

Ninon Burgos

CNRS RESEARCHER • MEDICAL IMAGE COMPUTING

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

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Education

Habilitation à Diriger des Recherches

SORBONNE UNIVERSITÉ

Paris, France

2022

PhD in Medical and Biomedical Imaging

UNIVERSITY COLLEGE LONDON

London, UK

2016

MSc in Biomedical Engineering

IMPERIAL COLLEGE LONDON

London, UK

2012

Diplôme d'Ingénieur

ÉCOLE NATIONALE SUPÉRIEURE D'ÉLECTRONIQUE ET DE SES APPLICATIONS (ENSEA)

Cergy, France

2012

Academic Positions

Team co-head

ARAMIS LAB (WWW.ARAMISLAB.FR), ~35 MEMBERS

Paris, France

2025 – present

PR[AI]RIE fellow

PARIS ARTIFICIAL INTELLIGENCE RESEARCH INSTITUTE (PR[AI]RIE)

Paris, France

2019 – present

CNRS researcher (Faculty position, equivalent to Associate Professor with tenure and no strict teaching duties)

INSTITUT DU CERVEAU – ARAMIS LAB (SORBONNE UNIVERSITÉ, CNRS UMR 7225, INRIA, INSERM U1127, AP-HP)

Paris, France

2018 – present

Postdoctoral researcher

INRIA/INSTITUT DU CERVEAU ET DE LA MOELLE ÉPINIÈRE – ARAMIS LAB (INSERM U1127, CNRS UMR 7225, SORBONNE UNIVERSITÉ)

Paris, France

2017 – 2018

Postdoctoral researcher

CENTRE FOR MEDICAL IMAGE COMPUTING, UNIVERSITY COLLEGE LONDON

London, UK

2016

Research assistant

CENTRE FOR MEDICAL IMAGE COMPUTING, UNIVERSITY COLLEGE LONDON

London, UK

2012 – 2016

Publication summary

35	International journal articles	13 as first/last author, 10 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
29	Conferences with full-length peer-reviewed proceedings	19 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 (<i>Méthodologie des ESSais cliniques Innovants, Dispositifs, Outils et Recherches Exploitant les données de santé et biobanques</i>) • 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

Invited Presentations

INVITED PRESENTATIONS AT INTERNATIONAL CONFERENCES AND SCHOOLS

SPIE Medical Imaging Conference

‘REPRODUCIBILITY IN MEDICAL IMAGE PROCESSING’

San Diego, USA

Feb 2024

SPIE Medical Imaging Conference

‘EXPLOITING HOSPITAL DATA WAREHOUSES: THE CHALLENGES OF IMAGE QUALITY AND HETEROGENEITY’

San Diego, USA

Feb 2023

AI4Health Winter School

‘INTRODUCTION TO DEEP LEARNING FOR MEDICAL IMAGING: FROM CONVOLUTION TO GENERATIVE ADVERSARIAL NETWORKS’

Virtual

Jan 2022

Mathematics and Image Analysis - MIA’21

‘IMPROVING THE INTERPRETABILITY OF COMPUTER-ASSISTED ANALYSIS TOOLS IN NEUROIMAGING’

Virtual

Jan 2021

Annual Congress of the European Association of Nuclear Medicine

‘MR-BASED ATTENUATION CORRECTION FOR BRAIN STUDIES’ (CONTINUING MEDICAL EDUCATION SESSION)

Vienna, Austria

Oct 2017

INVITED PRESENTATIONS AT NATIONAL EVENTS & WORKSHOPS

Ajités workshop

‘AI & NEUROIMAGING FOR THE COMPUTER-AIDED DIAGNOSIS OF NEURODEGENERATIVE DISEASES’

Leuven, Belgium

Nov 2024

Journées Francophones de Radiologie – Session SFRMBM

‘IA & ENTREPÔTS DE DONNÉES DE SANTÉ : LE MULTICENTRIQUE À SON PAROXYSMÉ’

Paris, France

Oct 2024

Journées Francophones de Radiologie – Journée FLI-CERF

‘AIDE AU DIAGNOSTIC DES MALADIES NEURODÉGÉNÉRATIVES : TENTATIVES D’EXPLOITATION DE DONNÉES ISSUES DU SOIN COURANT’

Paris, France

Oct 2024

Neuro OpenScience Workshop

‘CLINICA: OPEN-SOURCE SOFTWARE PLATFORM FOR NEUROIMAGING STUDIES’

Paris Brain Institute, France

Nov 2023

AI in Biology and Health Symposium

‘DETECTING ANOMALIES IN BRAIN IMAGES WITH DEEP GENERATIVE MODELS’

Institut Pasteur, Paris, France

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	
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

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’	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.3]	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.3, E.2,E.4, E.9, E.12]	Oct 2021 – Sept 2024
Ravi Hassanaly	Primary supervision
‘Deep generative models for the detection of anomalies in the brain’ [A.2, E.5, E.10, E.11, H.1]	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.4, A.5, A.9, E.15, 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.6, A.8, A.17, E.13, E.14, E.16, 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.20, E.17, E.19, F.12, F.20, F.22]	Jan 2017 – Dec 2019

MASTER THESES

Hugues Roy	Primary supervision
‘Pseudo-healthy image synthesis for the detection of anomalies in the brain, a multimodal approach’	Feb 2024 – Jul 2024
Stéphane Mabile	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.9]

Jan 2019 – June 2020

Alexandre Routier

Lead developer of Clinica, a software platform for clinical neuroimaging research studies [A.13, 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.21, F.18]

Feb 2017 – Feb 2020

Software Development Management

- Clinica**
 - Open-source software platform for neuroimaging research studies www.clinica.run
 - Role: Management of the project and of the developers github.com/aramis-lab/clinica
- ClinicaDL**
 - Open-source software for reproducible neuroimaging analysis with deep learning github.com/aramis-lab/clinicaDL
 - Role: Management of the project and of the developers

Other Professional Activities

EDITORSHIP

- Book** Burgos, N., Svoboda, D., eds.: Biomedical Image Synthesis Simulation: Methods and Applications, MICCAI Book series, Elsevier, 2022. [10.1016/C2020-0-01250-8](https://doi.org/10.1016/C2020-0-01250-8)
- Journal** Pattern Recognition (associate editor since 2023)
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)
- Conferences**

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–), 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)
- Other** Health Data Hub Data Challenges en Santé (2022/2023, 2023/2024)

PARTICIPATION TO RECRUITMENT JURIES

- 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

- 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	<i>Sophia Antipolis, France</i>
2023	PhD jury member , Camille Ruppli, supervised by Isabelle Bloch, Roberto Ardon and Pietro Gori	<i>Paris, France</i>
2023	PhD examiner (rapporteur) , Hilda Chourak, supervised by Renaud De Crevoisier, Jason Dowling, Oscar Acosta and Jean-Claude Nunes	<i>Rennes, France</i>
2023	PhD jury member , Clément Chadebec, supervised by Stéphanie Allassonnière	<i>Paris, France</i>
2023	PhD jury member , Louise Guillon, supervised by Jean-François Magin and Denis Rivière	<i>Saclay, France</i>
2022	PhD jury president , Lydia Chougar, supervised by Stephane Lehericy	<i>Paris, France</i>
2022	PhD jury member , Gauthier Dot, supervised by Thomas Schouman, Laurent Gajny and Philippe Rouch	<i>Paris, France</i>

PARTICIPATION TO INDIVIDUAL MONITORING COMMITTEES (CSI)

2023–2024	CSI member , Emma Sarfati, supervised by Isabelle Bloch, Pietro Gori, Marc-Michel Rohé and Alexandre Bône	<i>Paris, France</i>
2022–2023	CSI member , Francesco Galati, supervised by Maria A. Zuluaga	<i>Paris, France</i>
2022	CSI member , Camille Ruppli, supervised by Isabelle Bloch, Roberto Ardon and Pietro Gori	<i>Paris, France</i>
2021–2023	CSI member , Charlotte Godard, supervised by Jean-Baptiste Masson	<i>France (virtual)</i>

INTERNATIONAL CONFERENCE ORGANISATION

2024	General Conference Chair with Maria Vakalopoulou and Caroline Petitjean , Medical Imaging with Deep Learning (2024.midl.io), ~400 participants	<i>Paris, France</i>
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SCHOOL ORGANISATION

2021–2023	Scientific & Organisation Committees , AI4Health Summer School (ai4healthschool.org)	<i>Paris, France</i>
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WORKSHOP & TUTORIAL ORGANISATION

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

TEACHING AS PART OF UNIVERSITY DEGREES

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

TEACHING IN OTHER CONTEXTS

2023	European Course on Advanced Imaging Techniques in Neuroradiology , Machine Learning Essentials	<i>Malta</i>
2023	École Saisonnière en Intelligence Artificielle , AI for Medical Imaging: From Image Acquisition to Prognosis	<i>Berck-sur-Mer, France</i>
2021–	CENIR courses , Deep Learning for Medical Imaging	<i>Paris Brain Institute</i>
2021, 2022	AI4Health Winter School , Practical session on Deep Learning for Medical Imaging	<i>Virtual</i>
2020	Educational Courses of the OHBM 2020 conference , Machine Learning for NeuroImaging	<i>Virtual</i>
2020	Hands-on Workshop on Machine Learning Applied to Medical Imaging , Introduction to Deep Learning and Deep Learning for Neuro Imaging	<i>Paris Brain Institute</i>
2018	Educational Courses of the OHBM 2018 conference , Pattern Recognition for NeuroImaging	<i>Singapore</i>

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)	<i>Paris Brain Institute</i>
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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	<i>Paris Brain Institute, France</i>
2023	Cérémonie des Olympiades de Mathématiques , Presentation on AI and neuroimaging for the computer-aided diagnosis of Alzheimer's disease	<i>Louis Le Grand, Paris, France</i>
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).	<i>Paris, France</i>
2022	MIT-France Symposium on AI , Presentation on AI-based computer-aided diagnosis of dementia	<i>Collège de France, Paris, France</i>
2021	Paris Brain Institute Donors' Conference , Presentation on the computer-aided diagnosis of Alzheimer's disease	<i>Paris Brain Institute</i>
2021	MIT Symposium on AI & Medicine: Promises and Limits , Panel discussion on image-guided clinical practice	<i>Virtual</i>
2020	France is AI , Panel discussion on AI in decision support systems with medical images	<i>Virtual</i>
2019–2021	Rendez-vous des Jeunes Mathématiciennes et Informatiennes , Presentation and discussion with high school girls	<i>Inria Paris, France</i>
2017	Fête de la science , Science fair showcasing research done within the ARAMIS Lab	<i>Paris Brain Institute, France</i>
2015	University College London Hospitals Research Open Day , Focus on clinical research	<i>London, UK</i>

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-dalzheim-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

Ninon Burgos

LIST OF PUBLICATIONS

Contents

A International journal publications	1
B Book	4
C Book chapters	4
D Conference proceedings	4
E Conferences with full-length peer-reviewed proceedings	5
F Conference abstracts	6
G Theses	9
H Submitted publications and preprints	9

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., Mabilhe, 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](https://doi.org/10.59275/j.melba.2024-7fgd) • [hal-04623223](https://hal.archives-ouvertes.fr/hal-04623223)
- A.2 ★ 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](https://doi.org/10.59275/j.melba.2024-b87a) • [hal-04315738](https://hal.archives-ouvertes.fr/hal-04315738)
- A.3 ★ Loizillon, S., Bottani, S., Maire, A., Ströer, S., Dormont, D., Colliot, O., **Burgos, N.**: ‘Automatic Motion Artefact Detection in Brain T1-Weighted Magnetic Resonance Images from a Clinical Data Warehouse Using Synthetic Data’. *Medical Image Analysis*, 93: 103073, 2024 [doi:10.1016/j.media.2023.103073](https://doi.org/10.1016/j.media.2023.103073) • [hal-03910451](https://hal.archives-ouvertes.fr/hal-03910451)
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- A.5 ★ Bottani, S., **Burgos, N.**, Maire, A., Saracino, D., Ströer, S., Dormont, D., Colliot, O.: ‘Evaluation of MRI-based Machine Learning Approaches for Computer-Aided Diagnosis of Dementia in a Clinical Data Warehouse’. *Medical Image Analysis*, 89: 102903, 2023. [doi:10.1016/j.media.2023.102903](https://doi.org/10.1016/j.media.2023.102903) • [hal-03656136](https://hal.archives-ouvertes.fr/hal-03656136)
- A.6 ★ Chadebec, C., Thibeau-Sutre, E., **Burgos, N.**, Allasonnière, 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](https://doi.org/10.1109/TPAMI.2022.3185773) • [hal-03214093](https://hal.archives-ouvertes.fr/hal-03214093) — **86 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
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- A.10 Epelbaum, S., **Burgos, N.**, Canney, M., Matthews, D., Houot, M., Santin, M. D., Desseaux, C., Bouchoux, G., Ströer, S., Martin, C., Habert, M.-O., Levy, M., Bah, A., Martin, K., Delatour, B., Riche, M., Dubois, B., Belin, L., Carpentier, A., 'Pilot Study of Repeated Blood-brain Barrier Disruption in Patients With Mild Alzheimer's Disease With an Implantable Ultrasound Device'. *Alzheimer's Research & Therapy*, 14(1): 40, 2022. doi:10.1186/s13195-022-00981-1 • hal-03484130 — **50 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
- A.11 **Burgos, N.**, Bottani, S., Faouzi, J., Thibeau-Sutre, E., Colliot, O.: 'Deep Learning in Brain Disorders: From Data Processing to Disease Treatment'. *Briefings in Bioinformatics*, 22(2): 1560–1576, 2021. doi:10.1093/bib/bbaa310 • hal-03070554 — **INVITED REVIEW**
- A.12 **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
- A.13 Routier, A., **Burgos, N.**, Díaz, M., Bacci, M., Bottani, S., El-Rifai, O., Fontanella, S., Gori, P., Guillon, J., Guyot, A., Hassanaly, R., Jacquemont, T., Lu, P., Marcoux, A., Moreau, T., Samper-González, J., Teichmann, M., Thibeau-Sutre, E., Vailant, G., Wen, J., Wild, A., Habert, M.-O., Durrleman, S., Colliot, O.: 'Clinica: An Open-Source Software Platform for Reproducible Clinical Neuroscience Studies'. *Frontiers in Neuroinformatics*, 15: 39, 2021. doi:10.3389/fninf.2021.689675 • hal-02308126 — **126 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
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- A.17 ★ Wen, J., Thibeau-Sutre, E., Samper-González, J., Routier, A., Bottani, S., Durrleman, S., **Burgos, N.**, Colliot, O.: 'Convolutional Neural Networks for Classification of Alzheimer's Disease: Overview Reproducible Evaluation', *Medical Image Analysis*, 63: 101694, 2020. doi:10.1016/j.media.2020.101694 • hal-02562504 — **637 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
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- A.20 ★ 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**
- A.21 Marcoux, A., **Burgos, N.**, Bertrand, A., Teichmann, M., Routier, A., Wen, J., Samper-Gonzalez, J., Bottani, S., Durrleman, S., Habert, M.-O., Colliot, O.: 'An Automated Pipeline for the Analysis of PET Data on the Cortical Surface'. *Frontiers in Neuroinformatics*, 12, 2018. doi:10.3389/fninf.2018.00094
- A.22 Arabi, H., Dowling, J. A., **Burgos, N.**, Han, X., Greer, P. B., Koutsouvelis, N., Zaidi, H.: 'Comparative Study of Algorithms for Synthetic CT Generation from MRI: Consequences for MRI-Guided Radiation Planning in the Pelvic Region'. *Medical Physics*, 45(11): 5218–5233, 2018. doi:10.1002/mp.13187 • hal-01890646 — **136 CITATIONS ACCORDING TO GOOGLE SCHOLAR**

- A.23 Kieselmann, J. P., Kamerling, C. P., **Burgos, N.**, Menten, M. J., Ding, Y., Fuller, C. D., Jomaa, M. K., Petkar, I., McCormick, G., Hunt, A., Nill, S., Cardoso, M. J., Oelfke, U.: 'Geometric Dosimetric Evaluations of Atlas-Based Segmentation Methods of MR Images in the Head Neck Region'. *Physics in Medicine Biology*, 63(14): 145007, 2018. doi:10.1088/1361-6560/aac65 — **41 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
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- A.25 **Burgos, N.**, Guerreiro, F., McClelland, J., Presles, B., Modat, M., Nill, S., Dearnaley, D., deSouza, N., Oelfke, U., Knopf, A.-C., Ourselin, S., Cardoso, M.J.: 'Iterative Framework for the Joint Segmentation CT Synthesis of MR Images: Application to MRI-Only Radiotherapy Treatment Planning'. *Physics in Medicine Biology*, 62(11): 4237, 2017. doi:10.1088/1361-6560/aa66bf — **AN INVITED PAPER IN THE SPECIAL ISSUES ON RECENT PROGRESS IN APPLICATIONS OF COMPUTING TO RADIOTHERAPY, 53 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
- A.26 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.27 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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- A.30 Sekine, T., **Burgos, N.**, Warnock, G., Huellner, M., Buck, A., Voert, E.E.G.W. ter, Cardoso, M.J., Hutton, B.F., Ourselin, S., Veit-Haibach, P., Delso, G.: 'Multi Atlas-Based Attenuation Correction for Brain FDG- PET Imaging Using a TOF-PET/MR Scanner: Comparison with Clinical Single Atlas- CT-Based Attenuation Correction'. *Journal of Nuclear Medicine*, 57(8): 1258–1264, 2016. doi:10.2967/jnumed.115.169045 — **38 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
- A.31 **Burgos, N.**, Cardoso, M.J., Thielemans, K., Modat, M., Dickson, J., Schott, J.M., Atkinson, D., Arridge, S.R., Hutton, B.F., Ourselin, S.: 'Multi-Contrast Attenuation Map Synthesis for PET/MR Scanners: Assessment on FDG Flortbetapir PET Tracers'. *European Journal of Nuclear Medicine Molecular Imaging*, 42(9): 1447–1458, 2015. doi:10.1007/s00259-015-3082-x — **55 CITATIONS ACCORDING TO GOOGLE SCHOLAR**
- A.32 Zuluaga*, M.A., **Burgos*, N.**, Mendelson, A.F., Taylor, A.M., Ourselin, S.: 'Voxelwise Atlas Rating for Computer Assisted Diagnosis: Application to Congenital Heart Diseases of the Great Arteries'. *Medical Image Analysis*, 26(1): 185–194, 2015 (*: joint first authorship). doi:10.1016/j.media.2015.09.001
- A.33 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 for Susceptibility Artefact Correction in Interventional MRI'. *International Journal of Computer Assisted Radiology Surgery*, 10(9): 1405–1416, 2015. doi:10.1007/s11548-015-1253-7
- A.34 Weston, P.S.J., Paterson, R.W., Modat, M., **Burgos, N.**, Cardoso, M.J., Magdalinou, N., Lehmann, M., Dickson, J.C., Barnes, A., Bomanji, J.B., Kayani, I., Cash, D.M., Ourselin, S., Toombs, J., Lunn, M.P., Mummery, C.J., Warren, J.D., Rossor, M.N., Fox, N.C., Zetterberg, H., Schott, J.M.: 'Using Flortbetapir Positron Emission Tomography to Explore Cerebrospinal Fluid Cut Points Gray Zones in Small Sample Sizes'. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, 1(4): 440–446, 2015. doi:10.1016/j.dadm.2015.10.001
- A.35 **Burgos, N.**, Cardoso, M.J., Thielemans, K., Modat, M., Pedemonte, S., Dickson, J., Barnes, A., Ahmed, R., Mahoney, C.J., Schott, J.M., Duncan, J.S., Atkinson, D., Arridge, S.R., Hutton, B.F., Ourselin, S.: 'Attenuation Correction Synthesis for Hybrid PET-MR Scanners: Application to Brain Studies'. *IEEE Transactions on Medical Imaging*, 33(12): 2332–2341, 2014. doi:10.1109/TMI.2014.2340135 — **426 CITATIONS ACCORDING TO GOOGLE SCHOLAR**

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](https://doi.org/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, Elsevier, 2024. [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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1007/978-1-0716-3195-9_22)
- C.5 Vakalopoulou, M., Christodoulidis, S., **Burgos, N.**, Colliot, O., Lepetit, V.: ‘Deep Learning: Basics and Convolutional Neural Networks (CNNs)’. In *Machine Learning for Brain Disorders*, edited by Olivier Colliot, Neuromethods, Springer, 2023. [doi:10.1007/978-1-0716-3195-9_3](https://doi.org/10.1007/978-1-0716-3195-9_3)
- C.6 Svoboda, D., **Burgos, N.**: ‘Introduction to 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/B978-0-12-824349-7.00008-6](https://doi.org/10.1016/B978-0-12-824349-7.00008-6) • [hal-03721967](#)
- 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](https://doi.org/10.1016/B978-0-12-824349-7.00011-6) • [hal-03721697](#)
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- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1007/978-3-030-59520-3)
- D.4 **Burgos, N.**, Gooya, A., Svoboda, D., eds.: Simulation Synthesis in Medical Imaging: 4th International Workshop, SASHIMI 2019, Held in conjunction with MICCAI 2019, Shenzhen, China, October 2019, Proceedings. Vol. 11827. Lecture Notes in Computer Science, Cham: Springer International Publishing, 2019. [doi:10.1007/978-3-030-32778-1](https://doi.org/10.1007/978-3-030-32778-1)
- D.5 Gooya, A., Goksel, O., Oguz, I., **Burgos, N.**, eds.: Simulation Synthesis in Medical Imaging: Third International Workshop, SASHIMI 2018, Held in Conjunction with MICCAI 2018, Granada, Spain, September 2018, Proceedings. Vol. 11037. Lecture Notes in Computer Science, Cham: Springer International Publishing, 2018. [doi:10.1007/978-3-030-00536-8](https://doi.org/10.1007/978-3-030-00536-8)

E Conferences with full-length peer-reviewed proceedings

- E.1 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. Schnabel 124–132, Cham: Springer Nature Switzerland, 2024. doi:10.1007/978-3-031-72117-5_12 • hal-04715638
- E.2 ★ 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.3 ★ 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.4 ★ Loizillon, S., Mabile, 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.5 ★ 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.6 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.7 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.8 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.9 ★ 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.10 ★ 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*, LNCS, 14533: 110–120, 2024. doi:10.1007/978-3-031-53767-7_11 • hal-04185304
- E.11 ★ 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.12 ★ 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.13 ★ 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
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- E.15 ★ 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.16 ★ 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.17 ★ 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.18 **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.19 ★ 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
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- E.21 **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.22 **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.23 **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.24 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.25 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**
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- E.29 **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 $A\beta$ -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 gsqjNMdPSYK](#)
- 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](#)
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G Theses

- G.1 Burgos, N., 'Individualised, Interpretable and Reproducible Computer-Aided Diagnosis of Dementia: Towards Application in Clinical Practice', Habilitation à diriger des recherches, Sorbonne Université, 2022. tel-03941953
- G.2 Burgos, N., 'Image synthesis for the attenuation correction analysis of PET/MR data'. Doctoral thesis, University College London, 2016, discovery.ucl.ac.uk/1517860

H Submitted publications and preprints

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- H.2 Fu, G., Jimenez, G., Loizillon, S., Jurdi, R.E., Chougar, L., Dormont, D., Valabregue, R., **Burgos, N.**, Lehericy, S., Racocanu, D., Colliot, O.: 'Fourier Disentangled Multimodal Prior Knowledge Fusion for Red Nucleus Segmentation in Brain MRI', arXiv, 2022. doi:10.48550/arXiv.2211.01353