Publications

Revues à comité de lecture

[A108] Costea, M., Zlate, A., Durand, M., Baudier, T., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Comparison of atlas-based and deep learning methods for organs at risk delineation on head-and-neck CT images using an automated treatment planning system". en. In: *Radiotherapy and Oncology* 177 (Dec. 2022), pp. 61–70.

[A107] Claude, L., Schiffler, C., Isnardi, V., Metzger, S., Darnis, S., Martel-Lafay, I., Baudier, T., Rit, S., **Sarrut, D.**, Ayadi, M., ""Mid-P strategy" versus "internal target volume strategy in locally advanced non small cell lung cancer: Clinical results from the randomized non-comparative phase II study Mid-P". en. In: *Radiotherapy and Oncology* 199 (Oct. 2024), p. 110435.

[A106] Vergnaud, L., Dewaraja, Y. K., Giraudet, A.-L., Badel, J.-N., **Sarrut, D.,** "A review of 177Lu dosimetry workflows: how to reduce the imaging workloads?" In: *EJNMMI Physics* 11.1 (July 2024). tex.ids= vergnaud2024b, p. 65.

[A105] **Sarrut, D.**, Etxebeste, A., Létang, J. M., "A Photon Source Model for Alpha-Emitter Radionuclides". In: *Physics in Medicine & Biology* 69.9 (Apr. 2024), p. 095009.

[A104] Benzazon, N., Carré, A., Kermenguy, F., Niyoteka, S., Maury, P., Colnot, J., M'hamdi, M., Aichi, M. E., Veres, C., Allodji, R., Vathaire, F., **Sarrut, D.**, Journy, N., Alapetite, C., Grégoire, V., Deutsch, E., Diallo, I., Robert, C., "Deep-Learning for Rapid Estimation of the Out-of-Field Dose in External Beam Photon Radiation Therapy – A Proof of Concept". In: *International Journal of Radiation Oncology, Biology, Physics* 0.0 (Mar. 2024).

[A103] Salvadori, J., Allegrini, O., Opsommer, T., Carullo, J., **Sarrut, D.**, Porot, C., Ritzenthaler, F., Meyer, P., Namer, I.-J., "Anatomy-Based Correction of Kidney PVE on 177Lu-SPECT Images". In: *EJNMMI Physics* 11.1 (Feb. 2024), p. 15.

[A102] di Franco, F., Baudier, T., Pialat, P. M., Munoz, A., Martinon, M., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Ultra-Hypofractionated Prostate Cancer Radiotherapy: Dosimetric Impact of Real-Time Intrafraction Prostate Motion and Daily Anatomical Changes". In: *Physica Medica* (2024).

[A101] Salvadori, J., Merlet, A., Presles, B., Cabello, J., Su, K.-H., Cochet, A., Etxebeste, A., Vrigneaud, J.-M., **Sarrut, D.,** "PET digitization chain for Monte Carlo simulation in GATE". en. In: *Phys. Med. Biol.* (2024).

[A100] Vergnaud, L., Badel, J.-N., Giraudet, A.-L., Kryza, D., Mognetti, T., Baudier, T., Rida, H., Dieudonné, A., **Sarrut, D.,** "Performance Study of a 360° CZT Camera for Monitoring 177Lu-PSMA Treatment". In: *EJNMMI Physics* 10.1 (Sept. 2023), p. 58.

[A99] Costea, M., Zlate, A., Serre, A.-A., Racadot, S., Baudier, T., Chabaud, S., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Evaluation of Different Algorithms for Automatic Segmentation of Head-and-Neck Lymph Nodes on CT Images". In: *Radiotherapy and Oncology* 0.0 (Aug. 2023).

[A98] **Sarrut, D.**, Etxebeste, A., Kaprelian, T., Saporta, A., Létang, J., "Annihilation Photon GAN Source Model for PET Monte Carlo Simulation". In: *Physics in Medicine & Biology* 68.13 (July 2023), p. 135018.

[A97] Baran, M., Tabor, Z., Rzecki, K., Ziaja, P., Szumlak, T., Kalecinska, K., Michczynski, J., Rachwal, B., Waligorski, M. P. R., **Sarrut, D.,** "Application of Conditional Generative Adversarial Networks to Efficiently Generate Photon Phase Space in Medical Linear Accelerators of Different Primary Beam Parameters". In: *APPLIED SCIENCES-BASEL* 13.12 (June 2023), p. 7204.

[A96] Ayadi, M., Dupuis, P., Baudier, T., Padovani, L., **Sarrut, D.**, Sunyach, M.-P., "Management of Reirradiations: A Clinical and Technical Overview Based on a French Survey". In: *Physica Medica* 109 (May 2023), p. 102582.

[A95] Huisman, B. F. B., Muñoz, E., Dauvergne, D., Létang, J. M., **Sarrut, D.**, Testa, É., "Analytical Modeling and Monte Carlo Simulations of Multi-Parallel Slit and Knife-Edge Slit Prompt Gamma Cameras". In: *Physics in Medicine and Biology* 68.11 (May 2023).

[A94] Kryza, D., Wischhusen, J., Richaud, M., Hervieu, M., Sidi Boumedine, J., Delcros, J.-G., Besse, S., Baudier, T., Laval, P.-A., Breusa, S., Boutault, E., Clermidy, H., Rama, N., Ducarouge, B., Devouassoux-Shisheboran, M., Chezal, J.-M., Giraudet, A.-L., Walter, T., Mehlen, P., **Sarrut, D.**, Gibert, B., "From netrin-1-targeted SPECT/CT to internal radiotherapy for management of advanced solid tumors". In: *EMBO Molecular Medicine* n/a.n/a (Mar. 2023), e16732.

[A93] Vergnaud, L., Robert, A., Baudier, T., Parisse-Di Martino, S., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.,** "Dosimetric impact of 3D motion-compensated SPECT reconstruction for SIRT planning". In: *EJNMMI Physics* 10.1 (Feb. 2023), p. 8.

[A92] Hemon, C., Rigaud, B., Barateau, A., Tilquin, F., Noblet, V., **Sarrut, D.**, Meyer, P., Bert, J., De Crevoisier, R., Simon, A., "Contour-Guided Deep Learning Based Deformable Image Registration for Dose Monitoring during CBCT-guided Radiotherapy of Prostate Cancer". In: *Journal of Applied Clinical Medical Physics* n/a.n/a (2023), e13991.

[A91] Plachouris, D., Eleftheriadis, V., Nanos, T., Papathanasiou, N., **Sarrut, D.**, Papadimitroulas, P., Savvidis, G., Vergnaud, L., Salvadori, J., Imperiale, A., Visvikis, D., Hazle, J. D., Kagadis, G. C., "A Radiomic- and Dosiomic-Based Machine Learning Regression Model for Pretreatment Planning in 177Lu-DOTATATE Therapy". In: *Medical Physics* n/a.n/a (2023).

[A90] Saporta, A., Etxebeste, A., Kaprelian, T., Létang, J. M., **Sarrut, D.,** "Modeling families of particle distributions with conditional GAN for Monte Carlo SPECT simulations". en. In: *Physics in Medicine & Biology* 67.23 (Dec. 2022), p. 234001.

[A89] Muñoz, E., Etxebeste, A., Dauvergne, D., Létang, J. M., **Sarrut, D.**, Maxim, V., Testa, E., "Imaging of Polychromatic Sources through Compton Spectral Reconstruction". In: *Physics in Medicine and Biology* 67.19 (Oct. 2022).

[A88] **Sarrut, D.**, Arbor, N., Baudier, T., Borys, D., Etxebeste, A., Fuchs, H., Gajewski, J., Grevillot, L., Jan, S., Kagadis, G. C., Kang, H. G., Kirov, O., Krzemien, W., Lomax, A., Papadimitroulas, P., Pommranz, C., Roncali, E., Rucinski, A., Winterhalter, C., Maigne, L., "The OpenGATE ecosystem for Monte Carlo simulation in medical physics". In: *Physics in Medicine & Biology* to appear (Oct. 2022).

[A87] Abbani, N., Baudier, T., Rit, S., Franco, F., Okoli, F., Jaouen, V., Tilquin, F., Barateau, A., Simon, A., Crevoisier, R., Bert, J., **Sarrut, D.,** "Deep learning-based segmentation in prostate radiation therapy using simulated cone-beam CT". In: *Medical Physics* to appear (Sept. 2022).

[A86] Vergnaud, L., Giraudet, A.-L., Moreau, A., Salvadori, J., Imperiale, A., Baudier, T., Badel, J.-N., **Sarrut, D.,** "Patient-Specific Dosimetry Adapted to Variable Number of SPECT/CT Time-Points per Cycle for 177Lu-DOTATATE Therapy". In: *EJNMMI Physics* 9.1 (May 2022), p. 37.

[A85] di Franco, F., Baudier, T., Gassa, F., Munoz, A., Martinon, M., Charcosset, S., Vigier-Lafosse, E., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Minimum Non-Isotropic and Asymmetric Margins for Taking into Account Intrafraction Prostate Motion during Moderately Hypofractionated Radiotherapy". In: *Physica Medica* 96 (Apr. 2022), pp. 114–120.

[A84] Feng, Y., Létang, J. M., **Sarrut, D.**, Maxim, V., "Influence of Doppler Broadening Model Accuracy in Compton Camera List-Mode MLEM Reconstruction". In: *Inverse Problems in Science and Engineering* 29.13 (Dec. 2021), pp. 3509–3529.

[A83] Penarrubia, L., Pinon, N., Roux, E., Dávila Serrano, E. E., Richard, J.-C., Orkisz, M., **Sarrut, D.,** "Improving Motion-mask Segmentation in Thoracic CT with Multiplanar U-nets". In: *Medical Physics* (Dec. 2021), mp.15347.

[A82] Robert, A., Rit, S., Baudier, T., Jomier, J., **Sarrut, D.,** "Data-Driven Respiration-Gated SPECT for Liver Radioembolization". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* (Dec. 2021), pp. 1–1.

[A81] Jailin, C., Roux, S., **Sarrut, D.**, Rit, S., "Projection-Based Dynamic Tomography". In: *Physics in Medicine & Biology* (Nov. 2021).

[A80] **Sarrut, D.**, Etxebeste, A., Muñoz, E., Krah, N., Létang, J. M., "Artificial Intelligence for Monte Carlo Simulation in Medical Physics". In: *Frontiers in Physics* 9 (Oct. 2021), p. 601.

[A79] Labour, J., Boissard, P., Baudier, T., Khayi, F., Kryza, D., Durebex, P. V., Martino, S. P.-D., Mognetti, T., **Sarrut, D.**, Badel, J.-N., "Yttrium-90 Quantitative Phantom Study Using Digital Photon Counting PET". In: *EJNMMI Physics* 8.1 (July 2021), p. 56.

[A78] Livingstone, J., Dauvergne, D., Etxebeste, A., Fontana, M., Gallin-Martel, M.-L., Huisman, B., Létang, J. M., Marcatili, S., **Sarrut, D.**, Testa, E., "Influence of Sub-Nanosecond Time of Flight Resolution for Online Range Verification in Proton Therapy Using the Line-Cone Reconstruction in Compton Imaging". In: *Physics in Medicine & Biology* (June 2021).

[A77] **Sarrut, D.**, Bala, M., Bardiès, M., Bert, J., Chauvin, M., Chatzipapas, K., Dupont, M., Etxebeste, A., Fanchon, L. M., Jan, S., Kayal, G., Kirov, A. S., Kowalski, P., Krzemien, W., Labour, J., Lenz, M., Loudos, G., Mehadji, B., Ménard, L., Morel, C., Papadimitroulas, P., Rafecas, M., Salvadori, J., Seiter, D., Stockhoff, M., Testa, E., Trigila, C., Pietrzyk, U., Vandenberghe, S., Verdier, M.-A., Visvikis, D., Ziemons, K., Zvolský, M., Roncali, E., "Advanced Monte Carlo Simulations of Emission Tomography Imaging Systems with GATE". In: *Physics in Medicine and Biology* 66.10 (May 2021), 10TR03.

[A76] **Sarrut, D.**, Etxebeste, A., Krah, N., Létang, J.-M., "Modeling Complex Particles Phase Space with GAN for Monte Carlo SPECT Simulations: A Proof of Concept". In: *Physics in Medicine and Biology* (Feb. 2021).

[A75] Winterhalter, C., Taylor, M., Boersma, D., Elia, A., Guatelli, S., Mackay, R., Kirkby, K., Maigne, L., Ivanchenko, V., Resch, A. F., **Sarrut, D.**, Sitch, P., Vidal, M., Grevillot, L., Aitkenhead, A., "Evaluation of GATE-RTion (GATE/Geant4) Monte Carlo Simulation Settings for Proton Pencil Beam Scanning Quality Assurance". In: *Medical Physics* 47.11 (Nov. 2020), pp. 5817–5828.

[A74] Salvadori, J., Labour, J., Odille, F., Marie, P.-Y., Badel, J.-N., Imbert, L., **Sarrut, D.,** "Monte Carlo Simulation of Digital Photon Counting PET". In: *EJNMMI physics* 7.1 (Apr. 2020), p. 23.

[A73] Chauvin, M., Borys, D., Botta, F., Bzowski, P., Dabin, J., Denis-Bacelar, A. M., Desbrée, A., Falzone, N., Lee, B. Q., Mairiani, A., Malaroda, A., Mathieu, G., McKay, E., Mora-Ramirez, E., Robinson, A. P., **Sarrut, D.**, Struelens, L., Vergara Gil, A., Bardiès, M., "OpenDose: Open Access Resources for Nuclear Medicine Dosimetry". In: *Journal of Nuclear Medicine* (Mar. 2020), jnumed.119.240366.

[A72] Ayadi, M., Baudier, T., Bouilhol, G., Dupuis, P., Boissard, P., Pinho, R., Krason, A., Rit, S., Claude, L., **Sarrut, D.,** "Mid-position treatment strategy for locally advanced lung cancer: a dosimetric study". In: *The British Journal of Radiology* 93.1110 (2020), p. 20190692.

[A71] Elia, A., Resch, A., Carlino, A., Bohlen, T., Fuchs, H., Palmans, H., Letellier, V., Ralf, D., Jhonnatan, O., Stock, M., **Sarrut, D.**, Grevillot, L., "The GATE/Geant4 beam model for the MedAustron non-isocentric proton treatments". In: *Physica Medica: European Journal of Medical Physics* 71 (2020), pp. 115–123.

[A70] Etxebeste, A., Dauvergne, D., Fontana, M., Létang, J. M., Llosá, G., Muñoz, E., Oliver, J., Ros, A., Testa, E., **Sarrut, D.,** "A GATE module for Compton Camera imaging simulation". In: *Physics in Medicine and Biology* 65.5 (2020).

[A69] Grevillot, L., Boersma, D., Fuchs, H., Aitkenhead, A., Elia, A., Bolsa, M., Winterhalter, C., Vidal, M., Jan, S., Pietrzyk, U., Maigne, L., **Sarrut, D.,** "GATE-RTion: a GATE/Geant4 release for clinical applications in Scanned Ion Beam Therapy". In: *Medical Physics* 47.8 (2020), pp. 3675–3681.

[A68] **Sarrut, D.**, Krah, N., Letang, J.-M., "Generative Adversarial Networks (GAN) for Compact Beam Source Modelling in Monte Carlo Simulations". In: *Physics in Medicine and Biology* 64.21 (Aug. 2019).

[A67] Biston, M. C., Zaragori, T., Delcoudert, L., Fargier-Voiron, M., Munoz, A., Gorsse, C., **Sarrut, D.**, Pommier, P., "Comparison of electromagnetic transmitter and ultrasound imaging for intrafraction monitoring of prostate radiotherapy". In: *Radiotherapy and Oncology* 136 (2019), pp. 1–8.

[A66] Feng, Y., Etxebeste, A., Létang, J. M., **Sarrut, V.,** "Comparison of ideal parallel-hole gamma camera and Compton camera for prompt-γ imaging". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* 4.4 (2019), pp. 479–488.

[A65] Kochebina, O., Halty, A., Taleb, J., Kryza, D., Janier, M., Bani, A., Baudier, T., Rit, S., **Sarrut, D.,** "In vivo gadolinium nanoparticle quantification with SPECT / CT". In: *EJNMMI Physics* 6.1 (2019).

[A64] Kohlhase, N., Wegener, T., Schaar, M., Etxebeste, A., **Sarrut, D.**, Rafecas, M., "Capability of MLEM and OE to Detect Range Shifts with a Compton Camera in Particle Therapy". In: *IEEE Transactions on Radiation and Plasma Medical Sciences* 4.2 (2019), pp. 233–242.

[A63] Vogin, G., Wambersie, A., Koto, M., Ohno, T., Uhl, M., Fossati, P., Balosso, J., Pötter, R., Beuve, M., Combs, S. E., Magrin, G., Mayer, R., Mock, U., **Sarrut, D.**, Schreiner, T., "A step towards international prospective trials in carbon ion radiotherapy: Investigation of factors influencing dose distribution in the facilities in operation based on a case of skull base chordoma". In: *Radiation Oncology* 14.1 (2019).

[A62] **Sarrut, D.**, Krah, N., Badel, J., Létang, J. M., "Learning SPECT detector angular response function with neural network for accelerating Monte-Carlo simulations". In: *Physics in Medicine and Biology* 63.20 (Oct. 2018).

[A61] Vogin, G., Wambersie, A., Pötter, R., Beuve, M., Combs, S., Magrin, G., Mayer, R., Mock, U., **Sarrut, D.**, Schreiner, T., Fossati, P., Balosso, J., "Concepts and terms for dose/volume parameters in carbon-ion radiotherapy: Conclusions of the ULICE taskforce". In: *Cancer Radiothérapie* 22.8 (Oct. 2018).

[A60] Verhaegen, F., Dubois, L., Gianolini, S., Hill, M. A., Karger, C. P., Lauber, K., Prise, K. M., **Sarrut, D.**, Thorwarth, D., Vanhove, C., Vojnovic, B., Weersink, R., Wilkens, J. J., Georg, D., "ESTRO ACROP: Technology for precision small animal radiotherapy research: Optimal use and challenges." In: *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology* 126 (3 Mar. 2018), pp. 471–478.

[A59] Cajgfinger, T., Rit, S., Létang, J., Halty, A., **Sarrut, D.,** "Fixed forced detection for fast SPECT Monte-Carlo simulation". In: *Physics in Medicine & Biology* 63.5 (2018), p. 055011.

[A58] Giraudet, A., Cassier, A., Iwao-Fukukawa, C., Garin, G., Badel, J., D. K., Chabaud, S., Berge-Montamat, S., Gilles-Afchain, L., Clapisson, G., **Sarrut, D.**, Halty, A., Italiano, A., Mori, M., Tsunoda, T., Katagiri, T., Nakamura, Y., Cropet, C., Rey, S., Desuzinges, C., Baconnier, S., Pérol, D., Blay, J., "Synfrizz : A first in Man study investigating the biodistribution, safety and optimal recommended dose of a new radiolabeled monoclonal antibody targeting Frizzled homolog 10 (FZD10) in patients with relapsed or refractory non resectable synovial sarcomas". In: *BMC Cancer (Springer Nature)* (2018).

[A57] Halty, A., Badel, J., Kochebina, O., **Sarrut, D.,** "Image-based SPECT calibration based on the evaluation of the Fraction of Activity in the Field of View". In: *EJNMMI physics* 5.1 (2018), p. 11.

[A56] **Sarrut, D.**, Baudier, T., Ayadi, M., Tanguy, R., Rit, S., "Deformable image registration applied to lung SBRT: Usefulness and limitations." In: *Physica Medica: European Journal of Medical Physics* 44 (Dec. 2017), pp. 108–112.

[A55] Costa, G., Bonifacio, D., **Sarrut, D.**, Cajgfinger, T., Bardiès, M., "Optimization of GATE simulations for whole-body planar scintigraphic acquisitions using the XCAT male phantom with 177 Lu-DOTATATE biokinetics in a Siemens Symbia T2". In: *Physica Medica* 42 (Oct. 2017), pp. 292–297.

[A54] **Sarrut, D.**, Badel, J., Halty, A., Kryza, D., Giraudet, A., "3D absorbed dose distribution estimated by Monte-Carlo simulation in radionuclide therapy with a monoclonal antibody targeting synovial sarcoma". In: *European Journal of Nuclear Medicine and Molecular Imaging* 4.1 (2017).

[A53] **Sarrut, D.**, Halty, A., Badel, J., Ferrer, L., Bardiès, M., "Voxel-based multi-model fitting method for modelling time activity curves in SPECT images". In: *Medical Physics*. 12th ser. 44 (2017), pp. 6280–6288.

[A52] Fargier-Voiron, M., Presles, B., Pommier, P., Munoz, A., Rit, S., **Sarrut, D.**, Biston, M., "Evaluation of a new transperineal ultrasound probe for inter-fraction image-guidance for definitive and post-operative prostate cancer radiotherapy". In: *Physica Medica: European Journal of Medical Physics* 61.4 (2016), pp. 1532–1545.

[A51] Hilaire, E., **Sarrut, D.**, Peyrin, F., Maxim, V., "Proton therapy monitoring by Compton imaging: influence of the large energy spectrum of the prompt-γ radiation". In: *Physics in medicine and biology* 61.8 (2016), pp. 3127–3147.

[A50] Huisman, B., Létang, J., Testa, E., **Sarrut, D.,** "Accelerated Prompt Gamma estimation for clinical Proton Therapy simulations". In: *Physics in medicine and biology* 61.21 (2016), pp. 7725–7743.

[A49] Noblet, C., Chiavassa, S., Smekens, F., **Sarrut, D.**, Passal, V., Suhard, J., Lisbona, A., Paris, F., Delpon, G., "Validation of fast Monte Carlo dose calculation in small animal radiotherapy with EBT3 radiochromic films". In: *Physics in medicine and biology* 61.9 (2016), pp. 3521–3535.

[A48] Vidal, M., Marzi, L. D., Szymanowski, H., Guinement, L., Nauraye, C., Hierso, E., Freud, N., Ferrand, R., François, P., **Sarrut, D.,** "Development of an empirical model for calculation of the collimator contamination dose in therapeutic proton beams". In: *Physics in Medicine and Biology* 61.4 (2016), pp. 1532–1545.

[A47] El Kanawati, W., Létang, J., Dauvergne, D., Pinto, M., **Sarrut, D.**, Testa, E., Freud, N., "Monte Carlo simulation of prompt γ-ray emission in proton therapy using a specific track length estimator." In: *Physics in medicine and biology* 60 (Oct. 2015), pp. 8067–86.

[A46] Baldacci, F. ., Mittone, A., Bravin, A., Coan, P., Delaire, F. ., Ferrero, C., Gasilov, S. ., Létang, J., **Sarrut, D.**, Smekens, F., Freud, N., "A track length estimator method for dose calculations in low-energy x-ray irradiations: implementation, properties and performance". In: *Zeitschrift Fur Medizinische Physik* 25.1 (2015), pp. 36–47.

[A45] Fargier-Voiron, M., Presles, B., Pommier, P., Munoz, A., Rit, S., **Sarrut, D.**, Biston, M., "Ultrasound versus Cone-beam CT image-guided radiotherapy for prostate and post-prostatectomy pretreatment localization". In: *Physica Medica: European Journal of Medical Physics* 31.8 (2015), pp. 997–1004.

[A44] Fassi, A., Schaerer, J., Riboldi, M., **Sarrut, D.**, Baroni, G., "An image-based method to synchronize cone-beam CT and optical surface tracking". In: *Journal of Applied Clinical Medical Physics* 16.2 (2015), p. 5152.

[A43] Fassi, A., Seregni, M., Riboldi, M., Cerveri, P., **Sarrut, D.**, Ivaldi, G., Tabarelli, P., Liotta, M., Baroni, G., "Surrogate-driven deformable motion model for organ motion tracking in particle radiation therapy". In: *Physics in Medicine and Biology* 60.4 (2015), pp. 8067–8086.

[A42] Smekens, F., Létang, J., Noblet, C., Chiavassa, S., Delpon, G., Freud, N., Rit, S., **Sarrut, D.,** "Split exponential track length estimator for Monte-Carlo simulations of small-animal radiation therapy". In: *Physics in Medicine and Biology* 59.24 (Nov. 2014), pp. 7703–7715.

[A41] **Sarrut, D.**, Bardiès, M., Boussion, N., Freud, N., Jan, S., Létang, J., Loudos, G., Maigne, L., Marcatili, S., Mauxion, T., Papadimitroulas, P., Perrot, Y., Pietrzyk, U., Robert, C., Schaart, D. R., Visvikis, D., Buvat, I., "A review of the use and potential of the GATE Monte Carlo simulation code for radiation therapy and dosimetry applications." In: *Medical Physics* 41.6 (June 2014), p. 064301.

[A40] **Sarrut, D.**, Rit, S., Claude, L., Pinho, R., Pitson, G., Bouilhol, G., Lynch, R., "Learning directional relative positions between mediastinal lymph node stations and organs". In: *Medical Physics* 41.6 (June 2014), p. 061905.

[A39] Fassi, A., Schaerer, J., Fernandes, M., Riboldi, M., **Sarrut, D.**, Baroni, G., "Tumor tracking method based on a deformable 4D CT breathing motion model driven by an external surface surrogate." In: *International Journal of Radiation Oncology, Biology, Physics* 88 (Jan. 2014), pp. 182–8.

[A38] Fargier-Voiron, M., Presles, B., Pommier, P., Rit, S., Munoz, A., Liebgott, H., **Sarrut, D.**, Biston, M. ., "Impact of probe pressure variability on prostate localization for ultrasound-based image-guided radiotherapy". In: *Radiotherapy and Oncology* 111.1 (2014).

[A37] Presles, B., Fargier-Voiron, M., Biston, M. ., Lynch, R., Munoz, A., Liebgott, H., Pommier, P., Rit, S., **Sarrut, D.,** "Semi-automatic registration of 3D transabdominal ultrasound images for patient repositioning during post-prostatectomy radiotherapy". In: *Medical Physics* 41.12 (2014), pp. 122903-1–122903-8.

[A36] Mittone, A., Baldacci, F., Bravin, A., Brun, E., Delaire, F., Ferrero, C., Gasilov, S., Freud, N., Létang, J., **Sarrut, D.**, Smekens, F., Coan, P., "An efficient numerical tool for dose deposition prediction applied to synchrotron medical imaging and radiation therapy." In: *Journal of Synchrotron Radiation* 20 (Oct. 2013), pp. 785–92.

[A35] Robert, C., Fourrier, N., **Sarrut, D.**, Stute, S., Gueth, P., Grevillot, L., Buvat, I., "PET-based dose delivery verification in proton therapy: a GATE based simulation study of five PET system designs in clinical conditions." In: *Physics in Medicine and Biology* 58.19 (Oct. 2013), pp. 6867–85.

[A34] Robert, C., Dedes, G., Battistoni, G., Böhlen, T. T., Buvat, I., Cerutti, F., Chin, M. P. W., Ferrari, A., Gueth, P., Kurz, C., Lestand, L., Mairani, A., Montarou, G., Nicolini, R., Ortega, P. G., Parodi, K., Prezado, Y., Sala, P. R., **Sarrut, D.**, Testa, E., "Distributions of secondary particles in proton and carbon-ion therapy: a comparison between GATE/Geant4 and FLUKA Monte Carlo codes". In: *Physics in Medicine and Biology* 58.9 (May 2013), pp. 2879–2898.

[A33] Lynch, R., Pitson, G., Ball, D., Claude, L., **Sarrut, D.,** "Computed tomographic atlas for the new international lymph node map for lung cancer: A radiation oncologist perspective". In: *Practical Radiation Oncology* 3.1 (Jan. 2013), pp. 54–66.

[A32] Bouilhol, G., Ayadi, M., Rit, S., Thengumpallil, S., Schaerer, J., Vandemeulebroucke, J., Claude, L., **Sarrut, D.,** "Is abdominal compression useful in lung stereotactic body radiation therapy? A 4DCT and dosimetric lobe-dependent study". In: *Physica Medica* 29.4 (2013), pp. 333–340.

[A31] Camarasu, S., Glatard, T., Ferreira da Silva, R., Gueth, P., **Sarrut, D.**, Benoit-Cattin, H., "Monte-Carlo Simulation on Heterogeneous Distributed Systems: a Computing Framework with Merging and Checkpointing Strategies". In: *Future Generation Computer Systems* 29.3 (2013), pp. 728–738.

[A30] Delmon, V., Rit, S., Pinho, R., **Sarrut, D.,** "Registration of sliding objects using direction dependent B-splines decomposition". In: *Physics in Medicine and Biology* 58.5 (2013), pp. 1303–1314.

[A29] Gueth, P., Dauvergne, D., Freud, N., Létang, J., Ray, C., Testa, E., **Sarrut, D.,** "Machine learning-based patient specific prompt-gamma dose monitoring in proton therapy". In: *Physics in Medicine and Biology* 58.13 (2013), pp. 4563–77.

[A28] Jan, S., Frisson, T., **Sarrut, D.,** "GATE simulation of ^{12}C hadrontherapy treatment combined with a PET imaging system for dose monitoring : a feasibility study". In: *IEEE Transaction on Nuclear Sciences* 60.1 (2013), pp. 423–429.

[A27] Rit, S., Dedes, G., Freud, N., **Sarrut, D.**, Létang, J., "Filtered backprojection proton CT reconstruction along most likely paths". In: *Medical Physics* 40.3 (2013), pp. 031103–9.

[A26] Fassi, A., Schaerer, J., Riboldi, M., **Sarrut, D.**, Baroni, G., "Comments on "A novel markerless technique to evaluate daily lung tumor motion based on conventional cone-beam CT projection data" - IJROBP 2012;82:e749-e756". In: *International Journal on Radiation Oncology Biology Physics* 84.2 (2012).

[A25] Grevillot, L., Bertrand, D., Dessy, F., Freud, N., **Sarrut, D.,** "GATE as a GEANT4-based Monte Carlo platform for evaluation of proton pencil beam scanning (PBS) treatment plans". In: *Physics in Medicine and Biology* 57.13 (2012), p. 4223.

[A24] Pitson, G., Lynch, R., Claude, L., **Sarrut, D.,** "A critique of the IASLC lymph node map: a radiation oncology perspective". In: *Journal of Thoracic Oncology* 7.3 (2012), pp. 478–480.

[A23] Schaerer, J., Fassi, A., Riboldi, M., Cerveri, P., Baroni, G., **Sarrut, D.,** "Multi-dimensional respiratory motion tracking from markerless optical surface imaging based on deformable mesh registration". In: *Physics in Medicine and Biology* 57.2 (2012), pp. 357–373.

[A22] Vandemeulebroucke, J., Bernard, O., Rit, S., Kybic, J., Clarysse, P., **Sarrut, D.,** "Automated Segmentation of a Motion Mask to Preserve Sliding Motion in Deformable Registration of Thoracic CT". In: *Medical Physics* 39.2 (2012), pp. 1006–1015.

[A21] Grevillot, L., Bertrand, D., Dessy, F., Freud, N., **Sarrut, D.,** "A Monte Carlo pencil beam scanning model for proton treatment plan simulation using GATE/GEANT4". In: *Physics in Medicine and Biology* 56.16 (2011), p. 5203.

[A20] Grevillot, L., Frisson, T., Maneval, D., Zahra, N., Badel, J., **Sarrut, D.,** "Simulation of a 6 MV Elekta Precise Linac photon beam using GATE / GEANT4". In: *Physics in Medicine and Biology* 56.4 (2011).

[A19] Jan, S., Benoit, D., Becheva, E., Carlier, T., Cassol, F., Descourt, P., Frisson, T., Grevillot, L., Guigues, L., Maigne, L., Morel, C., Perrot, Y., Rehfeld, N., **Sarrut, D.**, Schaart, D. R., Stute, S., Pietrzyk, U., Visvikis, D., Zahra, N., Buvat, I., "GATE V6: a major enhancement of the GATE simulation platform enabling modelling of CT and radiotherapy". In: *Physics in Medicine and Biology* 56.4 (2011), pp. 881–901.

[A18] Murphy, K., Ginneken, B., Reinhardt, J., Kabus, S., Ding, K., Deng, X., Cao, K., Du, K., Christensen, G., Garcia, V., Vercauteren, T., Ayache, N., Commowick, O., Malandain, G., Glocker, B., Paragios, N., Navab, N., Gorbunova, V., Sporring, J., Bruijne, M., Han, X., Heinrich, M., Schnabel, J., Jenkinson, M., Lorenz, C., Modat, M., McClelland, J., Ourselin, S., Muenzing, S., Viergever, M., Nigris, D. D., Collins, D., Arbel, T., Peroni, M., Li, R., Sharp, G., Schmidt-Richberg, A., Ehrhardt, J., Werner, R., Smeets, D., Loeckx, D., Song, G., Tustison, N., Avants, B., Gee, J., Staring, M., Klein, S., Stoel, B., Urschler, M., Werlberger, M., Vandemeulebroucke, J., Rit, S., **Sarrut, D.**, Pluim, J., "Evaluation of Registration Methods on Thoracic CT: The EMPIRE10 challenge". In: *IEEE Trans Med Imaging* 30.11 (2011), pp. 1901–20.

[A17] Vandemeulebroucke, J., Rit, S., Kybic, J., Clarysse, P., **Sarrut, D.,** "Spatio-Temporal Motion Estimation for Respiratory-Correlated Imaging of the Lungs". In: *Medical Physics* 38.1 (2011).

[A16] Zahra, N., Frisson, T., Grevillot, L., Lautesse, P., **Sarrut, D.,** "Influence of Geant4 parameters on dose distribution and computation time for carbon ion therapy simulation". In: *Physica Medica: European Journal of Medical Physics* 26.4 (Oct. 2010), pp. 202–206.

[A15] **Sarrut, D.**, Vandemeulebroucke, J., "B-LUT: Fast and low memory B-spline image interpolation". In: *Comput Meth Prog Bio* 99.2 (Aug. 2010), pp. 172–178.

[A14] Camarasu-Pop, S., Glatard, T., Moscicki, J. T., Benoit-Cattin, H., **Sarrut, D.,** "Dynamic partitioning of GATE Monte-Carlo simulations on EGEE". In: *Journal of Grid Computing* 8.2 (Mar. 2010), pp. 241–259.

[A13] Brock, K., Consortium, D. R. A., Boldea, V., **Sarrut, D.,** "Results of a Multi-Institution Deformable Registration Accuracy Study (MIDRAS)". In: *Int J Radiat Onc* 76.2 (Feb. 2010), pp. 583–596.

[A12] Grevillot, L., Frisson, T., Zahra, N., Bertrand, D., Stichelbaut, F., Freud, N., **Sarrut, D.,** "Optimization of GEANT4 settings for Proton Pencil Beam Scanning simulations using GATE". In: *Nucl Instr Meth Phys Res B* 268 (2010), pp. 3295–3305.

[A11] Frisson, T., Zahra, N., Lautesse, P., **Sarrut, D.,** "Monte-Carlo based prediction of radiochromic film response for hadrontherapy dosimetry". In: *Nucl Instr Meth Phys Res A* 606.3 (2009), pp. 749–754.

[A10] Rit, S., **Sarrut, D.**, Desbat, L., "Comparison of Analytic and Algebraic Methods for Motion-Compensated Cone-Beam CT Reconstruction of the Thorax". In: *IEEE Trans Med Imaging* 28.10 (2009), pp. 1513–1525.

[A9] **Sarrut, D.**, Guigues, L., "Region-oriented CT image representation for reducing computing time of Monte Carlo simulations". In: *Medical Physics* 35.4 (Apr. 2008), pp. 1452–1463.

[A8] Boldea, V., **Sarrut, D.**, Sharp, G., Jiang, S., "4D-CT lung motion models construction with deformable registration: estimation of motion nonlinearity and hysteresis". In: *Medical Physics* 35.3 (2008), pp. 1008–1018.

[A7] Wu, Z., Rietzel, E., Boldea, V., **Sarrut, D.**, Sharp, G., "Evaluation of deformable registration of patient lung 4DCT with sub-anatomical region segmentations". In: *Medical Physics* 35.2 (2008), pp. 775–781.

[A6] **Sarrut, D.**, Delhay, B., Villard, P., Boldea, V., Beuve, M., Clarysse, P., "A comparison framework for breathing motion estimation methods from 4D imaging". In: *IEEE Trans Med Imaging* 26.12 (2007), pp. 1636–1648.

[A5] **Sarrut, D.** "Deformable Registration for Image-Guided Radiation Therapy". In: *Zeitschrift für Medizinische Physik* 16 (Dec. 2006), pp. 285–297.

[A4] Atoui, H., Miguet, S., **Sarrut, D.,** "A Fast Morphing-Based Interpolation For Medical Images: Application To Conformal Radiotherapy". In: *Image Anal Stereol* 25.2 (June 2006), pp. 95–103.

[A3] **Sarrut, D.**, Boldea, V., Miguet, S., Ginestet, C., "Simulation of 4D CT images from deformable registration between inhale and exhale breath-hold CT scans". In: *Medical Physics* 33.3 (2006), pp. 605–617.

[A2] **Sarrut, D.**, Boldea, V., Ayadi, M., Badel, J., Ginestet, C., Clippe, S., "Non-rigid registration method to assess reproducibility of breath-holding with ABC in lung cancer". In: *Int J Radiat Oncol Biol Phys* 61.2 (2005), pp. 594–607.

[A1] Clippe, S., **Sarrut, D.**, Malet, C., Miguet, S., Ginestet, C., Carrie, C., "Patient setup error measurement using 3D intensity-based image registration techniques". In: *Int J Radiat Oncol Biol Phys* 56.1 (Aug. 2003), pp. 259–263.

Chapitres d'ouvrages

[B7] **Sarrut, D.**, Krah, N., "Artificial Intelligence and Monte Carlo Simulation". In: *Monte Carlo Techniques in Radiation Therapy*. Second. CRC Press, 2021.

[B6] **Sarrut, D.**, Ljungberg, M., "Monte Carlo Simulation of Nuclear Medicine Imaging Systems". In: *Handbook of Nuclear Medicine and Molecular Imaging for Physicists*. CRC Press, 2021.

[B5] Kabus, S., Klinder, T., Murphy, K., Werner, R., **Sarrut, D.,** "Validation and Comparison of Approaches to Respiratory Motion Estimation". In: in Book "4D Motion Modeling: Estimation of Respiratory Motion for Radiation Therapy", Jan Ehrhardt, Cristian Lorenz editors. Springer Berlin Heidelberg, 2012. Chap. 8, pp. 159–183.

[B4] Rit, S., **Sarrut, D.**, Sonke, J., "Respiratory motion correction in cone-beam CT for image-guided radiotherapy". In: in Book "4D Motion Modeling: Estimation of Respiratory Motion for Radiation Therapy", Jan Ehrhardt, Cristian Lorenz editors. Springer Berlin Heidelberg, 2012. Chap. 14, pp. 319–334.

[B3] **Sarrut, D.**, Vandemeulebroucke, J., "Non-parametric: Demons, diffusion and viscous-fluid approaches". In: in Book "Image Processing In Radiotherapy Applications", Kristy Brock editors. CRC Press, Taylor & Francis Group, 2012. Chap. 8, pp. 95–110.

[B2] **Sarrut, D.**, Vandemeulebroucke, J., Rit, S., "Intensity-based deformable registration: Introduction and Overview". In: in Book "4D Motion Modeling: Estimation of Respiratory Motion for Radiation Therapy", Jan Ehrhardt, Cristian Lorenz editors. Springer Berlin Heidelberg, 2012. Chap. 6, pp. 103–124.

[B1] Camarasu-Pop, S., Glatard, T., Benoit-Cattin, H., **Sarrut, D.,** "Enabling Grids for GATE Monte-Carlo Radiation Therapy Simulations with the GATE-Lab". In: Applications of Monte Carlo Method in Science and Engineering (InTech editor). InTech Open, 2011. Chap. 3, pp. 35–50.

Actes de colloques à comité de lecture

[C100] Vergnaud, L., Badel, J.-N., Giraudet, A.-L., **Sarrut, D.,** "Impact of cross-irradiation on single time-point dosimetry in 177Lu-PSMA therapy". In: *37th Annual Congress of the European Association of Nuclear Medicine*. Hamburg, Germany, Oct. 2024.

[C99] Rios Sanchez, E., Badel, J.-n., **Sarrut, D.,** "Automated 68Ga-PSMA-PET Total Metabolic Tumor Volume (TMTV) extraction for predicting PSA change in 177Lu-PSMA therapy". In: *EANM 2024*. Hamburb, Germany, Sept. 2024.

[C98] Rios Sanchez, E., Vergnaud, L., Imbert, L., Zaragori, T., Gröhn, H., Dieudonné, A., Badel, J.-n., **Sarrut, D.,** "Multicentric whole-body 177Lu-PSMA-SPECT Total Metabolic Tumor Volume (TMTV) extraction for predicting PSA change in 177Lu-PSMA therapy". In: *EANM 2024*. Vol. 125. Hamburg, Germany, Sept. 2024.

[C97] Rios Sanchez, E., **Sarrut, D.**, Badel, J.-n., "Correlating 68Ga-PSMA PET/CT Imaging Features with PSA Variation for Castration-Resistant Prostate Cancer Patients". In: *EANM 2024*. Vienna (AUSTRIA), France, Sept. 2023.

[C96] Vergnaud, L., Giraudet, A.-L., Paquet, E., Baudier, T., Badel, J.-N., **Sarrut, D.,** "3D Whole Body images for dosimetry of 177Lu-PSMA treatments using a 360° CZT gamma camera". In: *36th Annual Congress of the European Association of Nuclear Medicine*. Vienne (Austria), France, Sept. 2023.

[C95] Kaprélian, T., Etxebeste, A., **Sarrut, D.,** "Towards Deep-Learning Partial Volume Correction for SPECT". In: *17th International Meeting on Fully 3D Image Reconstruction in Radiology and Nuclear Medicine*. New York, United States, July 2023.

[C94] Robert, A., **Sarrut, D.**, Etxebeste, A., Létang, J. M., Rit, S., "Ability of exponential data consistency conditions to detect motion in SPECT despite other physical effects". In: *17th International Meeting on Fully 3D Image Reconstruction in Radiology and Nuclear Medicine*. Stony Brook, NY, United States, July 2023, pp. 337–340.

[C93] Vergnaud, L., Giraudet, A.-L., Moreau, A., Salvadori, J., Imperiale, A., Baudier, T., Badel, J.-N., **Sarrut, D.,** "Uncertainties of a 177Lu-DOTATATE dosimetric workflow based on a reduced number of SPECT/CT acquisitions". In: *European Congress of Medical Physics (ECMP)*. European Federation of organisations for medical physics. Dublin, Ireland, Aug. 2022.

[C92] Vergnaud, L., Robert, A., Baudier, T., Martino, S. P.-D., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.,** "Dosimetric impact of breathing movement compensation in radioembolization". In: *European Congress of Medical Physics (ECMP)*. Dublin, Ireland, Aug. 2022.

[C91] Abbani, N., Okoli, F., Jaouen, V., Bert, J., **Sarrut, D.,** "Using simulated CBCT images in deep learning methods for real CBCT segmentation". In: *ESTRO Annual Conference 2022*. Copenhagen (Denmark), 2022.

[C90] Chaine, Q., Baudier, T., Abbani, N., Costea, M., Biston, M.-C., Gregoire, V., Di-Franco, F., **Sarrut, D.,** "Segmentation automatique par Deep Learning d'images CBCT dansla région tête et cou". In: *60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, 2022.

[C89] Costea, M., Zlate, A., Baudier, T., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Evaluation of different algorithms for automatic segmentation of head-and-neck lymph nodes on CT images". In: *60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, 2022.

[C88] Costea, M., Zlate, A., Durand, M., Baudier, T., Gregoire, V., **Sarrut, D.**, Biston, M.-C., "Evaluation of different algorithms for automatic segmentation of head-and-neck lymph nodes on CT images". In: *4th European Congress of Medical Physics*. Dublin (Irland), 2022.

[C87] Franco, F., Baudier, T., Gassa, F., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Time-dependent margins for prostate intrafraction motion during hypofractionated radiotherapy". In: *ESTRO Annual Conference 2022*. Copenhagen (Denmark), 2022.

[C86] Franco, F., Baudier, T., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Impact of daily anatomical changes and intrafraction motion on dose distribution during ultra-hypofractionated prostate cancer radiotherapy". In: *4th European Congress of Medical Physics*. Dublin (Irland), 2022.

[C85] Franco, F., Baudier, T., Pommier, P., **Sarrut, D.**, Biston, M.-C., "Ultra-hypofractionated prostate cancer radiotherapy: dosimetric impact of real-time motion and daily anatomical changes". In: *60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Avignon, 2022.

[C84] Kaprelian, T., Etxebeste, A., Krah, N., Létang, J.-M., Ostromoukhov, V., Coeurjolly, D., **Sarrut, D.,** "Quasi Monte-Carlo Voxelized Source Sampling". In: *International Conference on Monte Carlo Techniques for Medical Applications (MCMA)*. Antwerp (Belgium), 2022.

[C83] Krzyzaniak, A., Parisse Di-Martino, S., **Sarrut, D.**, Vergnaud, L., Mognetti, T., Badel, J.-N., "Optimization of a 360° CZT Camera for Dosimetry Planning Step in SIRT Treatment of Liver Cancer and Liver Metastases". In: *European Association of Nuclear Medicine (EANM) annual congress*. Barcelona (Spain), 2022.

[C82] Maxim, V., Muñoz, E., Etxebeste, A., Dauvergne, D., Létang, J.-M., **Sarrut, D.**, Testa, E., "Spectral reconstruction in Compton camera medical imaging". In: *SIAM annual meeting 2022*. Pittsburgh (Pennsylvania, US), 2022.

[C81] Plachouris, D., Eleftheriadis, V., Nanos, T., Papadimitroulas, P., Vergnaud, L., Papathanasiou, N., **Sarrut, D.**, Kagadis, G., "A Machine Learning Prognostic Model for the Assessment of 177-Lu-DOTATATE Therapy Using Dose and Radiomics Features Analysis". In: *Med. Phys. 64th AAPM (American Association of Physicists in Medicine) Annual Meeting*. Vol. PO-GePV-T-15. Washington, DC (USA), 2022.

[C80] Saporta, A., Etxebeste, A., Krah, N., Létang, J.-M., **Sarrut, D.,** "Conditional GAN for Monte Carlo SPECT simulation". In: *International Conference on Monte Carlo Techniques for Medical Applications (MCMA)*. Antwerp (Belgium), 2022.

[C79] **Sarrut, D.**, Etxebeste, A., Krah, N., Saporta, A., Létang, J.-M., "GAN for source modeling in PET Monte Carlo simulation". In: *International Conference on Monte Carlo Techniques for Medical Applications (MCMA)*. Antwerp (Belgium), 2022.

[C78] Vergnaud, L., Giraudet, A.-L., Moreau, A., Salvadori, J., Imperiale, A., Baudier, T., Badel, J.-N., **Sarrut, D.,** "Uncertainties of a 177Lu-DOTATATE dosimetric workflow based on a reduced number of SPECT/CT acquisitions". In: *4th European Congress of Medical Physics*. Dublin (Irland), 2022.

[C77] Vergnaud, L., Mognetti, T., Baudier, T., Boissard, P., Dieudonné, A., Rida, H., Badel, J.-N., **Sarrut, D.,** "Feasibility of 177Lu quantification with a 360° CZT gamma camera". In: *European Association of Nuclear Medicine (EANM) annual congress*. Barcelona (Spain), 2022.

[C76] Vergnaud, L., Robert, A., Parisse Di-Martino, S., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.,** "Dosimetric impacts of breathing movement compensation in radioembolization". In: *European Association of Nuclear Medicine (EANM) annual congress*. Barcelona (Spain), 2022.

[C75] Vergnaud, L., Robert, A., Parisse Di-Martino, S., Boissard, P., Rit, S., Badel, J.-N., **Sarrut, D.,** "Dosimetric impact of breathing movement compensation in radioembolization". In: *4th European Congress of Medical Physics*. Dublin (Irland), 2022.

[C74] Claude, L., Isnardi, V., Schiffler, C., Metzger, S., Martel-Lafay, I., Rit, S., **Sarrut, D.**, Baudier, T., Ayadi, M., "Mid-p strategy versus ITV strategy in locally advanced lung cancer. A randomized phase II study". In: *ESTRO Annual Conference 2021*. Madrid (Spain), 2021.

[C73] Costea, M., Grégoire, V., **Sarrut, D.**, Biston, M.-C., "Comparison of segmentation algorithms for organs at risk delineation on head-and-neck CT images". In: *ESTRO Annual Conference 2021*. Madrid (Spain), 2021.

[C72] Etxebeste, A., Muñoz, E., Dauvergne, D., Létang, J.-M., Borja-Lloret, M., Llosá, G., Maxim, V., **Sarrut, D.**, Testa, E., "Comparison of efficiency and activity recovery coefficients of Compton and Anger cameras in Nuclear Medicine". In: *IEEE Nuclear Science Symposium and Medical Imaging Conference (IEEE NSS MIC)*. Yokohama (Japan), 2021.

[C71] Franco, F., Baudier, T., Gassa, F., **Sarrut, D.**, Biston, M.-C., "Impact of daily anatomical changes and intrafraction motion on dose distribution during ultra-hypofractionated prostate cancer radiotherapy". In: *4th European Congress of Medical Physics*. (virtual), 2021.

[C70] Franco, F., Baudier, T., Gassa, F., **Sarrut, D.**, Biston, M.-C., "Dosimetric impact of intra-fraction prostate motion during moderate hypo-fractionated radiation treatment: a population-based study varying CTV-to-PTV margins". In: *60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Rennes, 2021.

[C69] Labour, J., Baudier, T., Parisse-Di Martino, S., Khayi, F., **Sarrut, D.**, Badel, J.-N., "Dosimetric comparison between planning SPECT and monitoring PET for 90Y-radioembolisation". In: *European Association of Nuclear Medicine (EANM) annual congress*. Vienna (Austria), 2021.

[C68] Robert, A., Rit, S., Jomier, J., **Sarrut, D.,** "Data-driven motion compensated SPECT reconstruction for liver radioembolization". In: *Fully 3D Image Reconstruction in Radiology and Nuclear Medicine*. Leuven (Belgium), 2021.

[C67] Salvadori, J., Labour, J., Odille, F., Marie, P.-Y., Badel, J.-N., Imbert, L., **Sarrut, D.,** "Monte Carlo simulation of the Vereos digital photon counting PET system with GATE". In: *60èmes Journées Scientifiques de la Société Française de Physique Médicale*. Rennes, 2021.

[C66] **Sarrut, D.**, collaboration, O., "Advanced Monte Carlo simulations of emission tomography imaging systems with GATE". In: *Total Body PET*. Edinburgh (Scotland), 2021.

[C65] Vergnaud, L., Giraudet, A.-L., Moreau, A., Baudier, T., Badel, J.-N., **Sarrut, D.,** "Patient-specific dosimetric workflow with a reduced number of time-points for 177Lu treatments". In: *European Association of Nuclear Medicine (EANM) annual congress*. Vienna (Austria), 2021.

[C64] Etxebeste, A., Dauvergne, D., Létang, J.-M., Borja-Lloret, M., Llosá, G., Ros, A., **Sarrut, D.**, Testa, E., "Compton camera design optimization for detection efficiency enhancement in Nuclear Medicine". In: *IEEE Nuclear Science Symposium and Medical Imaging Conference (IEEE NSS MIC)*. Boston (US), 2020.

[C63] Labour, J., Boissard, P., Khayi, F., Veryat Durebex, P., Kryza, D., Parisse-Di Martino, S., Mognetti, T., **Sarrut, D.**, Badel, J.-N., "Yttrium-90 PET imaging with digital photon counting for radioembollization absorbed dose monitoring". In: *European Association of Nuclear Medicine (EANM) annual congress*. Vienna (Austria), 2020.

[C62] Winterhalter, C., Taylor, M., Boersma, D., Elia, A., Guatelli, S., Mackay, R., Kirkby, K., Maigne, L., Ivanchenko, V., Resch, A., **Sarrut, D.**, Sitch, P., Vidal, M., Grevillot, L., Aitkenhead, A., "The importance of Monte Carlo (Geant4) physics settings for clinical proton therapy treatment plans". In: *Med. Phys. 62th AAPM (American Association of Physicists in Medicine) Annual Meeting*. Vol. PO-GePV-T-15. Vancouver (Canada), 2020.

[C61] Ahmad, A., Rasti, P., Frindel, C., **Sarrut, D.**, Rousseau, D., "Deep learning based detection of cells in 3D light sheet fluorescence microscopy". In: *Quantitative BioImaging Conference (QBI 2019)*. Rennes, France, 2019.

[C60] Biston, M.-C., Delcoudert, L., Zaragori, T., Munoz, A., **Sarrut, D.**, Pommier, P., "Clinical evaluation of two monitoring devices for prostate radiotherapy treatment". In: *Radiotherapy and Oncology: ESTRO meeting 38*. Vol. 133. S1. Milan, Italy, 2019.

[C59] Etxebeste, A., Fontana, M., Létang, J. M., Llosá, G., Muñoz, E., Oliver, J., Ros, A., Testa, E., **Sarrut, D.,** "A GATE module for Compton Camera imaging simulation". In: *MCMA: International Conference on Monte Carlo Techniques for Medical Applications*. Monteral, Canada, 2019.

[C58] Feng, Y., Etxebeste, A., Letang, J., **Sarrut, D.**, Maxim, V., "Influence of the model in Compton camera MLEM reconstruction". In: *IEEE Nuclear Science Symposium and Medical Imaging Conference*. Manchester, UK, 2019.

[C57] Feng, Y., Fontana, M., Etxebeste, A., Dauvergne, D., Létang, J., Testa, E., **Sarrut, D.**, Maxim, V., "A maximum-a-posteriori EM reconstruction method based on total variation regularization for Compton camera imaging". In: *Particle Therapy CoOperative Group (PTCOG 58)*. Manchester, UK, 2019.

[C56] Labour, J., Martin, A., Boissard, P., Baudier, T., **Sarrut, D.**, Badel, J.-N., "Optimization of Yttrium-90 PET/CT acquisition time on a SiPM-PET/CT during selective internal radiation therapy". In: *European Association of Nuclear Medicine (EANM) annual congress*. Barcelona, Spain, 2019.

[C55] Livingstone, J., Etxebeste, A., Curtoni, S., Dauvergne, D., Fontana, M., Gallin-Martel, M.-L., Létang, J.-M., Marcatilia, S., Morel, C., **Sarrut, D.**, Testa, E., "Ultra fast prompt-gamma imaging for the online monitoring of the ion range in hadron therapy". In: *IEEE Nuclear Science Symposium and Medical Imaging Conference*. Manchester, UK, 2019.

[C54] Livingstone, J., Etxebeste, A., Dauvergne, D., Fontana, M., Gallin-Martel, M.-L., Létang, J.-M., Marcatili, S., Morel, C., **Sarrut, D.**, Testa, E., "Fast-prompt gamma imaging for the online monitoring of the ion range in hadron therapy". In: *Particle Therapy CoOperative Group (PTCOG 58)*. Manchester, UK, 2019.

[C53] Robert, A., Rit, S., Jomier, J., **Sarrut, D.,** "Respiration-correlated 4D SPECT reconstruction". In: *IEEE Nuclear Science Symposium and Medical Imaging Conference*. Manchester, UK, 2019.

[C52] **Sarrut, D.**, Baudier, T., Labour, J., Badel, J.-N., "Using phase space for SPECT Monte-Carlo simulation". In: *European Association of Nuclear Medicine (EANM) annual congress*. Barcelona, Spain, 2019.

[C51] **Sarrut, D.**, Krah, N., Létang, J.-M., "GaGa: GAN for GATE". In: *MCMA: International Conference on Monte Carlo Techniques for Medical Applications*. Monteral, Canada, 2019.

[C50] **Sarrut, D.**, Rit, S., Ayadi, M., Claude, L., Baudier, T., Badel, J.-N., Giraudet, A.-L., "Working with radiotherapy from the perspective of data/computer scientist". In: *Radiotherapy and Oncology: ESTRO meeting 38*. Vol. 133. S1. Milan, Italy, 2019.

[C49] Testa, E., Huisman, B., Dauvergne, D., Létang, J. M., **Sarrut, D.,** "Analytical and Monte-Carlo modeling of Multi-Parallel Slit and Knife-Edge Slit Prompt Gamma Cameras". In: *Particle Therapy CoOperative Group (PTCOG 58)*. Manchester, UK, 2019.

[C48] Badel, J., al. "A French multicenter comparative study of 3D dosimetry software used in therapeutic Nuclear Medicine". In: *European Association of Nuclear Medicine (EANM) annual congress*. Dusseldorf, 2018.

[C47] Etxebeste, A., Feng, Y., Letang, J., Maxim, V., Testa, E., **Sarrut, D.,** "An extension of the GATE Monte Carlo simulation toolkit to model Compton Camera systems". In: *Third Geant4 International User Conference 2018*. Bordeaux, 2018.

[C46] Feng, Y., Etxebeste, A., Letang, J., **Sarrut, D.**, Maxim, V., "Total variation regularization for list-mode MLEM reconstruction in Compton camera imaging". In: *IEEE Nuclear Science Symposium and Medical Imaging Conference*. Brisbane, Australia, 2018.

[C45] Kochebina, O., Halty, A., Taleb, J., Kryza, D., Janier, M., Bani Sadr, A., Mory, C., Bar-Ness, D., Douek, P., Si-Mohamed, S., Baudier, T., Rit, S., **Sarrut, D.,** "In vivo Gd-nanoparticles image-based quantification with SPECT and k-edge spectral CT". In: *European Association of Nuclear Medicine (EANM) annual congress*. Dusseldorf, 2018.

[C44] **Sarrut, D.**, Krah, N., Badel, J., Létang, J., "Learning SPECT detector response for Monte-Carlo simulations". In: *European Association of Nuclear Medicine (EANM) annual congress*. Dusseldorf, 2018.

[C43] Cajgfinger, T., Rit, S., Létang, J., Halty, A., **Sarrut, D.,** "Fixed Forced Detection for fast SPECT Monte-Carlo simulation". In: *International Conference on Monte Carlo Techniques for Medical Applications (MCMA)*. Napoli, 2017.

[C42] Cassier, P., Giraudet, A., Iwao-Fukukawa, C., Garin, G., Badel, J., Kryza, D., Chabaud, S., Cropet, C., **Sarrut, D.**, Berge-Montamat, S., Gilles-Afchain, L., Halty, A., Italiano, A., Penel, N., Mori, M., Tsunoda, T., Katagiri, T., Nakamura, Y., Baconnier, S., Perol, D., Blay, J., "Synfrizz: A first-in-human study investigating a radiolabeled monoclonal antibody targeting Frizzled homolog 10 (FZD10) in patients with advanced, pretreated synovial sarcomas". In: *American Society of Clinical Oncology annual meeting 2017*. Chicago, USA, 2017.

[C41] Elia, A., Grevillot, L., Carlino, A., Bohlen, T., Fuchs, H., Stock, M., **Sarrut, D.,** "Monte Carlo modeling of a proton fixed beam line featuring non-isocentric PBS treatment capabilities". In: *Particle Therapy CoOperative Group (PTCOG 56)*. Japan, 2017.

[C40] Elia, A., Grevillot, L., Carlino, A., Bohlen, T., Fuchs, H., Stock, M., **Sarrut, D.,** "Monte Carlo modeling of non-isocentric proton pencil beam scanning treatments". In: *Radiotherapy and Oncology: ESTRO congress 36*. Vienna, Austria, 2017.

[C39] **Sarrut, D.**, Halty, A., Badel, J., Ferrer, L., Bardiès, M., "Voxel-based multi-model fitting method for modelling time activity curves in SPECT images". In: *European Association of Nuclear Medicine (EANM) annual congress*. Vienna, 2017.

[C38] Elia, A., Grevillot, L., Carlino, A., Stock, M., Fuchs, H., Bohlen, T., Vatnitsky, S., **Sarrut, D.,** "Monte Carlo proton beam modeling for the MedAustron fixed beam lines". In: *Particle Therapy CoOperative Group (PTCOG 55)*. Prague, Czech, 2016.

[C37] Fargier-Voiron, M., Pommier, P., Rit, S., **Sarrut, D.**, Biston, M., "Monitoring of intrafraction prostate motion with 4D ultrasound IGRT device". In: *Radiotherapy and Oncology: ESTRO meeting 35*. Vol. 119. S1-S996. Turin, Italy, 2016.

[C36] Halty, A., Badel, J., Kryza, D., Giraudet, A., **Sarrut, D.,** "Image-based method for estimation of global calibration factor for SPECT images". In: *European Association of Nuclear Medicine (EANM) annual congress*. Barcelona, 2016.

[C35] Huisman, B., Letang, J., Testa, E., **Sarrut, D.,** "Accelerated Prompt Gamma estimation for clinical Proton Therapy simulations". In: *Particle Therapy CoOperative Group (PTCOG 55)*. Prague, Czech, 2016.

[C34] **Sarrut, D.**, Biston, M., "A. Fassi and E. Tagliabue and M. Tirindelli and Sarrut, D. and M. Riboldi and G. Baroni". In: *Radiotherapy and Oncology: ESTRO meeting 35*. Vol. 119. S1-S424. Turin, Italy, 2016.

[C33] **Sarrut, D.**, Halty, A., Badel, J., Kryza, D., Giraudet, A., "In-silico comparison of patient absorbed dose from various radionuclides in targeted radionuclides therapy". In: *International Conference on the Use of Computers in Radiation Therapy (ICCR)*. 2016.

[C32] **Sarrut, D.**, Badel, J., Halty, A., Kryza, D., Giraudet, A., "3D patient absorbed dose estimation of monoclonal antibody targeting synovial sarcoma". In: *European Association of Nuclear Medicine (EANM) annual congress*. Hamburg, 2015.

[C31] Delmon, V., Vandemeulebroucke, J., Pinho, R., Oliva, M., **Sarrut, D.**, Rit, S., "In-room breathing motion estimation from limited projection views using a sliding deformation model". In: *International Conference on the Use of Computers in Radiation Therapy (ICCR)*. Vol. 489. 2014, p. 012026.

[C30] Rit, S., Vila Oliva, M., Brousmiche, S., Labarbe, R., **Sarrut, D.**, Sharp, G., "The Reconstruction Toolkit (RTK), an open-source cone-beam CT reconstruction toolkit based on the Insight Toolkit (ITK)". In: *International Conference on the Use of Computers in Radiation Therapy (ICCR)*. Vol. 489. 2014, p. 012079.

[C29] Rit, S., Freud, N., **Sarrut, D.**, Létang, J., "Distance-driven binning for proton CT filtered backprojection along most likely paths". In: *The Second International Conference on Image Formation in X-Ray Computed Tomography*. Salt Lake City, Utah, USA, 2012.

[C28] **Sarrut, D.**, Claude, L., Rit, S., Pinho, R., Pitson, G., Lynch, R., "Investigating mediastinal lymph node stations segmentation on thoracic CT following experts guidelines". In: *MICCAI, Proceedings of the First Workshop on Image-Guidance and Multimodal Dose Planning in Radiation Therapy*. 2012.

[C27] Pinho, R., Delmon, V., Vandemeulebroucke, J., Rit, S., **Sarrut, D.,** "Keuhkot: a method for lung segmentation". In: *MICCAI, Proceedings of the Fourth International Workshop on Pulmonary Image Analysis*. Toronto, Canada, Sept. 2011, pp. 225–232.

[C26] Rit, S., Pinho, R., Delmon, V., Pech, M., Bouilhol, G., Schaerer, J., Navalpakkam, B., Vandemeulebroucke, J., Seroul, P., **Sarrut, D.,** "VV, a 4D slicer". In: *MICCAI, Proceedings of the Fourth International Workshop on Pulmonary Image Analysis*. Toronto, Canada, Sept. 2011, pp. 171–175.

[C25] Fassi, A., Schaerer, J., Riboldi, M., **Sarrut, D.**, Baroni, G., "A novel CT-based contrast enhancement technique for markerless lung tumor tracking in X-ray projection images". In: *ESTRO*. Vol. 99. Elsevier, 2011, S217.

[C24] Vandemeulebroucke, J., Rit, S., Schaerer, J., **Sarrut, D.,** "Deformable image registration with automated motion-mask extraction". In: *Medical Image Analysis for the Clinic: A Grand Challenge 2010 of the MICCAI Conference, Beijing*. 2010.

[C23] Vandemeulebroucke, J., Kybic, J., Clarysse, P., **Sarrut, D.,** "Respiratory motion estimation from cone-beam projections using a prior model". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI'09)*. Springer. London, UK: Springer, 2009, in–press.

[C22] Seroul, P., **Sarrut, D.,** "VV: a viewer for the evaluation of 4D image registration". In: *In Medical Image Computing and Computer-Assisted Intervention MICCAI'2008, Workshop - Systems and Architectures for Computer Assisted Interventions*. New York, Sept. 2008.

[C21] Vandemeulebroucke, J., Clarysse, P., Kybic, J., **Sarrut, D.,** "Estimating Respiratory Motion from Cone-Beam Projections". In: *In Medical Image Computing and Computer-Assisted Intervention MICCAI'2008, The First International Workshop on Pulmonary Image Analysis*. New York, Sept. 2008.

[C20] Rit, S., **Sarrut, D.,** "Cone-beam projection of a deformable volume for motion compensated algebraic reconstruction". In: *Conf Proc IEEE Eng Med Biol Soc*. Lyon, France, Sept. 2007.

[C19] Zahra, N., Lautesse, P., Guigues, L., Frisson, T., **Sarrut, D.,** "Geant4-based simulation of Carbon beam irradiation inside CT image : validation with radiochromic films". In: *11th HCBPM (Heavy Charged Particles in Biology & Medicine) IBIBAM (Ion Beams In Biology and Medicine)*. Heidelberg, Sept. 2007.

[C18] Vandemeulebroucke, J., **Sarrut, D.**, Clarysse, P., "Point-validated Pixel-based Breathing Thorax Model". In: *International Conference on the Use of Computers in Radiation Therapy (ICCR)*. Toronto, Canada, June 2007, pp. 195–199.

[C17] Rit, S., **Sarrut, D.**, Miguet, S., "Gated cone-beam CT imaging of the thorax: a reconstruction study". In: *SPIE Medical Imaging*. San Diego, California, USA, Feb. 2007.

[C16] Ayadi, M., **Sarrut, D.**, Ginestet, C., "Cumulating static dose distributions to simulate dynamic dose distributions: an experimental study". In: *Med. Phys. 48th AAPM (American Association of Physicists in Medicine) Annual Meeting*. Vol. 33 (6). Orlando, FL, USA, June 2006, p. 2084.

[C15] Boldea, V., Sharp, G., Jiang, S., Choi, N., Ginestet, C., Carrie, C., **Sarrut, D.,** "Implementation and Evaluation of Automatic Contour Propagation in 4DCT of Lung". In: *Med. Phys. 48th AAPM (American Association of Physicists in Medicine) Annual Meeting*. Vol. 33 (6). Orlando, FL, USA, June 2006, pp. 2019–2020.

[C14] Boldea, V., **Sarrut, D.**, Carrie, C., "Comparison of 3D Dense Deformable Registration Methods for Breath-hold Reproducibility Study in Radiotherapy". In: *SPIE Medical Imaging: Visualization, Image-Guided Procedures, and Display*. Vol. 5747. 2005, pp. 222–230.

[C13] Rit, S., **Sarrut, D.**, Ginestet, C., "Respiratory signal extraction for 4D CT imaging of the thorax from cone-beam CT projections". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Ed. by J. Duncan and G. Gerig. Vol. 3749. Springer Verlag, Lecture Notes in Computer Science. Springer Verlag, Lecture Notes in Computer Science, 2005, pp. 556–63.

[C12] Atoui, H., **Sarrut, D.**, Miguet, S., "Usefulness of image morphing techniques in cancer treatment by conformal radiotherapy". In: *SPIE Medical Imaging: Visualization, Image-Guided Procedures, and Display*. Vol. 5367. 2004, pp. 332–340.

[C11] Boldea, V., **Sarrut, D.**, Clippe, S., "Lung Deformation Estimation with Non-Rigid Registration for Radiotherapy Treatment". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Vol. 2878. Springer Verlag, Lecture Notes in Computer Science. Springer Verlag, Lecture Notes in Computer Science, 2003, pp. 770–7.

[C10] **Sarrut, D.**, Clippe, S., "Geometrical transformation approximation for 2D/3D intensity-based registration of portal images and CT scan". In: *Medical Image Computing and Computer-Assisted Intervention (MICCAI)*. Ed. by W. Niessen and M. Viergever. Vol. 2208. Springer Verlag, Lecture Notes in Computer Science. Utrecht (Netherlands): Springer Verlag, Lecture Notes in Computer Science, 2001, pp. 532–540.

[C9] Teytaud, O., **Sarrut, D.,** "Kernel Based Image Classification". In: *International Conference on Artificial Neural Networks (ICANN)*. 2001, pp. 369–375.

[C8] Teytaud, O., **Sarrut, D.,** "Convergence speed of deformable models". In: *INNS-IEEE International Joint Conference on Neural Networks (IJCNN)*. 2001.

[C7] **Sarrut, D.**, Clippe, S., "Patient positioning in radiotherapy by registration of 2D portal to 3D CT images by a contend-based research with similarity measures". In: *Computer Assisted Radiology and Surgery (CARS)*. San Francisco, USA: Elsevier Science, 2000, pp. 707–712.

[C6] **Sarrut, D.**, Feschet, F., "The Partial Intensity Difference Interpolation". In: *International Conference on Imaging Science, Systems and Technology*. Ed. by H. R. Arabnia. Las Vegas, USA: CSREA Press, 1999, pp. 46–51.

[C5] **Sarrut, D.**, Miguet, S., "Similarity Measures for Image Registration". In: *European Workshop on Content-Based Multimedia Indexing*. Toulouse, France: IHMPT–IRIT, 1999, pp. 263–270.

[C4] **Sarrut, D.**, Miguet, S., "Fast 3D Images Transformations for Registration Procedures". In: *10th International Conference on Image Analysis and Processing*. Venice, Italy: IEEE Computer Society, 1999, pp. 446–452.

[C3] **Sarrut, D.**, Miguet, S., "ARAMIS: A Remote Access Medical Imaging System". In: *3rd International Symposium on Computing in Object-Oriented Parallel Environments*. Lecture Notes in Computer Science. San Francisco, USA: Springer-Verlag, 1999, pp. 55–60.

[C2] **Sarrut, D.** "ARAMIS: an "on line" Parallel Platform for Medical Imaging". In: *International Conference on Parallel and Distributed Processing Technique and Applications*. Ed. by H. Arabnia. Las Vegas, USA: CSREA Press, 1998, pp. 509–516.

[C1] Miguet, S., Nicod, J., **Sarrut, D.,** "A Linear Algorithm for constructing the Polygon Adjacency Relation in a Iso-Surface of 3D Images". In: *International Conference on Discrete Geometry for Computer Imagery (DGCI) 1997*. Ed. by E. Ahronovitz and C. Fiorio. Vol. 1347. Lecture Notes in Computer Science. Montpellier, France: Springer-Verlag, 1997, pp. 125–136.