bordage MC, Bordes J, Edel S, Terrissol M, Franceries X, Bardiès M, Lampe N, Incerti S. *Phys Med.* 2016 Dec;32(12):1833-1840. doi: 10.1016/j.ejmp.2016.10.006. PMID: 27773539
56. Study of the effect of ceramic Ta₂O₅ nanoparticle distribution on cellular dose enhancement in a kilovoltage photon field. McKinnon S, Engels E, Tehei M, Konstantinov K, Corde S, Oktaria S, Incerti S, Lerch M, Rosenfeld A, Guatelli S. *Phys Med.* 2016 Oct;32(10):1216-1224. doi: 10.1016/j.ejmp.2016.09.006. PMID: 27666955
57. Review of Geant4-DNA applications for micro and nanoscale simulations. Incerti S, Douglass M, Penfold S, Guatelli S, Bezak E. *Phys Med.* 2016 Oct;32(10):1187-1200. doi: 10.1016/j.ejmp.2016.09.007. Review PMID: 27659007
58. The impact of autophagy on cell death modalities in CRL-5876 lung adenocarcinoma cells after their exposure to γ -rays and/or erlotinib. Keta O, Bulat T, Golić I, Incerti S, Korać A, Petrović I, Ristić-Fira A. *Cell Biol Toxicol.* 2016 Apr;32(2):83-101. doi: 10.1007/s10565-016-9319-z. PMID: 27026538
59. An implementation of discrete electron transport models for gold in the Geant4 simulation toolkit. D. Sakata, S. Incerti, M.C. Bordage, N. Lampe, S. Okada, D. Emetzoglou, I. Kyriakou, K. Murakami, T. Sasaki, H. Tran, S. Guatelli, V.N. Ivantchenko. *Journal of Applied Physics* 120, 244901 (2016) Doi:10.1063/1.4972191
60. Recent developments in Geant4, J. Allison et al., by the Geant4 Collaboration, *Nucl. Instrum. Meth. A* 835 (2016) 186-225 Doi :10.1016/j.nima.2016.06.125
61. Special Issue: 32^{èmes} journées des Laboratoires Associés de Radiophysiques et de Dosimétrie, L.A.R.D. 2015, S. Incerti, M.-C. Bordage, M. Bardiès, J.-M. Bordy, R. Gschwind (Eds.), EPJ Web of Conferences, Volume 124 (2016).
62. Background study of absorbed dose in biological experiments at the Modane Underground Laboratory, N. Lampe, P. Marin, J. Castor, G. Warot, S. Incerti, L. Maigne, D. Sarramia, V. Breton, EPJ Web of Conferences 124, 00006 (2016) Doi:10.1051/epjconf/201612400006

63. The impact of new Geant4-DNA cross section models on electron track structure simulations in liquid water, I. Kyriakou, M. Sefl, V. Nourry, S. Incerti. *Journal of Applied Physics* 119, 194902 (2016); Doi:10.1063/1.4950808
64. Geant4-DNA simulations using complex DNA geometries generated by the DnaFabric tool. S. Meylan, U. Vimont, S. Incerti, I. Clairand, C. Villagrasa. *Comput. Phys. Commun.* 204 (2016) 159-169 Doi:10.1016/j.cpc.2016.02.019
65. Geant4 Monte Carlo simulation of absorbed dose and radiolysis yields enhancement from a gold nanoparticle under MeV proton irradiation. H. N. Tran, M. Karamitros, V. Ivantchenko, S. Guatelli, S. McKinnon, K. Murakami, T. Sasaki, S. Okada, M.C. Bordage, Z. Francis, Z. EL Bitar, M. A. Bernal, J. I. Shin, S. B. Lee, Ph. Barberet, T.T. Tran, J. M. C. Brown, S. Incerti. *Nucl. Instrum. Meth. B* 373 (2016) 126-139. Doi:10.1016/j.nimb.2016.01.017
66. Simulation of Auger electron emission from nanometer-size gold targets using the Geant4 Monte Carlo simulation toolkit. S. Incerti, B. Suerfu, J. Xu, V. Ivantchenko, A. Mantero, J.M.C. Brown, M.A. Bernal, Z. Francis, M. Karamitros, H.N. Tran. *Nucl. Instrum. Meth. B* 372 (2016) 91-101. Doi:10.1016/j.nimb.2016.02.005
67. Complex cell geometry and sources distribution model for Monte Carlo single cell dosimetry with iodine 125 radioimmunotherapy. F. X. Arnaud, S. Paillas, J. P. Pouget, S. Incerti, M. Bardies, M. C. Bordage. *Nucl. Instrum. Meth. B* 366 (2016) 227-233. Doi:10.1016/j.nimb.2015.11.008
68. Single electron ionization and electron capture cross sections for (C6+, H2O) interaction within the Classical Trajectory Monte Carlo (CTMC) approach, H.N. Tran, D.D. Dao, S. Incerti, M.A. Bernal, M. Karamitros, T.V. Nhan Hao, T.M. Dang, Z. Francis, *Nucl. Instrum. Meth. B* 366 (2016) 140-144. Doi:10.1016/j.nimb.2015.10.017
69. GPU Acceleration of Monte Carlo Simulation at the Cellular and DNA Levels. S. Okada, K. Murakami, K. Amako, T. Sasaki, S. Incerti, M. Karamitros, N. Henderson, M. Gerritsen, M. Asai, A. Dotti. *Smart Innovation, Systems and Technologies* 45 (2016) 323-332 Doi:10.1007/978-3-319-23024-5_29
70. Track structure modeling in liquid water: A review of the Geant4-DNA very low energy extension of the Geant4 Monte Carlo simulation toolkit. Bernal MA, Bordage MC, Brown JMC, Davidková M, Delage E, El Bitar Z, Enger SA, Francis Z, Guatelli S, Ivanchenko VN, Karamitros M, Kyriakou I, Maigne L, Meylan S, Murakami K, Okada S, Payno H, Perrot Y, Petrovic I, Pham QT, Ristic-Fira A, Sasaki T, Štěpán V, Tran HN, Villagrasa C, Incerti S. *Phys Med.* 2015 Dec;31(8):861-874. doi: 10.1016/j.ejmp.2015.10.087. Review. PMID: 26653251
71. Calculation of cellular S-values using Geant4-DNA: The effect of cell geometry. Šefl M, Incerti S, Papamichael G, Emfietzoglou D. *Appl Radiat Isot.* 2015 Oct;104:113-23. doi: 10.1016/j.apradiso.2015.06.027. PMID: 26159660
72. Technical Note: Improvements in geant4 energy-loss model and the effect on low-energy electron transport in liquid water. Kyriakou I, Incerti S, Francis Z. *Med Phys.* 2015 Jul;42(7):3870-6. doi: 10.1118/1.4921613. PMID: 26133588
73. The Influence of DNA Configuration on the Direct Strand Break Yield. Bernal MA, deAlmeida CE, Incerti S, Champion C, Ivanchenko V, Francis Z. *Comput Math Methods Med.* 2015;2015:417501. doi: 10.1155/2015/417501. PMID: 26124855

74. Proton-induced direct and indirect damage of plasmid DNA. Vyšín L, Pachnerová Brabcová K, Štěpán V, Moretto-Capelle P, Bugler B, Legube G, Cafarelli P, Casta R, Champeaux JP, Sence M, Vlk M, Wagner R, Štursa J, Zach V, Incerti S, Juha L, Davidková M. *Radiat Environ Biophys*. 2015 Aug;54(3):343-52. doi: 10.1007/s00411-015-0605-6.PMID: 26007308
75. Advances in microbeam technologies and applications to radiation biology. Barberet Pand Seznec H. *Radiat Prot Dosimetry*. 2015 Sep;166(1-4):182-7. doi: 10.1093/rpd/ncv192. Review. PMID: 25911406
76. Contribution of indirect effects to clustered damage in DNA irradiated with protons. Pachnerová Brabcová K, Štěpán V, Karamitros M, Karabín M, Dostálek P, Incerti S, Davidková M, Sihver L. *Radiat Prot Dosimetry*. 2015 Sep;166(1-4):44-8. doi: 10.1093/rpd/ncv159.PMID: 25897140
77. Microdosimetry for a carbon ion beam using track-etched detectors.Ambrožová I, Vondráček V, Šefl M, Štěpán V, Pachnerová Brabcová K, Ploc O, Incerti S, Davidková M.*Radiat Prot Dosimetry*. 2015 Sep;166(1-4):247-52. doi: 10.1093/rpd/ncv131.PMID: 25862534
78. The cytoplasm as a radiation target: an in silico study of microbeam cell irradiation.Byrne HL, Domanova W, McNamara AL, Incerti S, Kuncic Z.*Phys Med Biol*. 2015 Mar 21;60(6):2325-37. doi: 10.1088/0031-9155/60/6/2325. PMID: 25715947
79. Progress in Geant4 electromagnetic physics modelling and validation, J. Apostolakis, M. Asai, A. Bagulya, J. M. C. Brown, H. Burkhardt, N. Chikuma, M. A. Cortes-Giraldo, S. Elles, V. Grichine, S. Guatelli, S. Incerti, V. Ivantchenko, J. Jacquemier, O. Kadri, M. Maire, L. Pandola, D. Sawkey, T. Toshito, L. Urban, T. Yamashita, *Journal of Physics: Conference Series* 664 (2015) 072021Doi: 10.1088/1742-6596/664/7/072021
- 80.Dosimetric study of sediments at the beta dose rate scale: Characterization and modelization with the DosiVox software, L. Martin, N. Mercier, S. Incerti, Y. Lefrais, C. Pecheyran, G. Guérin, M. Jarry, L. Bruxelles, F. Bon, C. Pallier, *Radiat. Meas.* 81 (2015) 134-141. Doi:10.1016/j.radmeas.2015.02.008
81. Simulation study of dose enhancement in a cell due to nearby carbon and oxygen in particle radiotherapy, J. I. Shin, I. Cho, S. Cho, E. H. Kim, Y. Song, W.-G. Jung, S. H. Yoo, D. Shin, S. B. Lee, M. Yoo, S. Incerti, M. Geso, A. B. Rosenfeld, *J. Korean Phys. Soc.* 67 (2015) 209-217. Doi:10.3938/jkps.67.209
82. Comparison of experimental proton-induced fluorescence spectra for a selection of thin high-Z samples with Geant4 Monte Carlo simulations. S. Incerti, Ph. Barberet, G. Dévès, C. Michelet, Z. Francis, V. Ivantchenko, A. Mantero, Z. El Bitar, M. A. Bernal, H. N. Tran, M. Karamitros, H. Seznec. *Nucl. Instrum. Meth. B* 358 (2015) 210-222. Doi:10.1016/j.nimb.2015.06.029
83. DosiVox: implementing Geant4-based software for dosimetry simulations relevant to luminescence and ESR dating techniques, L. Martin, S. Incerti, N. Mercier, *Ancient TL* 33 (2015) - Software download.
84. Coupling of Geant4-DNA physics models into the GATE Monte Carlo platform: Evaluation of radiation-induced damage for clinical and preclinical radiation therapy beams, Q.T. Pham, A. Anne, M. Bony, E. Delage, D. Donnarieix, A. Dufaure, M. Gautier, S.B. Lee, P. Micheau, G.

- Montarou, Y. Perrot, J.I. Shin, S. Incerti, L. Maigne, Nucl. Instrum. Meth. B 353 (2015) 46-55. Doi:10.1016/j.nimb.2015.04.024
85. PDB4DNA: Implementation of DNA geometry from the Protein Data Bank (PDB) description for Geant4-DNA Monte-Carlo simulations, E. Delage, Q. T. Pham, M. Karamitros, V. Stepan, S. Incerti, L. Maigne, Y. Perrot. Comput. Phys. Commun. 192 (2015) 282-288. Doi:10.1016/j.nimb.2015.04.024
86. Proton Linear Energy Transfer measurement using Emulsion Cloud Chamber, J. I. Shin, S. Park, H. Kim, M. Kim, C. Jeong, S. Cho, C. Jeong, Y. K. Lim, D. Shin, S. B. Lee, K. Morishima, N. Naganawa, O. Sato, J. Kwak, S. H. Kim, J. S. Cho, J. K. Ahn, J. H. Kim, C. S. Yoon, S. Incerti. Nucl. Instrum. Meth. B 349 (2015) 201-208 <https://doi.org/10.1016/j.nimb.2014.12.083>
87. Photochemical studies in low Earth orbit for organic compounds related to small bodies, Titan and Mars. Current and future facilities. H. Cottin, K. Saiagh, D. Nguyen, N. Grand, Y. Bénilan, M. Cloix, P. Coll, M.-C. Gazeau, N. Fray, D. Khalaf, F. Raulin, F. Stalport, N. Carrasco, C. Szopa, D. Chaput, M. Bertrand, F. Westall, A. Mattioda, R. Quinn, A. Ricco, O. Santos, G. Baratta, G. Strazzulla, M.E. Palumbo, A. Le Postollec, M. Dobrijevic, G. Coussot, F. Vigier, O. Vandenabeele-Trambouze, S. Incerti, T. Berger, Bulletin de la Société Royale des Sciences de Liège 84 (2015) 60-73
88. Modeling proton and alpha elastic scattering in liquid water in Geant4-DNA, H. N. Tran, Z. El Bitar, C. Champion, M. Karamitros, M. A. Bernal, Z. Francis, V. Ivantchenko, S. B. Lee, J. I. Shin, S. Incerti. Nucl. Instrum. and Meth. B 343 (2015) 132-137. doi:10.1016/j.nimb.2014.10.016
89. Cell micro-irradiation with MeV protons counted by an ultra-thin diamond membrane. P. Barberet, M. Pomorski, G. Muggiolu, E. Torfeh, G. Claverie, C. Huss, S. Saada, G. Devès, M. Simon, and H. Seznec. Appl Phys Letters, 111(24), 2017. doi: 10.1063/1.5009713
90. scCVD Diamond Membrane based Microdosimeter for Hadron Therapy, Zahradnik, I. A., Pomorski, M. T., De Marzi, L., Tromson, D., Barberet, P., Skukan, N., Bergonzo, P., Devès, G., Hérault, J., Kada, W., Pourcher, T., Saada, S. Physica Status Solidi (A), 1800383, 1–1 (2018) doi: 10.1002/pssa.201800383
91. Le Trequesser, Q., Saez, G., Simon, M., Devès, G., Daudin, L., Barberet, P., Michelet, C., Delville, M.H., Seznec, H. Multimodal correlative microscopy for in situ detection and quantification of chemical elements in biological specimens. Applications to nanotoxicology Journal of Chemical Biology 8 (4) (2015) 159-167, doi: 10.1007/s12154-015-0133-5
92. Michelet, C., Barberet, P., Desbarats, P., Giovannelli, J.F., Schou, C., Chebil, I., Delville, M.H., Gordillo, N., Beasley, D.G., Devès, D., Moretto, P., Seznec, H. An implementation of the NiftyRec medical imaging library for PIXE-tomography reconstruction. Nucl. Instrum. Meth. B 404 (2017) 131-139, doi: 10.1016/j.nimb.2017.01.067
93. Devès, G., Daudin, L., Bessy, A., Buga, F., Ghanty, J., Naar, A., Sommar, V., Michelet, C., Seznec, H., Barberet, P. An ImageJ plugin for ion beam imaging and data processing at AIFIRA facility. Nucl. Instrum. Meth. B 348 (2015) 62-67, doi: 10.1016/j.nimb.2015.01.024
94. Michelet, C., Barberet, P., Devès, G., Bouguelmouna, B., Bourret, S., Delville, M.H., Le Trequesser, Q., Gordillo, N., Beasley, D.G., Marques, A.C. Farau, R., Toko, B.R., Campbell, J., Maxwell, J., Moretto, P., Seznec, H. Quantitative reconstruction of PIXE-tomography data for

- thin samples using GUPIX X-ray emission yields. Nucl. Instrum. Meth. B 348 (2015) 92-99, doi: 10.1016/j.nimb.2014.11.035
95. Barberet, P., Jouve, J., Sorieul, S., Alfaut, P. & Mathieu, L. AIFIRA: a light ion beam facility for ion beam analysis and irradiation. Eur. Phys. J. Plus 136, 67 (2021).
96. Drouet, C. et al. Colloidal Apatite Particles : A Multifunctional Platform in (Nano)Medicine. Junipr Online Journal Material Science 6, 555676 (2020).
97. Zahradnik, I. A., Barberet, P., Tromson, D., De Marzi, L. & Pomorski, M. T. A diamond guard ring microdosimeter for ion beam therapy. Rev Sci Instrum 91, 054102 (2020).
98. Zein S. A., Bordage M.-C., Francis Z., Macetti G., Genoni A., Dal Capello C., Shin W.-G., Incerti S. Electron transport in DNA bases: An extension of the Geant4-DNA Monte Carlo toolkit, Nucl. Instrum. Meth. B 488 (2021). Doi:10.1016/j.nimb.2020.11.021
99. Shin W.-G., Ramos-Mendez J., Faddegon B., Tran H. N., Villagrasa C., Perrot Y., Okada S., Karamitros M., Emfietzoglou D., Kyriakou I., Bordage M. C., Sakata D., Guatelli S., Choi H. J., Min C. H., Lee S. B., Incerti S. Evaluation of the influence of physical and chemical parameters on water radiolysis simulations under MeV electron irradiation using Geant4-DNA, J. Appl. Phys. 125 (2019). doi:10.1063/1.5107511
100. Ramos-Mendez J., Shin W.-G., Domínguez-Kondo J., Incerti S., Tran H., Villagrasa C., Perrot Y., Stepan V., Karamitros M., Okada S., Moreno-Barbosa E., Faddegon B. Independent Reaction Times method in Geant4-DNA: implementation and performance, Med. Phys. 47 (2020). Doi:10.1002/mp.14490
101. Tran H. N., Chappuis F., Incerti S., Bochud F., Desorgher L. Geant4-DNA modeling of water radiolysis beyond the microsecond : an on-lattice stochastic approach, Int. J. Mol. Sci. 22 (2021). Doi:10.3390/ijms22116023