Ninon **Burgos**

CNRS Research Director • Medical Image Computing

ARAMIS Lab, Institut du Cerveau / Paris Brain Institute • ICM

Hôpital de la Pitié-Salpêtrière, 47 boulevard de l'hôpital, 75013 Paris, France

+33 (0)1 57 27 43 48 • ninon.burgos@cnrs.fr • ninonburgos.com • ninonburgos • Ninon Burgos

Education

Habilitation à Diriger des Recherches — *Paris, France*
Sorbonne Université — *2022*

PhD in Medical and Biomedical Imaging — *London, UK*
University College London — *2016*

MSc in Biomedical Engineering — *London, UK*
Imperial College London — *2012*

Diplôme d'Ingénieur — *Cergy, France*
École Nationale Supérieure d'Électronique et de ses Applications (ENSEA) — *2012*

Academic Positions

CNRS research director (Faculty position, equivalent to full professor with no strict teaching duties) — *Paris, France*
Institut du Cerveau – ARAMIS Lab (Sorbonne Université, CNRS UMR 7225, Inria, INSERM U1127, AP-HP) — *2025 – present*

Team co-head — *Paris, France*
ARAMIS Lab (www.aramislab.fr), ∼35 members — *2025 – present*

PR[AI]RIE fellow — *Paris, France*
Paris Artificial Intelligence Research Institute (PR[AI]RIE) — *2019 – present*

CNRS researcher (Faculty position, equivalent to associate professor with tenure and no strict teaching duties) — *Paris, France*
Institut du Cerveau – ARAMIS Lab (Sorbonne Université, CNRS UMR 7225, Inria, INSERM U1127, AP-HP) — *2018 – 2025*

Postdoctoral researcher — *Paris, France*
Inria/Institut du Cerveau et de la Moelle épinière – ARAMIS Lab (INSERM U1127, CNRS UMR 7225, Sorbonne Université) — *2017 – 2018*

Postdoctoral researcher — *London, UK*
Centre for Medical Image Computing, University College London — *2016*

Research assistant — *London, UK*
Centre for Medical Image Computing, University College London — *2012 – 2016*

Publication summary

38	International journal articles	*15 as first/last author, 11 as second/second-last author*
1	Edited book	*with David Svoboda*
5	Edited conference proceedings	*2 as main editor*
9	Book chapters	*6 as first/last author*
30	Conferences with full-length peer-reviewed proceedings	*20 as first/last author, 3 as second/second-last author*
42	Conference abstracts	*10 as first/last author, 10 as second/second-last author*

Honours & Awards

2023	**Best poster runner-up award**, SPIE Medical Imaging 2023: Image processing (senior author)	*San Diego, USA*
2019	**ERCIM Cor Baayen Young Researcher Award**, Awarded each year to a promising young researcher in computer science or applied mathematics in Europe	
2017	**Galileo Galilei Award 2017**, Best publication in the European Journal of Medical Physics - Physica Medica in 2017	
2016	**Marie Curie Fellow and PRESTIGE Fellow**, Campus France and the Marie Curie Actions—COFUND of the European Union's Seventh Framework Programme	
2016	**Student travel award**, International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)—attribution based on the quality of the paper (acceptance rate below 35%)	*Athens, Greece*
2016	**Highlighted presentation**, International Conference on the use of Computers in Radiation Therapy (ICCR)	*London, UK*
2015	**Student travel award**, MICCAI	*Munich, Germany*
2015	**Best oral presentation runner-up award**, 4th Conference on PET/MR and SPECT/MR (PSMR)	*Elba, Italy*
2013	**Student travel award**, MICCAI	*Nagoya, Japan*

Funding

2024 – 2029	**MEDITWIN**, Virtual twins for the future of medical care involving a consortium comprising seven University Hospital Institutes, Nantes University Hospital, Inria, associated startups and Dassault Systèmes • Task leader, own funding: 500k €	*France 2030*
2024 – 2030	**CLARA**, Center for Artificial Intelligence and Quantum Computing in System Brain Research, a Horizon Europe Teaming for Excellence project • Co-I, team funding: 1.8m €	*Horizon Europe*
2024 – 2028	**GALAN**, MESSIDORE programme (*Méthodologie des ESSais cliniques Innovants, Dispositifs, Outils et Recherches Exploitant les données de santé et biobanques*) • Co-I, total funding: 1.1m €	*Inserm*
2024 – 2027	**ANO-NEURO**, ANR JCJC (ANR-23-CE45-0005-01) • PI, total funding: 272k €	*ANR*
2019 – 2026	**PR[AI]RIE Springboard Chair**, Paris Artificial Intelligence Research Institute (ANR-19-P3IA-0001) • Own funding: 328k €	*'Investissements d'avenir' programme*
2017 – 2018	**PRESTIGE Postdoctoral Research Fellowship**, Campus France and the Marie Curie Actions—COFUND of the European Union's Seventh Framework Programme • Own funding: 30k €	*Campus France and the Marie Curie Actions*
2016	**CMIC Pump-priming Award**, Six months of funding received from the CMIC-EPSRC platform grant (EP/M020533/1) to explore a new field of research	*CMIC-EPSRC*

Institutional Responsibilities

Scientific secretary – Scientific Council of CNRS Informatics (csi-ins2i.cnrs.fr) *2024 – present*

Member – Scientific and Ethical Committee, Paris university hospital trust's clinical data warehouse (EDS AP-HP – eds.aphp.fr) *2024 – present*

Certifications

First Aid Certificate
Institut National de Recherche et de Sécurité *Since 2019*

Mental Health First Aid Certificate
Premiers Secours en Santé Mentale France *Since 2023*

Supervision of Research Activities – Summary

9	PhD students	*5 completed, 4 ongoing*
6	Master students	*6 completed*
8	Developers working on two open-source software platforms (Clinica & ClinicaDL)	*3 ongoing*

Supervision of Research Activities

PhD Theses

Manon Heffernan *Co-supervision with Olivier Colliot*
'Artificial intelligence tools for clinical data warehouses in neuroimaging' *Oct 2024 – present*

Hugues Roy *Primary supervision*
'Pseudo-healthy image synthesis for the detection of anomalies in the brain, a multi-modal approach' [E.1] *Sept 2024 – present*

Matthieu Joulot *Co-supervision with Olivier Colliot*
'Longitudinal processing of multimodal brain imaging for the study of neurodegenerative diseases' *Mar 2024 – present*

Maëlys Solal *Primary supervision*
'Robust anomaly detection in multimodal neuroimaging' [E.4, A.2] *Oct 2023 – present*

Sophie Loizillon *Co-supervision with Olivier Colliot*
'Deep learning for assisting diagnosis of neurological diseases using a very large-scale clinical data warehouse' [A.1, A.4,A.6, E.3,E.5, E.10, E.13] *Oct 2021 – Sept 2024*

Ravi Hassanaly *Primary supervision*
'Deep generative models for the detection of anomalies in the brain' [A.5, E.6, E.11, E.12, A.2] *Nov 2020 – Apr 2024*

Simona Bottani *Co-supervision with Olivier Colliot*
'Machine learning for neuroimage processing using a very large-scale clinical data warehouse' [A.7, A.8, A.12, E.16, F.7] *Oct 2018 – March 2022*

Elina Thibeau-Sutre *Co-supervision with Didier Dormont and Olivier Colliot*
'Reproducible and interpretable deep learning for the diagnosis, prognosis and subtyping of Alzheimer's disease from neuroimaging data' [A.9, A.11, A.20, E.14, E.15, E.17, F.3, F.4, F.10] *Sept 2018 – Dec 2021*

Jorge Samper-González — *Co-supervision with Olivier Colliot*
'Learning from multimodal data for classification and prediction of Alzheimer's disease' [A.23, E.18, E.20, F.12, F.20, F.22] — *Jan 2017 – Dec 2019*

Internships

Mathis Krause — *Co-supervision with Hugues Roy*
'Revisiting registration-based brain anomaly detection' — *Jul 2025 – Sep 2025*

Hugues Roy — *Primary supervision*
'Pseudo-healthy image synthesis for the detection of anomalies in the brain, a multimodal approach' — *Feb 2024 – Jul 2024*

Stéphane Mabille — *Co-supervision with Sophie Loizillon*
'Use of synthetic data for the quality control of routine clinical images' — *Feb 2023 – Aug 2023*

Maëlys Solal — *Primary supervision*
'Deep learning for anomaly detection in neuroimages for the computer-aided diagnosis of dementia' — *Oct 2022 – June 2023*

Arnaud Berenbaum — *Co-supervision with Aurélie Kas and Olivier Colliot*
'Automatic classification of brain PET/CT scans with deep learning' — *Mar 2021 – Sept 2021*

Ravi Hassanaly — *Primary supervision*
'Pseudo-healthy image synthesis for the detection of anomalies in the brain, a deep learning approach' — *Apr 2020 – Sept 2020*

Pablo Rey — *Primary supervision*
'Individual analysis of diffusion weighted imaging data' — *June 2018 – Aug 2018*

Engineers

Alice Joubert
Developer of Clinica, focusing on quality control of image processing pipelines — *April 2024 – present*

Thibault De Varax
Developer of ClinicaDL, focusing on the implementation of new network architectures — *March 2024 – present*

Camille Brianceau
Developer of ClinicaDL, a software for reproducible neuroimaging processing with deep learning — *July 2022 – present*

Matthieu Joulot
Developer of Clinica, focusing on dataset converters and diffusion MRI pipelines — *June 2021 – Dec 2023*

Ghislain Vaillant
Developer of Clinica — *May 2021 – Dec 2023*

Omar El Rifai
Lead developer of Clinica, a software platform for clinical neuroimaging research studies [F.5] — *Mar 2021 – Oct 2022*

Adam Wild
Developer of software tools to process massive medical imaging datasets [A.12] — *Jan 2019 – June 2020*

Alexandre Routier
Lead developer of Clinica, a software platform for clinical neuroimaging research studies [A.16, F.8, F.11, F.19] — *Nov 2018 – Oct 2020*

Arnaud Marcoux
Developer of software tools to process multimodal medical images (PET and MRI) [A.24, F.18] — *Feb 2017 – Feb 2020*

Software Development Management

Clinica — *www.clinica.run* / *github.com/aramis-lab/clinica*
- Open-source software platform for neuroimaging research studies
- Role: Management of the project and of the developers

ClinicaDL — *github.com/aramis-lab/clinicaDL*
- Open-source software for reproducible neuroimaging analysis with deep learning
- Role: Management of the project and of the developers

Invited Presentations

Invited presentations at international conferences and schools

AI4Health Summer School — *Paris, France*
'Generative Models in Medical Imaging: From Variational Autoencoders and GANs to Diffusion Models and Beyond' — *Jul 2025*

Deep Learning for Medical Imaging School — *Lyon, France*
'Ensuring Robust AI in Medical Imaging: Validation on Real-World Data, Meaningful Metrics, and Rigorous Statistical Analysis' — *Apr 2025*

SPIE Medical Imaging Conference — *San Diego, USA*

'Reproducibility in medical image processing' — *Feb 2024*

SPIE Medical Imaging Conference — *San Diego, USA*

'Exploiting hospital data warehouses: the challenges of image quality and heterogeneity' — *Feb 2023*

AI4Health Winter School — *Virtual*

'Introduction to Deep Learning for Medical Imaging: from Convolution to Generative Adversarial Networks' — *Jan 2022*

Mathematics and Image Analysis - MIA'21 — *Virtual*

'Improving the interpretability of computer-assisted analysis tools in neuroimaging' — *Jan 2021*

Annual Congress of the European Association of Nuclear Medicine — *Vienna, Austria*

'MR-based attenuation correction for brain studies' (Continuing Medical Education Session) — *Oct 2017*

Invited presentations at workshops & national events

Journée des ingénieurs du Programme National de Recherche en Intelligence Artificielle — *Paris, France*

'AI & Neuroimaging for the Computer-aided Diagnosis of Neurodegenerative Diseases' — *Jun 2025*

Journées scientifiques Inria handicap et numérique — *Paris, France*

'Using Routine Clinical Data in Neuroimaging Research: Insights from the APPRIMAGE Project and the AP-HP Clinical Data Warehouse' — *Jun 2025*

Radiologie Aujourd'hui et Demain — *Angers, France*

'Utilisation de données issues du soin courant en recherche : Retour d'expérience du projet APPRIMAGE avec l'EDS AP-HP' — *May 2025*

Symposium Citadel Franco-Québecois — *Montreal, Canada*

'IA et Neuroimagerie au Service du Diagnostic : Opportunités et Défis des Entrepôts de Données de Santé' — *Apr 2025*

Ajités workshop — *Leuven, Belgium*

'AI & neuroimaging for the computer-aided diagnosis of neurodegenerative diseases' — *Nov 2024*

Journées Francophones de Radiologie – Session SFRMBM — *Paris, France*

'IA & entrepôts de données de santé : Le multicentrique à son paroxysme' — *Oct 2024*

Journées Francophones de Radiologie – Journée FLI-CERF — *Paris, France*

'Aide au diagnostic des maladies neurodégénératives : Tentatives d'exploitation de données issues du soin courant' — *Oct 2024*

Neuro OpenScience Workshop — *Paris Brain Institute, France*

'Clinica: Open-source software platform for neuroimaging studies' — *Nov 2023*

AI in Biology and Health Symposium — *Institut Pasteur, Paris, France*

'Detecting anomalies in brain images with deep generative models' — *May 2023*

Réunion régionale des ingénieurs biomédicaux (Grand Est) — *Virtual*

'Introduction à l'IA appliquée à l'imagerie médicale' — *May 2023*

ED3C Scientific Days — *Paris, France*

'Generalisation from research to clinical imaging data: the challenges of image quality and heterogeneity' — *Apr 2023*

Colloque Français d'Intelligence Artificielle en Imagerie Biomédicale (IABM 2023) — *Paris, France*

'Aide au diagnostic des maladies neurodégénératives : le dur passage des données de recherche aux données de routine clinique' — *Mar 2023*

Journée Scientifique PLBS - ImAgerie & IA — *Lille, France*

'IA et neuroimagerie: Le règne des réseaux de neurones convolutifs' — *Nov 2022*

Congrès des Jeunes Chercheuses et Chercheurs en Mathématiques Appliquées — *Palaiseau, France*

'IA pour l'imagerie médicale : de l'acquisition des images à la prise de décision clinique' — *Oct 2021*

Registering Medical Images — *Paris, France*

'On the interplay between medical image registration and synthesis' — *Oct 2021*

3e colloque sur l'imagerie médicale à l'heure de l'intelligence artificielle — *Paris Brain Institute, France*

'Computer-aided diagnosis from neuroimages: A framework for objective & reproducible experiments' — *Oct 2020*

MaDICS Symposium — *Rennes, France*

'Reproducible evaluation of methods for the diagnosis and prognosis of Alzheimer's disease' — *June 2019*

Neuro OpenScience Workshop — *Paris Brain Institute, France*

'Collaborative Neuroimaging Tools' — *Jan 2019*

Workshop on Machine Learning in Radiology — *Lausanne University Hospital, Switzerland*

'Reproducible evaluation of classification methods in Alzheimer's disease' — *Nov 2018*

Young Researchers' Futures Meeting 2016 — *London, UK*

'Joint segmentation and CT synthesis in the pelvic region for MRI-only radiotherapy treatment planning' — *Sept 2016*

Data processing challenges in PET-MR — *London, UK*

Multi-atlas CT & attenuation map synthesis for hybrid PET-MR scanners — *Jan 2015*

Experts' MR brain attenuation correction workshop — *Copenhagen, Denmark*

'CT & attenuation map synthesis in the brain region for hybrid PET-MR scanners' — *Oct 2014*

Invited seminars

CONNExIN (COmprehensive Neuroimaging aNalysis Experience In resource constraiNed settings) — *Online*

'AI and Neuroimaging for Diagnosis: Opportunities and Challenges of Hospital Data Warehouses' — *Sept 2025*

COMPASS (COnnecting Minds to Progress AI in Medicine Seminar Series) — *Online*

'AI & Neuroimaging for the Computer-aided Diagnosis of Neurodegenerative Diseases' — *Jul 2025*

McConnell Brain Imaging Centre seminar — *Montreal, Canada*

'AI & Neuroimaging for the Computer-aided Diagnosis of Neurodegenerative Diseases' — *Apr 2025*

Séminaire commun thématique imagerie — *PariSanté Campus, Paris*

'AI for the computer-aided diagnosis of neurodegenerative diseases: The difficult transition from research to routine clinical data' — *Nov 2024*

Séminaire du laboratoire CREATIS — *INSA, Lyon*

'Computer-aided diagnosis of neurological disorders: Experiments on 'real world' data & open-source software tools' — *May 2024*

Séminaire des équipes SODA et MIND — *Inria, Saclay*

'Exploiting hospital data warehouses: the challenges of image quality and heterogeneity' — *May 2024*

Séminaire de NeuroSpin — *CEA, Saclay*

'Aide au diagnostic des maladies neurodégénératives : le dur passage des données de recherche aux données cliniques' — *May 2024*

Séminaire du département informatique de l'ENS Rennes — *ENS, Rennes*

'Aide au diagnostic assisté par ordinateur des maladies neurodégénératives : le dur passage des données de recherche aux données de routine clinique' — *March 2024*

BME Paris Seminars « Open Your Mind » — *Arts et Métiers, Paris*

'Why should researchers spend time writing good code?' — *September 2022*

Master 2 Mathématiques pour les Sciences du Vivant — *Virtual*

'Improving the interpretability of computer-assisted analysis tools in neuroimaging' — *January 2022*

Séminaire Médecine et Humanités de l'ENS — *ENS, Paris*

'AI for the life sciences' (Video) — *November 2021*

Bioinfo seminars of the Labex Memolife — *Virtual*

'Reproducible computer-aided diagnosis of Alzheimer's disease using deep learning' — *April 2021*

iBrain seminars — *Université de Tours, France*

'Towards the individual computer-assisted analysis of brain images' — *Nov 2019*

ARAMIS Lab seminars — *Paris, France*

'Image synthesis for the attenuation correction and analysis of PET/MR data' — *Sept 2016*

Institute of Nuclear Medicine seminars — *University College London Hospitals, UK*

'Attenuation map synthesis for hybrid PET-MR scanners: a clinical perspective' — *May 2015*

Other Professional Activities

Editorship

Book	Burgos, N., Svoboda, D., eds.: Biomedical Image Synthesis and Simulation: Methods and Applications, MICCAI Book series, Elsevier, 2022. 10.1016/C2020-0-01250-8
Journal	Pattern Recognition (associate editor since 2023)
Conferences	Medical Imaging with Deep Learning (MIDL) Conference General Co-chair (2024), MIDL Technical Committee (2022, 2023), SPIE Medical Imaging: Image Processing Programme Committee (2023–), SASHIMI Programme Chair (2019, 2020) and Co-Chair (2018, 2021)

Review (Web of Science profile)

Journals (selection)	Medical Image Analysis, IEEE Transactions on Medical Imaging, Machine Learning for Biomedical Imaging (MELBA), Computer Methods and Programs in Biomedicine, IEEE Transactions on Pattern Analysis and Machine Intelligence, PLOS ONE, Scientific Reports, Nature Communications, Communications Biology, NeuroImage, Imaging Neuroscience, Journal of Nuclear Medicine, International Journal of Radiation Oncology, Biology, Physics
Conferences	ICLR (2025), NeurIPS (2024–), MICCAI (2016, 2020–), ISBI (2018, 2020–2023), MIDL (2018, 2020), SPIE (2023–), SASHIMI (2018–), DGM4MICCAI (2023–), OHBM (2019–)
Grants	ERC (Advanced 2020, Consolidator 2024), Luxembourg National Research Fund (2020), National Science Centre Poland (2020), DIM ELICIT (2021), Alzheimer's Society (2021), ANR JCJC (2022), Netherlands Organisation for Scientific Research Vidi-programme (2023), MIAI@GrenobleAlpes AI Chair (2023), Fonds de recherche du Québec – Nature et technologies (2024,2025), MIAI Cluster Chair (2025), KU Leuven Industrial Research Fund Council (2025), ANR PRCI (2025)
Other	Health Data Hub, Data Challenges en Santé (2022/2023, 2024, 2025)

Participation to grant committees

2025	**Committee member**, Inserm/IReSP MESSIDORE Programme	*France*

Participation to recruitment juries

2025	**Jury member**, PR[AI]RIE-PSAI Fellows in Artificial Intelligence	*France*
2024	**Jury member**, Permanent researcher competitive recruitment procedure at CEA NeuroSpin	*France*
2020	**Jury member**, Permanent researcher competitive recruitment procedure of the Inria Paris centre (concours CRCN)	*France*

Participation to HDR (*Habilitation à Diriger des Recherches*) juries

2024	**HDR examiner (*rapporteur*)**, Fanny Orlhac	*Orsay, France*

Participation to PhD juries

2025	**PhD examiner (*rapporteur*)**, Élodie Piot, supervised by Alexandre Krainik and Félix Renard	*Grenoble, France*
2025	**PhD examiner (*rapporteur*)**, Aghiles Kebaili, supervised by Su Ruan and Jérôme Lapuyade-Lahorgue	*Rouen, France*
2025	**PhD examiner (*rapporteur*)**, Ashay Patel, supervised by M. Jorge Cardoso and Sébastien Ourselin	*London, UK*
2025	**PhD examiner (*rapporteur*)**, Juliette Moreau, supervised by Laura Mechtouff, Carole Frindel and David Rousseau	*Lyon, France*
2024	**PhD examiner (*rapporteur*)**, Shamimeh Ahrari, supervised by Antoine Verger, Laetitia Imbert and Timothée Zaragori	*Nancy, France*
2024	**PhD examiner (*rapporteur*)**, Elodie Germani, supervised by Elisa Fromont and Camille Maumet	*Rennes, France*
2024	**PhD examiner (*rapporteur*)**, Daria Zotova, supervised by Carole Lartizien	*Lyon, France*
2024	**PhD jury member**, Charlotte Godard, supervised by Jean-Baptiste Masson and Mohamed El Beheiry	*Paris, France*
2024	**PhD examiner (*rapporteur*)**, Benjamin Lambert, supervised by Michel Dojat, Florence Forbes and Senan Doyle	*Grenoble, France*
2023	**PhD examiner (*rapporteur*)**, Hugo Schmutz, supervised by Olivier Humbert and Pierre-Alexandre Mattei	*Sophia Antipolis, France*
2023	**PhD jury member**, Camille Ruppli, supervised by Isabelle Bloch, Roberto Ardon and Pietro Gori	*Paris, France*
2023	**PhD examiner (*rapporteur*)**, Hilda Chourak, supervised by Renaud De Crevoisier, Jason Dowling, Oscar Acosta and Jean-Claude Nunes	*Rennes, France*
2023	**PhD jury member**, Clément Chadebec, supervised by Stéphanie Allassonnière	*Paris, France*
2023	**PhD jury member**, Louise Guillon, supervised by Jean-François Magin and Denis Rivière	*Saclay, France*
2022	**PhD jury president**, Lydia Chougar, supervised by Stephane Lehéricy	*Paris, France*
2022	**PhD jury member**, Gauthier Dot, supervised by Thomas Schouman, Laurent Gajny and Philippe Rouch	*Paris, France*

Participation to individual monitoring committees (CSI)

2025–	**CSI member**, Florencia Boccarato, supervised by Hervé Delingette and Raphaële Renard-Penna	*France (virtual)*
2025–	**CSI member**, Baptiste Pierrard, supervised by Michaël Sdika and Pierre-Marc Jodoin	*France (virtual)*
2024–25	**CSI member**, Daniele Falcetta, supervised by Maria A. Zuluaga	*France (virtual)*
2023–24	**CSI member**, Emma Sarfati, supervised by Isabelle Bloch, Pietro Gori, Marc-Michel Rohé and Alexandre Bône	*France (virtual)*
2022–23	**CSI member**, Francesco Galati, supervised by Maria A. Zuluaga	*France (virtual)*
2022	**CSI member**, Camille Ruppli, supervised by Isabelle Bloch, Roberto Ardon and Pietro Gori	*France (virtual)*
2021–23	**CSI member**, Charlotte Godard, supervised by Jean-Baptiste Masson	*France (virtual)*

International conference organisation

2024	**General Conference Chair with Maria Vakalopoulou and Caroline Petitjean**, Medical Imaging with Deep Learning (2024.midl.io), ∼400 participants	*Paris, France*

School organisation

2021–23	**Scientific & Organisation Committees**, AI4Health Summer School (ai4healthschool.org)	*Paris, France*

Workshop & tutorial organisation

2023	**Organisation Committee**, Neuro OpenScience Workshop (open-neuro.org)	*Paris, France*
2023	**Organiser**, MICCAI 2023 Tutorial on Reproductibility (miccai2023-reproducibility-tutorial.github.io)	*Vancouver, Canada*
2021	**Programme & Organisation committees**, Simulation and Synthesis in Medical Imaging (SASHIMI) 2021, a satellite workshop of MICCAI 2021 (www.sashimi.aramislab.fr)	*Strasbourg, France (virtual)*
2020	**Programme Chair & Organisation Committee**, SASHIMI 2020	*Lima, Peru (virtual)*
2020	**Organisation Committee**, CompAge 2020: Computational approaches for ageing and age-related diseases (compage2020.com)	*Paris, France (virtual)*
2020	**Organisation Committee**, Hands-on Workshop on Machine Learning Applied to Medical Imaging (laclauc.github.io/workshop)	*Paris, France*
2019	**Programme Chair & Organisation Committee**, SASHIMI 2019	*Shenzhen, China*
2018	**Programme & Organisation Committees**, SASHIMI 2018	*Granada, Spain*

Teaching as part of university degrees

2020–	**DU Intelligence artificielle IA appliquée en santé**, Deep Learning for Medical Imaging	*Université de Paris*
2020–	**DIU Neuroradiologie diagnostique et thérapeutique**, Deep Learning for Neuro Imaging	*Sorbonne Université*
2022–	**DU Intelligence artificielle IA en santé**, Deep Learning for Medical Imaging	*Université de Lille*

Teaching in other contexts

2025	**AI4Health Summer School**, Lecture and practical session on Deep Generative Models in Medical Imaging	*Paris, France*
2025	**Deep Learning for Medical Imaging School** , Evaluation of deep learning in medical imaging	*Lyon, France*
2023	**European Course on Advanced Imaging Techniques in Neuroradiology**, Machine Learning Essentials	*Malta*
2023	**École Saisonnière en Intelligence Artificielle**, AI for Medical Imaging: From Image Acquisition to Prognosis	*Berck-sur-Mer, France*
2021–	**CENIR courses**, Deep Learning for Medical Imaging	*Paris Brain Institute*
2021, 22	**AI4Health Winter School**, Lecture and practical session on Deep Learning for Medical Imaging	*Virtual*
2020	**Educational Courses of the OHBM 2020 conference**, Machine Learning for NeuroImaging	*Virtual*
2020	**Hands-on Workshop on Machine Learning Applied to Medical Imaging**, Introduction to Deep Learning and Deep Learning for Neuro Imaging	*Paris Brain Institute*
2018	**Educational Courses of the OHBM 2018 conference**, Pattern Recognition for NeuroImaging	*Singapore*

Scientific animation

Since 2019	**Member of the scientific animation committee at the Paris Brain Institute**, Participation to the organisation of weekly plenary talks from prestigious high-profile international speakers (e.g., Yann LeCun, Nick Fox, Katrin Amunts)	*Paris Brain Institute*

Dissemination of scientific knowledge

2024	**Paris Brain Institute Donors' Conference**, Presentation on the use of AI and neuroimaging for the computer-aided diagnosis of dementia	*Paris Brain Institute, France*
2023	**Cérémonie des Olympiades de Mathématiques**, Presentation on AI and neuroimaging for the computer-aided diagnosis of Alzheimer's disease	*Louis Le Grand, Paris, France*
2022	**Shaping AI**, Participation to a multi-national and multi-disciplinary social research project on AI, led in France by the SciencesPo medialab. The result of the public engagement research project is available here: medialab.github.io/ShapingAI (in French).	*Paris, France*
2022	**MIT-France Symposium on AI**, Presentation on AI-based computer-aided diagnosis of dementia	*Collège de France, Paris, France*
2021	**Paris Brain Institute Donors' Conference**, Presentation on the computer-aided diagnosis of Alzheimer's disease	*Paris Brain Institute*
2021	**MIT Symposium on AI & Medicine: Promises and Limits**, Panel discussion on image-guided clinical practice	*Virtual*
2020	**France is AI**, Panel discussion on AI in decision support systems with medical images	*Virtual*
2019–2021	**Rendez-vous des Jeunes Mathématiciennes et Informaticiennes**, Presentation and discussion with high school girls	*Inria Paris, France*
2017	**Fête de la science**, Science fair showcasing research done within the ARAMIS Lab	*Paris Brain Institute, France*
2015	**University College London Hospitals Research Open Day**, Focus on clinical research	*London, UK*

Media coverage

2023	**Interview for the radio France Alzheimer 'Le rôle de l'intelligence artificielle dans la détection de la maladie d'Alzheimer' ('The role of AI in the detection of Alzheimer's disease')**, https://radiofrancealzheimer.org/broadcast/24290-Le-r%C3%B4le-de-l-Intelligence-Artificielle-dans-la-d%C3%A9tection-de-la-maladie-d-Alzheimer
2023	**Interview for the radio Europe 1 'Santé : et si l'intelligence artificielle pouvait permettre de détecter plus rapidement la maladie d'Alzheimer ? ' ('Could AI help detect Alzheimer's disease earlier?')**, https://www.europe1.fr/sante/sante-et-si-lintelligence-artificielle-pouvait-permettre-de-detecter-plus-rapidement-la-maladie-dalzheimer-4204719
2023	**Article and video Le Figaro 'L'intelligence artificielle pour détecter la maladie d'Alzheimer' ('Artificial intelligence to detect Alzheimer's disease')**, https://www.lefigaro.fr/actualite-france/l-intelligence-artificielle-pour-detecter-la-maladie-d-alzheimer-20230904
2023	**TV report 'État de santé - La santé numérique tiendra-t-elle ses promesses ?' ('Will digital health deliver on its promise?'), broadcast on the French channel LCP**, https://lcp.fr/programmes/etat-de-sante/la-sante-numerique-tiendra-t-elle-ses-promesses-162828
2022	**Podcast 'Braincast - La voix des neurones' by Cerveau & Psycho magazine on the use of AI for the diagnosis of Alzheimer's disease**, https://www.cerveauetpsycho.fr/sr/braincast
2021	**Interview for an article published in the magazine "Femme Actuelle Senior" on the use of AI for computer-aided diagnosis**, N°42
2019	**Interview published on the Inria website following the ERCIM Cor Baayen Young Researcher Award**, https://www.inria.fr/en/ninon-burgos-wins-2019-ercim-cor-baayen-young-researcher-award-her-work-computational-imaging
2019	**Interview published on the CNRS INS2I website following the ERCIM Cor Baayen Young Researcher Award**, https://ins2i.cnrs.fr/fr/cnrsinfo/ninon-burgos-des-outils-informatiques-pour-detecter-des-maladies-comme-alzheimer
2017	**Interview for the Nuclear Medicine and Molecular Medicine Podcast following an invited presentation at the Annual Congress of the European Association of Nuclear Medicine**, https://nucmedpodcast.blogspot.fr/2017/12/episode-74-n-burgos-and-attenuation_20.html
2017	**Interview published in the MICCAI Daily magazine, section "Women in Science"**, http://www.rsipvision.com/MICCAI2017-Wednesday

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List of Publications

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Note that articles preceded by a ★ are the product of doctoral projects that I (co-)supervised.

A International journal publications

A.1 ★ Loizillon, S., Bottani, S., Maire, A., Ströer, S., Chougar, L., Dormont, D., Colliot, O., and **Burgos, N.**: 'Automatic Quality Control of Brain 3D FLAIR MRIs for a Clinical Data Warehouse'. *Medical Image Analysis*, 103: 103617, 2025. doi:10.1016/j.media.2025.103617 • hal-05059257

A.2 ★ Hassanaly, R., Solal, M., Colliot, O., **Burgos, N.**: 'Benchmarking 3D Generative Autoencoders for Pseudo-Healthy Reconstruction of Brain ^{18}F-Fluorodeoxyglucose Positron Emission Tomography'. *Journal of Medical Imaging*, 12(5), SPIE, : 054005, 2025. doi:10.1117/1.JMI.12.5.054005 • hal-04445378

A.3 Galati, F., Falcetta, D., Cortese, R., Prados, F., **Burgos, N.**, and Zuluaga, M.A.: 'Multi-Domain Brain Vessel Segmentation Through Feature Disentanglement'. *Machine Learning for Biomedical Imaging*, 3(September 2025 issue): 477–495, 2025. doi:10.59275/j.melba.2025-4582

A.4 ★ Loizillon, S., Bottani, S., Mabille, S., Jacob, Y., Maire, A., Ströer, S., Dormont, D., Colliot, O., and **Burgos, N.**: 'Automated MRI Quality Assessment of Brain T1-Weighted MRI in Clinical Data Warehouses: A Transfer Learning Approach Relying on Artefact Simulation'. *Machine Learning for Biomedical Imaging*, 2(June 2024 issue): 888–915, 2024. doi:10.59275/j.melba.2024-7fgd • hal-04623223

A.5 ★ Hassanaly, R., Brianceau, C., Solal, M., Colliot, O., and **Burgos, N.**: 'Evaluation of Pseudo-Healthy Image Reconstruction for Anomaly Detection with Deep Generative Models: Application to Brain FDG PET'. *Machine Learning for Biomedical Imaging*, 2(Special Issue for Generative Models): 611–656, 2024. doi:10.59275/j.melba.2024-b87a • hal-04315738

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A.7 ★ Bottani, S., Thibeau-Sutre, E., Maire, A., Ströer, S., Dormont, D., Colliot, O., **Burgos, N.**: 'Contrast-Enhanced to Non-Contrast-Enhanced Image Translation to Exploit a Clinical Data Warehouse of T1-Weighted Brain MRI'. *BMC Medical Imaging*, 24(1): 67, 2024. doi:10.1186/s12880-024-01242-3 • hal-03497645

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A.9 ★ Chadebec, C., Thibeau-Sutre, E., **Burgos, N.**, Allassonnière, S., 'Data Augmentation in High Dimensional Low Sample Size Setting Using a Geometry-Based Variational Autoencoder'. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 45(3): 2879–2896, 2023.. doi:10.1109/TPAMI.2022. 3185773 • hal-03214093 — **86 CITATIONS ACCORDING TO GOOGLE SCHOLAR**

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A.15 **Burgos, N.**, Cardoso, M.J., Samper-González, J., Habert, M.-O., Durrleman, S., Ourselin, S., Colliot, O.: 'Anomaly Detection for the Individual Analysis of Brain PET Images'. *Journal of Medical Imaging*, 8(2): 024003, 2021. doi:10. 1117/1.JMI. 8.2.024003 • hal-03193306

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A.23 ★ Samper-González, J., **Burgos, N.**, Bottani, S., Fontanella, S., Lu, P., Marcoux, A., Routier, A., Guillon, J., Bacci, M., Wen, J., Bertrand, A., Bertin, H., Habert, M.-O., Durrleman, S., Evgeniou, T., Colliot, O.: 'Reproducible Evaluation of Classification Methods in Alzheimer's Disease: Framework Application to MRI PET Data'. *NeuroImage*, 183: 504–521, 2018. doi:10.1016/j.neuroimage.2018.08.042 • hal-01858384 — **211 CITATIONS ACCORDING TO GOOGLE SCHOLAR**

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A.29 Guerreiro, F., **Burgos*, N.**, Dunlop, A., Wong, K., Petkar, I., Nutting, C., Harrington, K., Bhide, S., Newbold, K., Dearnaley, D., deSouza, N.M., Morgan, V.A., McClelland, J., Nill, S., Cardoso, M.J., Ourselin, S., Oelfke, U., Knopf, A.C.: 'Evaluation of a Multi-Atlas CT Synthesis Approach for MRI-Only Radiotherapy Treatment Planning'. *Physica Medica*, 35: 7–17, 2017 (*: joint first authorship). doi:10.1016/j.ejmp.2017.02.017 — **GALILEO GALILEI AWARD 2017 • BEST PUBLICATION IN THE EUROPEAN JOURNAL OF MEDICAL PHYSICS - PHYSICA MEDICA IN 2017, 82 CITATIONS ACCORDING TO GOOGLE SCHOLAR**

A.30 Ladefoged, C.N., Law, I., Anazodo, U., St. Lawrence, K., Izquierdo-Garcia, D., Catana, C., **Burgos, N**., Cardoso, M.J., Ourselin, S., Hutton, B., Mérida, I., Costes, N., Hammers, A., Benoit, D., Holm, S., Juttukonda, M., An, H., Cabello, J., Lukas, M., Nekolla, S., Ziegler, S., Fenchel, M., Jakoby, B., Casey, M.E., Benzinger, T., Højgaard, L., Hansen, A.E., Andersen, F.L.: 'A Multi-Centre Evaluation of Eleven Clinically Feasible Brain PET/MRI Attenuation Correction Techniques Using a Large Cohort of Patients'. *NeuroImage*, 147: 346–359, 2017. doi:10.1016/j.neuroimage.2016.12.010 — **248 CITATIONS ACCORDING TO GOOGLE SCHOLAR**

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B Book

B.1 **Burgos, N.**, Svoboda, D., eds.: Biomedical Image Synthesis and Simulation: Methods and Applications, MICCAI Book series, Elsevier, 2022. doi:10.1016/C2020-0-01250-8

C Book chapters

C.1 Colliot, O., Thibeau-Sutre, E., Brianceau, C., **Burgos, N.**: 'Reproducibility in Medical Image Computing: What Is It and How Is It Assessed?'. In *Trustworthy AI in Medical imaging*, edited by Lorenzi, M. and Zuluaga, M. A., MICCAI Book series, Academic Press, 2025. doi:10.1016/B978-0-44-323761-4.00018-3 • Open Review 3fIXW9mFfn

C.2 **Burgos, N**.: 'Neuroimaging in Machine Learning for Brain Disorders'. In *Machine Learning for Brain Disorders*, edited by Olivier Colliot, Neuromethods, Springer, 2023. doi:10.1007/978-1-0716-3195-9_8

C.3 Colliot, O., Thibeau-Sutre, E., **Burgos, N.**: 'Reproducibility in Machine Learning for Medical Imaging'. In *Machine Learning for Brain Disorders*, edited by Olivier Colliot, Neuromethods, Springer, 2023. doi:10.1007/978-1-0716-3195-9_21

C.4 Thibeau-Sutre, E., Collin, S., **Burgos, N.**, Colliot, O.: 'Interpretability of Machine Learning Methods Applied to Neuroimaging'. In *Machine Learning for Brain Disorders*, edited by Olivier Colliot, Neuromethods, Springer, 2023. doi:10.1007/978-1-0716-3195-9_22

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C.7 **Burgos, N.**: 'Medical Image Synthesis Using Segmentation Registration'. In *Biomedical Image Synthesis Simulation: Methods and Applications*, edited by **Burgos, N.** and Svoboda, D., MICCAI Book series, Elsevier, 2022. doi:10.1016/B978-0-12-824349-7.00011-6 • hal-03721697

C.8 Nečasová, T., **Burgos, N.**, Svoboda, D.: 'Validation Evaluation Metrics for Medical Biomedical Image Synthesis'. In *Biomedical Image Synthesis Simulation: Methods and Applications*, edited by **Burgos, N.** and Svoboda, D., MICCAI Book series, Elsevier, 2022. doi:10.1016/B978-0-12-824349-7.00032-3 • hal-03721947

C.9 **Burgos, N.**, Tsaftaris, S. Svoboda, D.: 'Future Trends in Medical Image Synthesis'. In *Biomedical Image Synthesis Simulation: Methods and Applications*, edited by **Burgos, N.** and Svoboda, D., MICCAI Book series, Elsevier, 2022. doi:10.1016/B978-0-12-824349-7.00034-7 • hal-03721950

D Conference proceedings

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D.2 Svoboda, D., **Burgos, N.**, Wolterink, J.M., Zhao, C., eds.: Simulation Synthesis in Medical Imaging: 6th International Workshop, SASHIMI 2021, Held in Conjunction with MICCAI 2021, Strasbourg, France, September 2021, Proceedings. Vol. 12965. Lecture Notes in Computer Science, Cham: Springer International Publishing, 2021. doi:10.1007/978-3-030-87592-3

D.3 **Burgos, N.**, Svoboda, D., Wolterink, J.M., Zhao, C., eds.: Simulation Synthesis in Medical Imaging: 5th International Workshop, SASHIMI 2020, Held in Conjunction with MICCAI 2020, Lima, Peru, October 2020, Proceedings. Vol. 12417. Lecture Notes in Computer Science, Cham: Springer International Publishing, 2020. doi:10.1007/978-3-030-59520-3

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E Conferences with full-length peer-reviewed proceedings

E.1 ★ Roy, H., Dorent, R., and Burgos, N.: 'Unsupervised Anomaly Detection Using Bayesian Flow Networks: Application to Brain FDG PET in the Context of Alzheimer's Disease'. In *Deep Generative Models MICCAI Workshop*, 2025. doi:10.48550/arXiv.2507.17486

E.2 Christodoulou, E., Reinke, A., Houhou, R., Kalinowski, P., Erkan, S., Sudre, C.H., **Burgos, N.**, Boutaj, S., Loizillon, S., Solal, M., Rieke, N., Cheplygina, V., Antonelli, M., Mayer, L.D., Tizabi, M.D., Cardoso, M.J., Simpson, A., Jäger, P.F., Kopp-Schneider, A., Varoquaux, G., Colliot, O., and Maier-Hein, L.: 'Confidence Intervals Uncovered: Are We Ready for Real-World Medical Imaging AI?' In *Medical Image Computing and Computer Assisted Intervention – MICCAI 2024*, , edited by Marius George Linguraru, Qi Dou, Aasa Feragen, Stamatia Giannarou, Ben Glocker, Karim Lekadir, and Julia A. Schnabel124–132, Cham: Springer Nature Switzerland, 2024. doi:10.1007/978-3-031-72117-5_12 • hal-04715638

E.3 ★ Loizillon, S., Jacob, Y., Maire, A., Stroer, S., Dormont, D., Colliot, O., and **Burgos, N.**: 'Detecting Brain Anomalies in Clinical Routine with the β-VAE: Feasibility Study on Age-Related White Matter Hyperintensities '. In *Medical Imaging with Deep Learning*, 2024. OpenReview YFfOvLf2T1 • hal-04674029

E.4 ★ Solal, M., Hassanaly, R., and **Burgos, N.**: 'Leveraging Healthy Population Variability in Deep Learning Unsupervised Anomaly Detection in Brain FDG PET'. In *SPIE Medical Imaging 2024: Image Processing*, 12926:359–365, SPIE, 2024. doi:10.1117/12.2691683 • hal-04291561

E.5 ★ Loizillon, S., Mabille, S., Bottani, S., Jacob, Y., Maire, A., Stroer, S., Dormont, D., Colliot, O., and **Burgos, N.**: 'Leveraging noise and contrast simulation for the automatic quality control of routine clinical T1-weighted brain MRI'. In *SPIE Medical Imaging 2024: Image Processing*, 12926:322–326, SPIE, 2024. doi:10.1117/12.3005781 • hal-04674029

E.6 ★ Hassanaly, R., Brianceau, C., Diaz, M., Loizillon, S., Thibeau-Sutre, E., Cassereau, N., Colliot, O., and **Burgos, N.**: 'Recent advances in the open-source ClinicaDL software for reproducible neuroimaging with deep learning'. In *SPIE Medical Imaging 2024: Image Processing*, 12926:519–524, SPIE, 2024. doi:10.1117/12.3006039 • hal-04419141

E.7 Fu, G., Jimenez, G., Loizillon, S., Chougar, L., Dormont, D., Valabregue, R., **Burgos, N.**, Lehericy, S., Racoceanu, D. and Colliot, O.: 'The intriguing effect of frequency disentangled learning on medical image segmentation'. In *SPIE Medical Imaging 2024: Image Processing*, 12926:366–373, SPIE, 2024. doi:10.1117/12.2692286 • hal-04654627

E.8 Soulier, T., Hamzaoui, M., Pitombeira, M.S., Faria, D.D.P., Yazdan-Panah, A., Tonietto, M., Leroy, C., Bottlaender, M., **Burgos, N.**, Ayache, N., Colliot, O., and Stankoff, B.: 'Generating PET-derived maps of myelin content from clinical MRI using curricular discriminator training in generative adversarial networks'. In *SPIE Medical Imaging 2024: Image Processing*, 12926:173–178, SPIE, 2024. doi:10.1117/12.3004975 • hal-04362506

E.9 Galati, F., Falcetta, D., Cortese, R., Casolla, B., Prados, F., **Burgos, N.**, and Zuluaga, M.A.: 'A2V: A Semi-Supervised Domain Adaptation Framework for Brain Vessel Segmentation via Two-Phase Training Angiography-to-Venography Translation'. In *34th British Machine Vision Conference - BMVC 2023*, 2023. proceedings.bmvc2023.org/750 • hal-04195756

E.10 ★ Loizillon, S., Colliot, O., Chougar, L., Stroer, S., Jacob, Y., Maire, A., Dormont, D., and **Burgos, N.**: 'Semi-Supervised Domain Adaptation for Automatic Quality Control of FLAIR MRIs in a Clinical Data Warehouse'. In *Domain Adaptation and Representation Transfer*, LNCS, 14293: 84–93, 2024. doi:10.1007/978-3-031-45857-6_9 • hal-04273997

E.11 ★ Hassanaly, R., Brianceau, C., Colliot, O., **Burgos, N.**: 'Unsupervised Anomaly Detection in 3D Brain FDG PET: A Benchmark of 17 VAE-Based Approaches'. In *Deep Generative Models MICCAI Workshop*, LNCS, 14533: 110–120, 2024. doi:10.1007/978-3-031-53767-7_11 • hal-04185304

E.12 ★ Hassanaly, R., Bottani, S., Sauty, B., Colliot, O., **Burgos, N.**: 'Simulation-based evaluation framework for deep learning unsupervised anomaly detection on brain FDG PET'. In *SPIE Medical Imaging 2023: Image Processing*, 12464:524-531, 2023. doi:10.1117/12.2653893 • hal-03835015 — **Runner-up best poster award**

E.13 ★ Loizillon, S., Bottani, S., Maire, A., Ströer, S., Dormont, D., Colliot, O., **Burgos, N.**: 'Transfer learning from synthetic to routine clinical data for motion artefact detection in brain T1-weighted MRI'. In *SPIE Medical Imaging 2023: Image Processing*, 12464:343-349, 2023. doi:10.1117/12.2648201 • hal-03831746

E.14 ★ Thibeau-Sutre, E., Wolterink, J. M., Colliot, O., **Burgos, N.**: 'How can data augmentation improve attribution maps for disease subtype explainability?'. In *SPIE Medical Imaging 2023: Image Processing*, 12464:484-490, 2023. doi:10.1117/12.2653809 • hal-03966737

E.15 ★ Thibeau-Sutre, E., Couvy-Duchesne, B., Dormont, D., Colliot, O., **Burgos, N.**: 'MRI field strength predicts Alzheimer's disease: A case example of bias in the ADNI data set'. In *2022 IEEE 19th International Symposium on Biomedical Imaging (ISBI)*, 1–4, 2022. doi:10.1109/ISBI52829.2022.9761504 • hal-03542213

E.16 ★ Bottani, S., Thibeau-Sutre, E., Maire, A., Ströer, S., Dormont, D., Colliot, O., **Burgos, N.**: 'Homogenization of brain MRI from a clinical data warehouse using contrast-enhanced to non-contrast-enhanced image translation with U-Net derived models'. In *SPIE Medical Imaging 2022: Image Processing*, 12032:576–582, 2022. doi:10.1117/12.2608565 • hal-03478798

E.17 ★ Thibeau-Sutre, E., Colliot, O., Dormont, D., **Burgos, N.**: 'Visualization Approach to Assess the Robustness of Neural Networks for Medical Image Classification'. In *SPIE Medical Imaging 2020: Image Processing*, 11313: 113131J, 2020. doi:10.1117/12.2548952 • hal-02370532 — **Oral presentation**

E.18 ★ Samper-González, J., **Burgos, N.**, Bottani, S., Habert, M.-O., Evgeniou, T., Epelbaum, S., Colliot, O.: 'Reproducible Evaluation of Methods for Predicting Progression to Alzheimer's Disease from Clinical Neuroimaging Data.' In *SPIE Medical Imaging 2019: Image Processing*, 10949:109490V, 2019. doi:10.1117/12.2512430 • hal-02025880 — **Oral presentation**

E.19 **Burgos, N.**, Samper-González, J., Bertrand, A., Habert, M.-O., Ourselin, S., Durrleman, S., Cardoso, M.J., Colliot, O.: 'Individual Analysis of Molecular Brain Imaging Data through Automatic Identification of Abnormality Patterns'. In *Molecular Imaging, Reconstruction Analysis of Moving Body Organs, Stroke Imaging Treatment*, LNCS, 10555: 13–22, Springer, 2017. doi:10.1007/978-3-319-67564-0_2 • hal-01567343 — **Oral presentation**

E.20 ★ Samper-González, J., **Burgos, N.**, Fontanella, S., Bertin, H., Habert, M.-O., Durrleman, S., Evgeniou, T., Colliot, O.: 'Yet Another ADNI Machine Learning Paper? Paving the Way towards Fully-Reproducible Research on Classification of Alzheimer's Disease'. In *Machine Learning in Medical Imaging*, LNCS, 10541: 53–60, Springer, 2017. doi:10.1007/978-3-319-67389-9_7 • hal-01578479

E.21 Scott, C.J., Jiao, J., Cardoso, M.J., Melbourne, A., De Vita, E., Thomas, D.L., **Burgos, N.**, Markiewicz, P., Schott, J.M., Hutton, B.F., Ourselin, S.: 'Short Acquisition Time PET Quantification Using MRI-Based Pharmacokinetic Parameter Synthesis'. In *Medical Image Computing Computer-Assisted Intervention • MICCAI 2017*, LNCS, 10434: 737–744, Springer, 2017. doi:10.1007/978-3-319-66185-8_83

E.22 **Burgos, N.**, Guerreiro, F., McClelland, J., Nill, S., Dearnaley, D., deSouza, N., Oelfke, U., Knopf, A.-C., Ourselin, S., Cardoso, M.J.: 'Joint Segmentation CT Synthesis for MRI-Only Radiotherapy Treatment Planning'. In *Medical Image Computing Computer-Assisted Intervention • MICCAI 2016*, LNCS, 9901: 547–555, Springer, 2016. doi:10.1007/978-3-319-46723-8_63 — **Acceptance rate below 35%, Student travel award**

E.23 **Burgos, N.**, Cardoso, M.J., Guerreiro, F., Veiga, C., Modat, M., McClelland, J., Knopf, A.-C., Punwani, S., Atkinson, D., Arridge, S.R., Hutton, B.F., Ourselin, S.: 'Robust CT Synthesis for Radiotherapy Planning: Application to the Head & Neck Region'. In *Medical Image Computing Computer-Assisted Intervention • MICCAI 2015*, LNCS, 9350: 476–484, Springer, 2015. doi:10.1007/978-3-319-24571-3_57 — **Acceptance rate below 35%, Student travel award, 61 citations according to Google Scholar**

E.24 **Burgos, N.**, Cardoso, M.J., Mendelson, A.F., Schott, J.M., Atkinson, D., Arridge, S.R., Hutton, B.F., Ourselin, S.: 'Subject-Specific Models for the Analysis of Pathological FDG PET Data'. In *Medical Image Computing Computer-Assisted Intervention • MICCAI 2015*, LNCS, 9350: 651–658, Springer, 2015. doi:10.1007/978-3-319-24571-3_78 — **Acceptance rate below 35%, Student travel award**

E.25 Jiao, J., Markiewicz, P., **Burgos, N.**, Atkinson, D., Hutton, B., Arridge, S., Ourselin, S.: 'Detail-Preserving PET Reconstruction with Sparse Image Representation Anatomical Priors'. In *Information Processing in Medical Imaging*, LNCS, 9123: 540–551, Springer, 2015. doi:10.1007/978-3-319-19992-4_42

E.26 Zuluaga*, M.A., **Burgos*, N.**, Taylor, A.M., Ourselin, S.: 'Multi-Atlas Synthesis for Computer Assisted Diagnosis: Application to Cardiovascular Diseases'. In *2015 IEEE 12th International Symposium on Biomedical Imaging (ISBI)*, 290–293, 2015 (*: joint first authorship). doi:10.1109/ISBI.2015.7163870 — **Oral presentation**

E.27 **Burgos, N.**, Thielemans, K., Cardoso, M.J., Markiewicz, P., Jiao, J., Dickson, J., Duncan, J.S., Atkinson, D., Arridge, S.R., Hutton, B.F., Ourselin, S.: 'Effect of Scatter Correction When Comparing Attenuation Maps: Application to Brain PET/MR'. In *2014 IEEE Nuclear Science Symposium Medical Imaging Conference (NSS/MIC)*, 1–5, 2014. doi:10.1109/ NSS-MIC.2014.7430775

E.28 Jiao, J., Bousse, A., Thielemans, K., Markiewicz, P., **Burgos, N.**, Atkinson, D., Arridge, S., Hutton, B.F., Ourselin, S.: 'Joint Parametric Reconstruction Motion Correction Framework for Dynamic PET Data'. In *Medical Image Computing Computer-Assisted Intervention • MICCAI 2014*, LNCS, 8673: 114–121, Springer, 2014. doi:10.1007/978-3-319-10404-1_15

E.29 Kochan, M., Daga, P., **Burgos, N.**, White, M., Cardoso, M.J., Mancini, L., Winston, G.P., McEvoy, A.W., Thornton, J., Yousry, T., Duncan, J.S., Stoyanov, D., Ourselin, S.: 'Simulated Field Maps: Toward Improved Susceptibility Artefact Correction in Interventional MRI'. In *Information Processing in Computer-Assisted Interventions*, LNCS, 8498: 226–235, Springer, 2014. doi:10.1007/978-3-319-07521-1_24

E.30 **Burgos, N.**, Cardoso, M.J., Modat, M., Pedemonte, S., Dickson, J., Barnes, A., Duncan, J.S., Atkinson, D., Arridge, S.R., Hutton, B.F., Ourselin, S.: 'Attenuation Correction Synthesis for Hybrid PET-MR Scanners'. In *Medical Image Computing Computer-Assisted Intervention • MICCAI 2013*, LNCS, 8149: 147–154, Springer, 2013. doi:10.1007/978-3-642-40811-3_19 **— Acceptance rate below 35%, Student travel award, 65 citations according to Google Scholar**

F Conference abstracts

F.1 Vaillant, G., Gensollen, N., Joulot, M., El-Rifai, O., Diaz, M., Colliot, O., and **Burgos, N.**: 'From Nipype to Pydra: A Clinica Story'. In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2023*, 2023. hal-04278898

F.2 Coath, W., Modat, M., Cardoso, M.J., Markiewicz, P.J., Lane, C.A., Parker, T.D., Keshavan, A., Buchanan, S.M., Keuss, S.E., Harris, M.J., Bollack, A., **Burgos, N.**, Dickson, J., Barnes, A., Thomas, D.L., Beasley, D., Malone, I.B., Murray-Smith, H., Wong, A., Erlandsson, K., Thomas, B.A., Schöll, M., Ourselin, S., Richards, M., Fox, N.C., Schott, J.M., and Cash, D.M.: 'Methodology Dependent Sex Differences in Aβ-PET Measured with SUVR'. In *Alzheimer's Association International Conference - AAIC 2023*, 19:e0620202023. doi:10.1002/alz.062020

F.3 ★ Thibeau-Sutre, E., Díaz, M., Hassanaly, R., Colliot, O., and **Burgos, N.**: 'A Glimpse of ClinicaDL, an Open-Source Software for Reproducible Deep Learning in Neuroimaging'. In *Medical Imaging with Deep Learning - MIDL 2022* (short paper), 2022. Open Review gsqiNMdPSYK

F.4 ★ Thibeau-Sutre, E., Díaz, M., Hassanaly, R., Colliot, O., and **Burgos, N.**: 'ClinicaDL: an open-source deep learning software for reproducible neuroimaging processing'. In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2022*, 2022. hal-04279014

F.5 El Rifai, O., Díaz, M., Hassanaly, R., Joulot, M., Routier, A.M., Thibeau-Sutre, E., Vaillant, G., Durrleman, S., **Burgos, N.**, and Colliot, O.: 'Advances in the Clinica software platform for clinical neuroimaging studies'. In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2022*, 2022. hal-03728243

F.6 Canney, M., Epelbaum, S., **Burgos, N.**, Matthews, D., Houot, M., Santin, M. D., Desseaux, C., Bouchoux, G., Ströer, S., Martin, C., Habert, M.-O., Levy, M., Martin, K., Delatour, B., Riche, M., Dubois, B., Belin, L., Carpentier, A., 'Pilot study of blood-brain barrier disruption in Alzheimer's disease'. In *21st Annual International Symposium on Therapeutic Ultrasound - ISTU 2022*, 2022.

F.7 Maire, A., Bottani, S., Jacob, Y., Ströer, S., **Burgos, N.**, Colliot, O., Dormont, D., Hilka, M.: 'Apports de la Plateforme Données Massive AP-HP pour la recherche en IA: le projet APPRIMAGE'. In *Journées Francophones de Radiologie*, 2021.

F.8 Routier, A., Marcoux, A., Melo, M.D., Samper-González, J., Wild, A., Guyot, A., Wen, J., Thibeau-Sutre, E., Bottani, S., Durrleman, S., **Burgos, N.**, Colliot, O.: 'New Longitudinal Deep Learning Pipelines in the Clinica Software Platform'. In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2020*, 2020. hal-02549242

F.9 Cash, D.M., Markiewicz, P.J., Jiao, J., Coath, W., Modat, M., Lane, C.A., Parker, T.D., Keuss, S.E., Buchanan, S.M., **Burgos, N.**, Dickson, J., Barnes, A., Cardoso, J., Alves, I.L., Barkhof, F., Thomas, D.L., Beasley, D., Wong, A., Schöll, M., Richards, M., Ourselin, S., Fox, N.C., and Schott, J.M.: 'Comparison of Static and Dynamic Analysis Techniques for Longitudinal Analysis of Amyloid PET'. In *Alzheimer's Association International Conference - AAIC 2020*, 2020.

F.10 ★ Wen, J., Thibeau-Sutre, E., Samper-González, J., Routier, A., Bottani, S., Dormont, D., Durrleman, S., Colliot, O., **Burgos, N.**: 'How Serious Is Data Leakage in Deep Learning Studies on Alzheimer's Disease Classification?' In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2019*, 2019. hal-02105133

F.11 Routier, A., Marcoux, A., Díaz Melo, M., Guillon, J., Samper-González, J., Wen, J., Bottani, S., Guyot, A., Thibeau-Sutre, E., Teichmann, M., Habert, M.-O., Durrleman, S., **Burgos, N.**, Colliot, O.: 'New Advances in the Clinica Software Platform for Clinical Neuroimaging Studies.' In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2019*, 2019. hal-02132147

F.12 ★ Samper-González, J., **Burgos, N.**, Bottani, S., Habert, M.-O., Evgeniou, T., Epelbaum, S., Colliot, O.: 'Predicting Progression to Alzheimer's Disease from Clinical Imaging Data: A Reproducible Study.' In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2019*, 2019. hal-02142315

F.13 Ansart, M., **Burgos, N.**, Colliot, O., Dormont, D., Durrleman, S.: 'Prediction of Future Cognitive Scores Dementia Onset in Mild Cognitive Impairment Patients.' In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2019*, 2019. hal-02098427

F.14 Koval, I., Marcoux, A., **Burgos, N.**, Allassonnière, S., Colliot, O., Durrleman, S.: 'Deciphering the Progression of PET Alterations Using Surface-Based Spatiotemporal Modeling.' In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2019*, 2019. hal-02134909

F.15 Wen, J., Samper-González, J., Routier, A., Bottani, S., Durrleman, S., **Burgos, N.**, Colliot, O.: 'Beware of Feature Selection Bias! Example on Alzheimer's Disease Classification from Diffusion MRI.' In *Annual Meeting of the Organization for Human Brain Mapping - OHBM 2019*, 2019. hal-02105134

F.16 Cash, D.M., Modat, M., Coath, W., Cardoso, M.J., Markiewicz, P., Lane, C.A., Parker, T., Keuss, S., Buchanan, S., **Burgos, N.**, Dickson, J., Barnes, A., Thomas, D.L., Beasley, D., Malone, I.B., Erlandsson, K., Thomas, B.A., Ourselin, S., Fox, N.C., Schott, J.M., Richards, M.: 'Longitudinal Rates of Amyloid Accumulation in a 70-Year Old British Birth Cohort'. In *Alzheimer's Association International Conference - AAIC 2019*, 2019.

F.17 Coath, W., Modat, M., Cardoso, M.J., Markiewicz, P., Lane, C.A., Parker, T., Keuss, S., Buchanan, S., **Burgos, N.**, Dickson, J., Barnes, A., Thomas, D.L., Beasley, D., Malone, I.B., Wong, A., Thomas, B.A., Ourselin, S., Richards, M., Fox, N.C., Schott, J.M., Cash, D.M.: 'Centiloid Scale Transformation of Florbetapir Data Acquired on a PET/MR Scanner'. In *Alzheimer's Association International Conference - AAIC 2019*, 2019.

F.18 Marcoux, A., **Burgos, N.**, Bertrand, A., Routier, A., Wen, J., Samper-González, J., Bottani, S., Durrleman, S., Habert, M.-O., Colliot, O.: 'A pipeline for the analysis of 18F-FDG PET data on the cortical surface its evaluation on ADNI'. *Annual Meeting of the Organization for Human Brain Mapping • OHBM 2018*, 2018. hal-01757646

F.19 Routier, A., Guillon, J., **Burgos, N.**, Samper-González, Wen, J., Fontanella, S., Bottani, S., Jacquemont, T., Marcoux, A., Gori, P., Lu, P., Moreau, T., Bacci, M., Durrleman, S., Colliot, O.: 'Clinica: an open source software platform for reproducible clinical neuroscience studies'. *Annual Meeting of the Organization for Human Brain Mapping • OHBM 2018*, 2018. hal-01760658

F.20 ★ Samper-González, J., Bottani, S., **Burgos, N.**, Fontanella, S., Lu, P., Marcoux, A., Routier, A., Guillon, J., Bacci, M., Wen, J., Bertrand, A., Bertin, H., Habert, M.-O., Durrleman, S., Evgeniou, T., Colliot, O.: 'Reproducible evaluation of Alzheimer's disease classification from MRI PET data'. *Annual Meeting of the Organization for Human Brain Mapping • OHBM 2018*, 2018. hal-01761666

F.21 Wen, J., Samper-González, J., Bottani, S., Routier, A., **Burgos, N.**, Jacquemont, T., Fontanella, S., Durrleman, S., Bertrand, A., Colliot, O.: 'Comparison of DTI features for the classification of Alzheimer's disease: A reproducible study.' *Annual Meeting of the Organization for Human Brain Mapping • OHBM 2018*, 2018. hal-01758206

F.22 ★ Samper-González, J., **Burgos, N.**, Bottani, S., Habert, M.-O., Evgeniou, T., Epelbaum, S., Colliot, O.: 'Three Simple Ideas for Predicting Progression to Alzheimer's Disease.' In *International Workshop on Pattern Recognition in Neuroimaging - PRNI 2018*, 2018. hal-01891996

F.23 Wen, J., Samper-González, J., Bottani, S., Routier, A., **Burgos, N.**, Jacquemont, T., Fontanella, S., Durrleman, S., Bertrand, A., Colliot, O.: 'Using diffusion MRI for classification prediction of Alzheimer's Disease: a reproducible study.' *Alzheimer's Association International Conference - AAIC 2018*, 2018. hal-01758167

F.24 **Burgos, N.**, Samper-González, J., Bertrand, A., Habert, M.-O., Ourselin, S., Durrleman, S., Cardoso, M.J., Colliot, O.: 'Diagnosis of Alzheimer's Disease through Identification of Abnormality Patterns in FDG PET Data'. In *Proceedings of the 30th Annual Congress of the European Association of Nuclear Medicine (EANM)*, S253–S254, Springer, 2017. doi:10.1007/s00259-017-3822-1 • hal-01632509 **— Oral presentation**

F.25 **Burgos, N.**, Samper-González, J., Cardoso, M.J., Durrleman, S., Ourselin, S., Colliot, O.: 'Early Diagnosis of Alzheimer's Disease Using Subject-Specific Models of FDG-PET Data'. *Alzheimer's & Dementia*, 13(7): P1117, 2017. doi:10.1016/j.jalz.2017.06.1618 • hal-01621383

F.26 Cash, D.M., **Burgos, N.**, Modat, M., Dickson, J., Beasley, D., Markiewicz, P., Lane, C.A., Parker, T., Barnes, A., Thomas, D.L., Cardoso, M.J., Malone, I.B., Veale, T., Wallon, D., Klimova, J., Erlandsson, K., Wong, A., Richards, M., Fox, N.C., Ourselin, S., Schott, J.M.: 'A Comparison of Techniques for Quantifying Amyloid Burden on a Combined PET/MR Scanner'. *Alzheimer's & Dementia*, 13(7): P12–P13, 2017. doi:10.1016/j.jalz.2017.06.2276

F.27 Schott, J.M., Cash, D.M., Lane, C.A., Parker, T., **Burgos, N.**, Modat, M., Beasley, D., Dickson, J., Barnes, A., Thomas, D.L., Murray-Smith, H., Wong, A., Macpherson, K., James, S.-N., Cardoso, M.J., Malone, I.B., Klimova, J., Markiewicz, P., Crutch, S.J., Kuh, D., Ourselin, S., Richards, M., Fox, N.C.: 'Exploring the Population Prevalence of β-Amyloid Burden: An Analysis of 250 Individuals Born in MainlBritain in the Same Week in 1946'. *Alzheimer's & Dementia*, 13(7): P1088–P1089, 2017. doi:10.1016/j.jalz.2017.06.1563

F.28 James, S.-N., Parker, T., Lane, C.A., Cash, D.M., Wong, A., Barnes, A., Beasley, D., **Burgos, N.**, Cardoso, M.J., Dickson, J., Klimova, J., Malone, I.B., Modat, M., Thomas, D.L., Kuh, D., Ourselin, S., Fox, N.C., Schott, J.M., Richards, M.: 'Midlife Affective Symptoms Are Associated with Lower Brain Volumes in Later Life: Evidence from a Prospective UK Birth Cohort'. *Alzheimer's & Dementia*, 13(7): P212, 2017. doi:10.1016/j.jalz.2017.07.086

F.29 Parker, T., Cash, D.M., Lane, C.A., Murray-Smith, H., Wong, A., Malone, I.B., **Burgos, N.**, Modat, M., Beasley, D., Dickson, J., Barnes, A., Thomas, D .L., Cardoso, M.J., Klimova, J., Ourselin, S., Frost, C., Kuh, D., Richards, M., Fox, N.C., Schott, J.M.: 'Brain volume, cerebral β-amyloid deposition, ageing: A study of over 200 individuals born in the same week in 1946'. *Alzheimer's & Dementia*, 13(7): P1464–P1465, 2017. doi:10.1016/j.jalz. 2017.07.534

F.30 Kieselmann, J. P., Kamerling, C. P., **Burgos, N.**, Menten, M. J., Nill, S., Cardoso, M. J., Oelfke, U.: 'Geometric Dosimetric Evaluation of Three Atlas-based Segmentation Methods for Head Neck Cancer Patients on MR Images'. *MR in RT Symposium*, 2017

F.31 **Burgos, N.**, Cardoso, M.J., Guerreiro, F., McClelland, J., Knopf, A.-C., Ourselin, S.: 'Simultaneous Organ-at-Risk Segmentation CT Synthesis in the Pelvic Region for MRI-Only Radiotherapy Treatment Planning'. In *International Conference on the Use of Computers in Radiation Therapy (ICCR)*, 2016 — **Highlighted oral presentation**

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G Theses

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H Submitted publications and preprints

H.1 Christodoulou, E., Reinke, A., Andrè, P., Godau, P., Kalinowski, P., Houhou, R., Erkan, S., Sudre, C.H., **Burgos, N.**, Boutaj, S., Loizillon, S., Solal, M., Cheplygina, V., Heitz, C., Kozubek, M., Antonelli, M., Rieke, N., Gilson, A., Mayer, L.D., Tizabi, M.D., Cardoso, M.J., Simpson, A., Kopp-Schneider, A., Varoquaux, G., Colliot, O., and Maier-Hein, L.: 'False Promises in Medical Imaging AI? Assessing Validity of Outperformance Claims', arXiv, 2025. doi:10.48550/arXiv.2505.04720

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