

Pierre Jannin is a INSERM Research Director at the Medical School of the University of Rennes (France). He is the head of the MediCIS research group from both UMR 1099 LTSI, Inserm research institute and University of Rennes. He was awarded the PhD degree from the University of Rennes in 1988 on multimodal 3D imaging in neurosurgery and the “Habilitation” (HDR) from the University of Rennes in 2005 on information and knowledge assisted neurosurgery. He has more than 30 year experience in designing and developing computer assisted surgery systems. His research topics include surgical data science, surgical robotics, image-guided surgery, augmented and virtual reality, modeling of surgical procedures and processes, study of surgical expertise, surgical training and validation methodology in medical image processing. He authored or co authored more than 150 peer-reviewed international journal papers. He was the President of the International Society of Computer Aided Surgery (ISCAS) from 2014 to 2018 and the General Secretary from 2004 to 2014. He was board member of the MICCAI society from 2014 to 2018. He is an elected MICCAI Fellow since 2018. He is senior member of the SPIE society. He is the Editor in Chief of Computer Assisted Surgery journal (Taylor&Francis). He is Deputy Editor for the International Journal of Computer Assisted Radiology and Surgery (Springer). He is acted as associate editor and reviewer for several journals (e.g., IEEE TMI, MedIA, IJCARS, Neuroimage, Yearbook of Medical Informatics). He is member of several Organizing and Program Committees of international conferences, such as MICCAI, CARS, SPIE Medical Imaging, and MMVR. He was President of CARS 2019 conference in Rennes (France) and Program Co-Chair of MICCAI 2017 in Quebec (Canada). He is co-founder of IPCAI conferences and was Co-General Chair from 2010 to 2016.

Web :

E-mail : pierre.jannin@univ-rennes.fr

ORCID : <https://orcid.org/0000-0002-7415-071X>

Researcher ID F-5538-2010

citations : 7981; Google scholar h-index: 47 (Apr 2024)

Pierre JANNIN

SITUATION

Nationality: French

Date of Birth: 26 April 1963

3 children

Administrative Position: INSERM Research Director

Professional address : MediCiS, UMR 1099 / LTSI, INSERM, Faculté de Médecine, Université de Rennes 1, 2, Avenue du Pr Léon Bernard, CS34317, 35043 RENNES Cedex France, Tel: (33) 2 23 23 45 88, Secr: (33) 2 23 23 47 18,

Web : <https://medicis.univ-rennes1.fr/members/pierre.jannin/index>

E-mail : pierre.jannin@univ-rennes1.fr

ORCID : <https://orcid.org/0000-0002-7415-071X>

Researcher ID F-5538-2010

RESEARCH INTERESTS:

- Computer assisted surgery
- Surgical Data Science
- AI: Machine and Deep Learning, Ontologies
- Augmented reality and virtuality
- Medical image processing
- Surgical skill simulation, training and evaluation
- Surgical process models
- Surgical robotics
- Validation in medical image processing and computer assisted surgery

EDUCATION

- *Habilitation*, University de Rennes 1, "From image guided neurosurgery towards an information and knowledge based neurosurgical process", 2005
- *Ph. D.*, University of Rennes I, Signal Analysis and Telecommunications, Thesis : "Modeling, display and analysis of 3D data using Octree in Medical Imaging", 1988
- *M. Sc.* in Automatics and Signal Analysis (option Pattern Recognition), Technological University of Compiègne (1985)
- *M.Sc.* in Computer Science, University of Rennes I, 1984

SELECTED ACADEMIC & PROFESSIONAL APPOINTMENTS

MediCIS UMR 1099 INSERM	Rennes, France	2012-Today	INSERM Senior Researcher and Director
BIC Montreal Neurological Institute McGill University	Montréal, Canada	July - December 2022	Visiting Professor
University of Verona	Verona, Italy	July 2019	Visiting Professor
The University of Tokyo	Tokyo, Japan	April 2018	Visiting Professor
Robarts Research Institute, University of Western Ontario	London, Ontario, Canada	July-August 2017	Visiting Professor
SINTEF, Norwegian University of Science and Technology	Trondheim, Norway	August 2015	Visiting Professor
CAMIT, Kyushu University	Fukuoka, Japan	May-August 2013	Visiting Professor
U746 INSERM	Rennes, France	2005-2011	INSERM Senior Researcher
BIC Montreal Neurological Institute McGill University	Montréal, Canada	2009-2010	Visiting Professor
ICCAS institute	Leipzig, Germany	2005-2010	Associate Member
UPRES 2232 and 3192	Rennes, France	1996-2004	Senior Researcher
CERIUM	Rennes, France	1988–1996	Research Engineer

TEACHING ACTIVITIES:

3D display in medical imaging, Data fusion in medical imaging, Validation in medical image processing, Image Guided Surgery, Surgical Process Modeling, Augmented reality and visualisation systems in surgery, Patient to Physical space Registration, Simulation for Surgical Training, Surgical Data Science:

- MSc (DEA) Biomedical Engineering, University of Tours-Angers-Nantes-Rennes
- MSc of Biological Sciences in Medicine, University Rennes 1

- Initiator and manager of a MSc lectures unit on “Image Guided Surgery” and on “Basis in Medical image processing”

SCIENTIFIC ACTIVITIES

- President of the International Society for Computer Aided Surgery (ISCAS) from 2014 to 2018 and General Secretary from 2004 to 2014
- Board member of the MICCAI Society from 2014 to 2018
- Editor in Chief of Computer Assisted Surgery journal (Taylor&Francis) from 2020
- Area editor of International Journal for Computer Aided Radiology and Surgery (Springer)
- President and organizer of the Annual Conference of Computer Assisted Radiology and Surgery 2019 Rennes (France)
- President of the Annual Conferences of the International Society for Computer Aided Surgery from 2014 to 2018
- Program Co-Chair of MICCAI 2017 (Quebec City, Canada)
- Co-chair of the 2013 MICCAI workshop and tutorial committee (Nagoya, Japan)
- Program committee member of SPIE Medical Imaging conference (Visualization, Image-Guided Procedures, and Display) from 2005, MICCAI conference from 2011, and Medicine Meets Virtual Reality (MMVR) conference from 2011.
- Co General Chair and co-founder of the IPCAI international conference (Information Processing in Computer Assisted Interventions); proceedings in LNCS, Geneva July 2010, Berlin 2011, Pisa (Italy) 2012, Heidelberg 2013, Fukuoka (Japan) 2014, Barcelona 2015
- IPCAI is a highly selective international conference on computer aided interventions. The selection rate was below 33%, including posters. It consists of long papers with journal-like revision process and unlimited time for discussion during the conference.
- Reviews for international journals: including IEEE TMI, IEEE TITB, IEEE TBE, IEEE EMB, Medical Image Analysis, IEEE TNS, IRBM, Academic Radiology, Cellular and Molecular Biology, Computer Methods and Programs in Biomedicine, IMIA Medical Informatics Yearbook, IJCARS, CAS, and Neuroimage
- Reviewing for international conferences: MICCAI, CARS, SPIE, ACCV, MMVR, ...
- Congress Organizing Committee, Program committee and executive committee member of Computer Assisted Radiology and Surgery conference (CARS)
- Member of the committee for patents and technological transfer at the University of Rennes 1 from 2002 to 2012
- Member of the scientific and pedagogical committee at the Medical University (2020-today)
- Member of the scientific committee of the Pole de compétitivité “Images et Réseaux” (2019-today)

SELECTION OF THE 5 MOST REPRESENTATIVE PUBLICATIONS

- Lena Maier-Hein, Swaroop S. Vedula, Stefanie Speidel, Nassir Navab, Ron Kikinis, Adrian Park, Matthias Eisenmann, Hubertus Feussner, Germain Forestier, Stamatia Giannarou, Makoto Hashizume, Darko Katic, Hannes Kenngott, Michael Kranzfelder, Anand Malpani, Keno März, Thomas Neumuth, Nicolas Padoy, Carla Pugh, Nicolai Schoch, Danail Stoyanov, Russell Taylor, Martin Wagner, Gregory D. Hager and Pierre **Jannin** Surgical data science for next generation interventions NATURE BIOMEDICAL ENGINEERING, VOL 1, SEPTEMBER 2017, 691–696

- Germain Forestier, Florent Lalys; Louis Collins; Jurgen Meixensberger; Shafik Wassef; Thomas Neumuth; Benoit Goulet; Laurent Riffaud; Pierre **Jannin**, Multi-site study of surgical practice in neurosurgery based on Surgical Process Models, *Journal of Biomedical Informatics*, 2013, Oct;46(5):822-9
- **Jannin P.**, Grova C., Maurer C.. Model for designing and reporting reference based validation procedures in medical image processing. *Int Journ. Comput. Assisted Radiol and Surg.* 2006 1(2):1001-115
- Paul P, Fleig O and **Jannin P.** Augmented Virtuality based on Stereoscopic Reconstruction in Multimodal Image-Guided Neurosurgery: Methods and Performance Evaluation, *IEEE Transactions on Medical Imaging*, Special Issue on Intra-Operative Image Processing for Surgical Guidance, July 2005, 24(11), pp 1500-1511.
- **Jannin P**, Morandi X, Fleig OJ, Le Rumeur E, Toulouse P, Gibaud B and Scarabin JM. « Integration of sulcal and functional information for multimodal neuronavigation », *Journal of Neurosurgery*, 2002;96:713-723.

AWARDS FROM SUPERVISED RESEARCHERS AND STUDENTS

- 2022: Basic Scientist Travel Award of the ESSKA Congress- European Society of Sports Traumatology, Knee Surgery, and Arthroscopy Alexandre Tronchet: « Virtual reality simulation in the learning of a procedure in arthroscopic knee surgery: diagnosis and partial meniscectomy »
- 2019: Award of the French Academy of Surgery for Innovation in Computer Aided Interventions. Clément Baumgarten: « AI in Functional Neurosurgery »
- 2016: Best paper award on clinical impact at the Information Processing in Computer Assisted Interventions international conference (IPCAI) Heidelberg, Germany June 2016 Olga Dergachyova
- 2016: Young scientist award from the “Image Guided Procedures, Robotic Interventions, and Modeling” conference at SPIE Medical Imaging conference in San Diego (USA), Feb 2016: Clément Baumgarten
- 2016: Third place award at M2CAI workshop at MICCAI 2016 in Athens for the challenge on surgical phase recognition on endoscopic videos, Sep 2016: Olga Dergachyova
- 2015: Best paper award at Artificial Intelligence in Medicine Europe conference (AIME) Avia, Italy June 2015 "Optimal sub-sequence matching for the automatic prediction of surgical tasks »: Germain Forestier
- 2014: Best paper award CARS 2014 international conference: D'Albis T, Haegelen C, Essert C, Fernández-Vidal S, Lalys F, **Jannin P.**, PyDBS: an automated image processing workflow for deep brain stimulation surgery. *Int J Comput Assist Radiol Surg.* 2014 May 6. PMID: 24799270
- 2013: Best research project award at “Loading the future” Pole de compétitivité AcouStiC project

Teaching activities

From 2006	Manager of a lecture unit in M.Sc. 2 Signal and Images in Biology and Medecine on “Image Guided Surgery” One week per year : “Image-Patient registration: methods and validation” 3h, “Surgical process models” 3h, “Intraoperative visualization” 3h, « Simulation for Surgical training » 1h, « Surgical Data Science » 1h
From 2008	Manager of a lecture unit in M.Sc. Signal and Images in Biology and Medecine on “Basis on Image processing” 30 hours per year
2014	“Image guided neurosurgery and neuroimaging” for Excellence Courses at CominLabs (4h)
2006-2000	M.Sc. Signal and Images in Biology and Medecine « 3D Visualization in medical imaging » 2h per year
2006-2002	M.Sc. Signal and Images in Biology and Medecine « Validation in medical image processing » 2h per year
2008-2001	Professor at the European School of Medical Physics (Archamps, France) « Data fusion in medical imaging : Methods, applications and validation », 3h per year
2003-1999	M.Sc. Biological and Medical Science « 3D display and data fusion » 4 h per year

2002-1999	DES/DIS X Ray technology and radioprotection « 3D display», 2h. per year
2004-1994	School of Medical Electroradiology at Pontchaillou Hospital Rennes « Data fusion in medical imaging » 2h per year, « 3D display», 5 h per year

Ph D and M Sc Student Supervision

Ph D	<ul style="list-style-type: none"> · Current: T. Casy, A. Tronchot, E. Giffard · Previous: T. Martin (2019-2024) 4 publications, M. Leloux (2018-2021) 65 publications, D. Tanguy (2019-2021) 6 publications, M. Peralta (2017-2020) 5 publications, Marie-Stephanie Bracq (2016-2019) 4 publications : Co supervision with CRPCC (Univ. Rennes 2), Gurvan Lecuyer (2016-2019), P.L. Henaux (2015-2019) 30 publications, O. Dergachyova (2014-2017) 4 publications, F. Monge (2012-2016), A. Hualme, (2013-2016): Co supervision with TIMC-IMAG (UJF Grenoble) 12 publications, F. Despinoy (2013-2015): Co supervision with LIRRM (Montpellier, France) 6 publications, D. Bouget (2012-2015) 20 publications, C. Haegelen (2009-2014) 98 publications, L. Riffaud (2009-2012), Lalys F. (2009-2012), Trelhu B. (2007-2011), Neumuth T. (2005-2009): Co supervision with Leipzig University (D), Grunert R. (2005-2008): Co supervision with Leipzig University (D), Paul P (2003-2006), Raimbault M (2001-2004), Broche B (2000-2004), Grova C (1999-2002), Fleig O (1999-2002)
M Sc	<p>> 40 students from : M. Sc. STIR “Signal Processing and Telecommunications”, M. Sc. SIBM “Signal and Images in Biology and Medicine ”, M. Sc. “Statistics” Paris VII, M. Sc. « Computer Science », UT de Compiègne, Institut Supérieure d'Electronique de Paris, IFSIC de Rennes , ...</p>
PhD defense	<p>Eléonore Ferrier-Barbut (Sorbonne Université) Février 2022 (Président), Tong Yu (Université de Strasbourg) Décembre 2021 (Rapporteur), Virginia Mamone (University of Pisa, Italy) Juin 2021 (Rapporteur), Allan Javaux (University of Leuven, Belgium) Septembre 2020 (Rapporteur), Giacomo De Rossi (University of Verona, Italy) May 2020 (Rapporteur), Gauthier Gras (ICL, London, UK) Jan 2019 (Rapporteur), Ninon Candalh-Touta (Sorbonne Université, Paris) October 2018 (Rapporteur), Hamza Waleed Ghandorh (University of Western Ontario, London, Canada) Feb 2018, Ketan Bacchuwar (ESIEE, Paris) May 2018, Hennadii Madan (University of Lubjana, Slovenia) July 2018 (Rapporteur), Pedro Patlan-Rosales (Inria, Rennes) January 2018, Zoheir Dib (LATIM, Université de Brest) September 2017 (Rapporteur), Mc Leod J. (University of Western Ontario, London, Canada) November 2017 (Rapporteur), Saeed Mahdizadeh Bakhshmand (University of Western Ontario, London, Canada) July 2017 (Rapporteur), Patrick Wucherer (TUM Munich, Germany) December 2016, Emran Mohammad Abu Anas (University of Briticsh Columbia, Canada) Novembre 2016 (Rapporteur), Roche B. (Université de Clermont Ferrand) Novembre 2016, Claude G. (INSA, IRISA, Inria, Rennes) July 2016, Dolz J. (INSERM, Lille) June 2017 (Rapporteur), Ferrante E. (Université Paris-Saclay, Centrale Supelec) Mai 2016, Bernhardt S. (IRCAD, Université de Strasbourg) Février 2016 (Rapporteur), Rafii-Tari H. (Imperial College of London) Decembre 2015 (Rapporteur), Charrière K. (Telecom Bretagne) Novembre 2015 (Rapporteur), Jaberzadeh A. (Université de Strasbourg) Février 2015 (Rapporteur), Daga P. (University College of London, Great Britain) Avril 2014, Shakir D. (Technische Universitat Munchen, Germany) Mars 2014, Banihachemi JJ. (Université de Grenoble) Octobre 2013, Sanches R. (Université de Montpellier) Aout 2013, Wolf R. (Université de Grenoble) Juin 2013, Caire F. (Université de Bordeaux) Décembre 2012, Bigdelou A. (Technische Universitat Munchen, Germany) November 2012, Zhang-Ge L. (Université d'Angers) November 2012, Malarne P. (Université Libre de Bruxelles) October 2011, Teodorescu R. (Université de Besançon) April 2011, Verscheure L. (Université de Lille) October 2010, Vigneron L. (Université Liège, Belgique) February 2009, Wannous (Université de Poitiers) December 2008, Traub J. (Technische Universitat Munchen, Germany) November 2008, Gorges S. (INRIA – Université de Nancy) May 2007, Voros S. (Université Pierre et Marie Curie) December 2006</p>

Habilitation defense Lamard V. (Université de Brest) 2021, Forestier G. (Université de Haute Alsace) November 2017, Malti A. (Université de Tiemcen, Algérie) September 2017 (Rapporteur), Vermandel M. (Université Lille 2) Septembre 2013, Essert C. (Université Louis Pasteur de Strasbourg) September 2011

Scientific societies

2014 - 2018	President of the International Society for Computer Aided Surgery (ISCAS)
2014 - 2018	Board member of the MICCAI Society
2004 - 2014	General secretary of the International Society for Computer Aided Surgery (ISCAS)
Memberships	ISCAS, MICCAI, IEEE, SSH, SPIE (senior member), CRITT Santé Bretagne

Publications

Original publications in peer-reviewed journals

- 2024
 1. Maier-Hein L, Reinke A, Godau P, Tizabi MD, Buettner F, Christodoulou E, et al. Metrics reloaded: recommendations for image analysis validation. *Nat Methods*. 2024;21(2):195-212.
 2. Reinke A, Tizabi MD, Baumgartner M, Eisenmann M, Heckmann-Notzel D, Kavur AE, et al. Understanding metric-related pitfalls in image analysis validation. *Nat Methods*. 2024;21(2):182-94.
 3. Giffard E, Jannin P, Baxter JSH. A preliminary exploration into top-down and bottom-up deep-learning approaches to localising neuro-interventional point targets in volumetric MRI. *Int J Comput Assist Radiol Surg*. 2024;19(2):283-96.

- 2023
 4. Huaulme A, Harada K, Nguyen QM, Park B, Hong S, Choi MK, et al. PEg TRAnSfer Workflow recognition challenge report: Do multimodal data improve recognition? *Comput Methods Programs Biomed*. 2023;236:107561.
 5. Tronchet A, Casy T, Vallee N, Common H, Thomazeau H, Jannin P, et al. Virtual reality simulation training improve diagnostic knee arthroscopy and meniscectomy skills: a prospective transfer validity study. *J Exp Orthop*. 2023;10(1):138.
 6. Nyangoh Timoh K, Huaulme A, Cleary K, Zaheer MA, Lavoue V, Donoho D, Jannin P. A systematic review of annotation for surgical process model analysis in minimally invasive surgery based on video. *Surg Endosc*. 2023;37(6):4298-314.
 7. Baxter JSH, Croci S, Delmas A, Bredoux L, Lefaucheur JP, Jannin P. Reference-free Bayesian model for pointing errors of typein neurosurgical planning. *Int J Comput Assist Radiol Surg*. 2023;18(7):1269-77.
 8. Galuret S, Vallee N, Tronchet A, Thomazeau H, Jannin P, Huaulme A. Gaze behavior is related to objective technical skills assessment during virtual reality simulator-based surgical training: a proof of concept. *Int J Comput Assist Radiol Surg*. 2023.
 9. Le Lous M, Beridot C, Baxter JSH, Huaulme A, Vasconcelos F, Stoyanov D, et al. Physical environment of the operating room during cesarean section: A systematic review. *Eur J Obstet Gynecol Reprod Biol*. 2023;288:1-6.
 10. Eckhoff JA, Rosman G, Altieri MS, Speidel S, Stoyanov D, Anvari M, et al. SAGES consensus recommendations on surgical video data use, structure, and exploration (for research in artificial intelligence, clinical quality improvement, and surgical education). *Surg Endosc*. 2023.
 11. Tanguy D, Rametti-Lacroux A, Bouzigues A, Saracino D, Le Ber I, Godefroy V, et al. Behavioural disinhibition in frontotemporal dementia investigated within an ecological framework. *Cortex*. 2023;160:152-66.
 12. Le Duff M, Michinov E, Bracq MS, Mukae N, Eto M, Descamps J, et al. Virtual reality environments to train soft skills in medical and nursing education: a technical feasibility study between France and Japan. *Int J Comput Assist Radiol Surg*. 2023;18(8):1355-62.
 13. Casy T, Tronchet A, Thomazeau H, Morandi X, Jannin P, Huaulme A. "Stand-up straight!": human pose estimation to evaluate postural skills during orthopedic surgery simulations. *Int J Comput Assist Radiol Surg*. 2023;18(2):279-88.
 14. Benmansour M, Malti A, Jannin P. Deep neural network architecture for automated soft surgical skills evaluation using objective structured assessment of technical skills criteria. *Int J Comput Assist Radiol Surg*. 2023;18(5):929-37.

- 2022
 15. Tanguy D, Batrancourt B, Estudillo-Romero A, Baxter JSH, Le Ber I, Bouzigues A, et al. An ecological approach to identify distinct neural correlates of disinhibition in frontotemporal dementia. *Neuroimage Clin*. 2022;35:103079.
 16. Lam K, Abramoff MD, Balibrea JM, Bishop SM, Brady RR, Callcut RA, et al. A Delphi consensus statement for digital surgery. *NPJ Digit Med*. 2022;5(1):100.

17. Maier-Hein L, Eisenmann M, Sarikaya D, Marz K, Collins T, Malpani A, et al (last co-author). Surgical data science - from concepts toward clinical translation. *Med Image Anal.* 2022;76:102306.
18. Huaulme A, Dardenne G, Labbe B, Gelin M, Chesneau C, Diverrez JM, et al. Surgical declarative knowledge learning: concept and acceptability study. *Comput Assist Surg (Abingdon).* 2022;27(1):74-83.
19. Baxter JSH, Jannin P. Bias in machine learning for computer-assisted surgery and medical image processing. *Comput Assist Surg (Abingdon).* 2022;27(1):1-3.
20. Estudillo-Romero A, Haegelen C, Jannin P, Baxter JSH. Voxel-based dikiometry: Combining convolutional neural networks with voxel-based analysis and its application in diffusion tensor imaging for Parkinson's disease. *Hum Brain Mapp.* 2022.
21. Baxter JSH, Jannin P. Combining simple interactivity and machine learning: a separable deep learning approach to subthalamic nucleus localization and segmentation in MRI for deep brain stimulation surgical planning. *J Med Imaging (Bellingham).* 2022;9(4):045001.
22. Collins JW, Marcus HJ, Ghazi A, Sridhar A, Hashimoto D, Hager G, et al. Ethical implications of AI in robotic surgical training: A Delphi consensus statement. *Eur Urol Focus.* 2022;8(2):613-22.
23. Guerin S, Huaulme A, Lavoue V, Jannin P, Timoh KN. Review of automated performance metrics to assess surgical technical skills in robot-assisted laparoscopy. *Surg Endosc.* 2022;36(2):853-70.

- 2021

24. Tronchot A, Berthelemy J, Thomazeau H, Huaulme A, Walbron P, Sirveaux F, Jannin P. Validation of virtual reality arthroscopy simulator relevance in characterising experienced surgeons. *Orthop Traumatol Surg Res.* 2021;107(8):103079.
25. Peralta M, Jannin P, Baxter JSH. Machine learning in deep brain stimulation: A systematic review. *Artif Intell Med.* 2021;122:102198
26. Huaulme A, Sarikaya D, Le Mut K, Despinoy F, Long Y, Dou Q, et al. Micro-surgical anastomose workflow recognition challenge report. *Comput Methods Programs Biomed.* 2021;212:106452.
27. Derathe A, Reche F, Jannin P, Moreau-Gaudry A, Gibaud B, Voros S. Explaining a model predicting quality of surgical practice: a first presentation to and review by clinical experts. *Int J Comput Assist Radiol Surg.* 2021;16(11):2009-19.
28. Peralta M, Jannin P, Haegelen C, Baxter JSH. Data imputation and compression for Parkinson's disease clinical questionnaires. *Artificial Intelligence in Medicine.* 2021;114.
29. Peralta M, Haegelen C, Jannin P, Baxter JSH. PassFlow: a multimodal workflow for predicting deep brain stimulation outcomes. *Int J Comput Assist Radiol Surg.* 2021;16(8):1361-70.
30. Martin T, Peralta M, Gilmore G, Sauleau P, Haegelen C, Jannin P, et al. Extending convolutional neural networks for localizing the subthalamic nucleus from micro-electrode recordings in Parkinson's disease. *Biomed Signal Proces.* 2021;67.
31. Martin T, Gilmore G, Haegelen C, Jannin P, Baxter JSH. Adapting the listening time for micro-electrode recordings in deep brain stimulation interventions. *Int J Comput Assist Radiol Surg.* 2021;16(8):1371-9.
32. Godefroy V, Tanguy D, Bouzigues A, Sezer I, Ferrand-Verdejo J, Azuar C, et al. Frontotemporal dementia subtypes based on behavioral inhibition deficits. *Alzh Dement-Dadm.* 2021;13(1).
33. Bracq MS, Michinov E, Le Duff M, Arnaldi B, Gouranton V, Jannin P. "Doctor, please": Educating Nurses to Speak Up With Interactive Digital Simulation Tablets. *Clin Simul Nurs.* 2021;54:97-104.
34. Le Lous M, Klein M, Tesson C, Berthelemy J, Lavoue V, Jannin P. Metrics used to evaluate obstetric ultrasound skills on simulators: A systematic review. *Eur J Obstet Gynecol Reprod Biol.* 2021;258:16-22.
35. Le Lous M, Despinoy F, Klein M, Fustec E, Lavoue V, Jannin P. Impact of Physician Expertise on Probe Trajectory During Obstetric Ultrasound: A Quantitative Approach for Skill Assessment. *Simul Healthc.* 2021;16(1):67-72.
36. Collins JW, Marcus HJ, Ghazi A, Sridhar A, Hashimoto D, Hager G, et al. Ethical implications of AI in robotic surgical training: A Delphi consensus statement. *Eur Urol Focus.* 2021.
37. Bracq MS, Michinov E, Le Duff M, Arnaldi B, Gouranton V, Jannin P. Training situational awareness for scrub nurses: Error recognition in a virtual operating room. *Nurse Educ Pract.* 2021;53:103056.
38. Baxter JSH, Bui QA, Maguet E, Croci S, Delmas A, Lefaucheur JP, et al. Automatic cortical target point localisation in MRI for transcranial magnetic stimulation via a multi-resolution convolutional neural network. *Int J Comput Assist Radiol Surg.* 2021;16(7):1077-87.

- 2020

39. Maier-Hein L, Reinke A, Kozubek M, Martel AL, Arbel T, Eisenmann M, et al. BIAS: Transparent reporting of biomedical image analysis challenges. *Med Image Anal.* 2020;66.
40. Bretonnier M, Michinov E, Le Pabic E, Henaux PL, Jannin P, Morandi X, et al. Impact of the complexity of surgical procedures and intraoperative interruptions on neurosurgical team workload. *Neurochirurgie.* 2020;66(4):203-11.
41. Huaulme A, Jannin P, Reche F, Faucheron JL, Moreau-Gaudry A, Voros S. Offline identification of surgical deviations in laparoscopic rectopexy. *Artificial Intelligence in Medicine.* 2020;104.
42. Nakazawa A, Harada K, Mitsuishi M, Jannin P. Real-time surgical needle detection using region-based convolutional neural networks. *Int J Comput Assist Radiol Surg.* 2020 Jan;15(1):41-47.
43. Lecuyer G, Ragot M, Martin N, Launay L, Jannin P. Assisted phase and step annotation for surgical videos. *International Journal of Computer Assisted Radiology and Surgery.* 2020;15(4):673-80.
44. Peralta M, Bui QA, Ackaouy A, Martin T, Gilmore G, Haegelen C, et al. SepaConvNet for Localizing the Subthalamic Nucleus Using One Second Micro-electrode Recordings. *Ieee Eng Med Bio.* 2020:888-93.
45. Peralta M, Baxter JSH, Khan AR, Haegelen C, Jannin P. Striatal shape alteration as a staging biomarker for Parkinson's Disease. *Neuroimage-Clin.* 2020;27.
46. Derathé A, Reche F, Moreau-Gaudry A, Jannin P, Gibaud B, Voros S. Predicting the quality of surgical exposure using spatial and procedural features from laparoscopic videos. *Int J Comput Assist Radiol Surg.* 2020 Jan;15(1):59-67.

- 2019

47. Le Lous M, Simon O, Lassel L, Lavoue V, Jannin P. Hybrid simulation for obstetrics training: A systematic review. *Eur J Obstet Gynecol Reprod Biol.* 2019 Dec 24;246:23-28
48. Ahrweiller K, Houvenaghel JF, Riou A, Drapier S, Sauleau P, Haegelen C, Jannin P, Vérin M, Palard X, Le Jeune F. Postural instability and gait disorders after subthalamic nucleus deep brain stimulation in Parkinson's disease: a PET study. *J Neurol.* 2019 Nov;266(11):2764-2771
49. Hénau PL, Jannin P, Riffaud L. Nontechnical Skills in Neurosurgery: A Systematic Review of the Literature. *World Neurosurg.* 2019 Oct;130:e726-e736.
50. Huaulmé A, Despinoy F, Perez SAH, Harada K, Mitsuishi M, Jannin P. Automatic annotation of surgical activities using virtual reality environments. *Int J Comput Assist Radiol Surg.* 2019 Oct;14(10):1663-1671
51. Henaux, P.L., et al., Relationships Between Expertise, Crew Familiarity and Surgical Workflow Disruptions: An Observational Study. *World J Surg.* 2019. **43**(2): p. 431-438.
52. Bracq MS, Michinov E, Arnaldi B, Caillaud B, Gibaud B, Gouranton V, Jannin P. Learning procedural skills with a virtual reality simulator: An acceptability study. *Nurse Educ Today.* 2019 Aug;79:153-160
53. Kobayashi S, Cho B, Huaulmé A, Tatsugami K, Honda H, Jannin P, Hashizume M, Eto M. Assessment of surgical skills by using surgical navigation in robot-assisted partial nephrectomy. *Int J Comput Assist Radiol Surg.* 2019 Aug;14(8):1449-1459
54. Duprez J, Houvenaghel JF, Dondaine T, Péron J, Haegelen C, Drapier S, Modolo J, Jannin P, Vérin M, Sauleau P. Subthalamic nucleus local field potentials recordings reveal subtle effects of promised reward during conflict resolution in Parkinson's disease. *Neuroimage.* 2019 Aug 15;197:232-242
55. Marie-Stéphanie Bracq; Estelle Michinov; Pierre **Jannin** Virtual Reality Simulation in Nontechnical Skills Training for Healthcare Professionals: A Systematic Review, *Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare.* 14(3):188–194, JUN 2019

- 2018

56. Holden, M.S., et al., Self-guided training for deep brain stimulation planning using objective assessment. *Int J Comput Assist Radiol Surg.* 2018.
57. Maier-Hein L, Eisenmann M, Reinke A, Onogur S, Stankovic M, Scholz P, Arbel T, Bogunovic H, Bradley AP, Carass A, Feldmann C, Frangi AF, Full PM, van Ginneken B, Hanbury A, Honauer K, Kozubek M, Landman BA, März K, Maier O, Maier-Hein K, Menze BH, Müller H, Neher PF, Niessen W, Rajpoot N, Sharp GC, Sirinukunwattana K, Speidel S, Stock C, Stoyanov D, Taha AA, van der Sommen F, Wang CW, Weber MA, Zheng G, Jannin P, Kopp-Schneider A. Why rankings of biomedical image analysis competitions should be interpreted with care, *Nature Communications* **9**, Article number: 5217 (2018)
58. Huaulme, A., Harada, K., Forestier, G., Mitsuishi, M., & Jannin, P. (2018). Sequential surgical signatures in micro-suturing task. *Int J Comput Assist Radiol Surg.* doi:10.1007/s11548-018-1775-x

59. Haegelen, C., Baumgarten, C., Houvenaghel, J. F., Zhao, Y., Peron, J., Drapier, S., Jannin, P., Morandi, X. (2018). Functional atlases for analysis of motor and neuropsychological outcomes after medial globus pallidus and subthalamic stimulation. *PLoS One*, 13(7), e0200262. doi:10.1371/journal.pone.0200262
60. Gibaud, B., Forestier, G., Feldmann, C., Ferrigno, G., Goncalves, P., Haidegger, T., . . . Jannin, P. (2018). Toward a standard ontology of surgical process models. *Int J Comput Assist Radiol Surg*. doi:10.1007/s11548-018-1824-5
61. Forestier, G., Petitjean, F., Senin, P., Despinoy, F., Huaulme, A., Fawaz, H. I., . . . Jannin, P. (2018). Surgical motion analysis using discriminative interpretable patterns. *Artif Intell Med*, 91, 3-11. doi:10.1016/j.artmed.2018.08.002
62. Forestier, G., Riffaud, L., Petitjean, F., Henaux, P. L., & Jannin, P. (2018). Surgical skills: Can learning curves be computed from recordings of surgical activities? *Int J Comput Assist Radiol Surg*, 13(5), 629-636. doi:10.1007/s11548-018-1713-y
63. Despinoy, F., Zemiti, N., Forestier, G., Sanchez, A., Jannin, P., & Poignet, P. (2018). Evaluation of contactless human-machine interface for robotic surgical training. *Int J Comput Assist Radiol Surg*, 13(1), 13-24. doi:10.1007/s11548-017-1666-6
64. Dergachyova, O., Zhao, Y., Haegelen, C., Jannin, P., & Essert, C. (2018). Automatic preoperative planning of DBS electrode placement using anatomo-clinical atlases and volume of tissue activated. *Int J Comput Assist Radiol Surg*, 13(7), 1117-1128. doi:10.1007/s11548-018-1724-8
65. Dergachyova, O., Morandi, X., & Jannin, P. (2018). Knowledge transfer for surgical activity prediction. *Int J Comput Assist Radiol Surg*, 13(9), 1409-1417. doi:10.1007/s11548-018-1768-9
66. Baumgarten, C., Haegelen, C., Zhao, Y., Sauleau, P., & Jannin, P. (2018). Data-Driven Prediction of the Therapeutic Window during Subthalamic Deep Brain Stimulation Surgery. *Stereotact Funct Neurosurg*, 96(3), 142-150. doi:10.1159/000488683

- 2017

67. Lena Maier-Hein, Swaroop S. Vedula, Stefanie Speidel, Nassir Navab, Ron Kikinis, Adrian Park, Matthias Eisenmann, Hubertus Feussner, Germain Forestier, Stamatia Giannarou, Makoto Hashizume, Darko Katic, Hannes Kenngott, Michael Kranzfelder, Anand Malpani, Keno März, Thomas Neumuth, Nicolas Padoy, Carla Pugh, Nicolai Schoch, Danail Stoyanov, Russell Taylor, Martin Wagner, Gregory D. Hager and Pierre **Jannin** Surgical data science for next generation interventions *Nature Biomedical Engineering*, Vol 1, September 2017, 691–696
68. G. Forestier, F. Petitjean, L. Riffaud, P. **Jannin** , Automatic matching of surgeries to predict surgeons next actions, *Artificial Intelligence in Medicine*, Elsevier, 2017. DOI : <https://doi.org/10.1016/j.artmed.2017.03.007>
69. A. Huaultmé, S. Voros, L. Riffaud, G. Forestier, A. Moreau-Gaudry, P. **Jannin** Distinguishing surgical behavior by sequential pattern discovery, *Journal of Biomedical Informatics*, Elsevier, 2017, 67, pp.34 - 41.
70. Pujol S, Cabeen R, Sébille SB, Yelnik J, François C, Fernandez Vidal S, Karachi C, Zhao Y, Cosgrove GR, **Jannin** P, Kikinis R, Bardinet E. In vivo Exploration of the Connectivity between the Subthalamic Nucleus and the Globus Pallidus in the Human Brain Using Multi-Fiber Tractography. *Front Neuroanat*. 2017 Jan 19;10:119
71. Ory, S., et al., Pre-frontal-insular-cerebellar modifications correlate with disgust feeling blunting after subthalamic stimulation: A positron emission tomography study in Parkinson's disease. *J Neuropsychol*, 2017. **11**(3): p. 378-395.
72. Bouget D., Allan M., Stoyanov D., **Jannin** P. Vision-based and marker-less surgical tool detection and tracking: a review of the literature, *Medical Image Analysis*, 2017 Jan;35:633-654
73. Frederic Monge, Dzhoshkun I. Shakir, Florence Le Jeune, Xavier Morandi, Nassir Navab, Pierre **Jannin**, Acquisition Models in Intraoperative Positron Surface Imaging, *Int J Comput Assist Radiol Surg*. 2017 Apr;12(4):691-703.

- 2016

74. Baumgarten C, Zhao Y, Sauleau P, Malrain C, **Jannin** P, Haegelen C., Image-guided preoperative prediction of pyramidal tract side effect in deep brain stimulation: proof of concept and application to the pyramidal tract side effect induced by pallidal stimulation. *J Med Imaging (Bellingham)*. 2016 Apr;3(2)

75. Baumgarten C, Zhao Y, Sauleau P, Malrain C, **Jannin P**, Haegelen C. , Improvement of Pyramidal Tract Side Effect Prediction Using a Data-Driven Method in Subthalamic Stimulation. *IEEE Trans Biomed Eng.* 2016 Dec 9
76. M. Uemura, **P. Jannin**, M. Yamashita, M. Tomikawa, M. Hashizume, Procedural surgical skill assessment in laparoscopic training environments *Int J Comput Assist Radiol Surg.* 2016 Apr;11(4):543-52
77. Dergachyova O, Bouget D, Hualmé A, Morandi X, **Jannin P.**, Automatic data-driven real-time segmentation and recognition of surgical workflow. *Int J Comput Assist Radiol Surg.* 2016 Jun;11(6):1081-9
78. Sauleau P, Drapier S, Duprez J, Houvenaghel JF, Dondaine T, Haegelen C, Drapier D, **Jannin P**, Robert G, Le Jeune F, Vérin M. Weight Gain following Pallidal Deep Brain Stimulation: A PET Study. *PLoS One.* 2016 Apr 12;11(4)
79. Despinoy F, Bouget D, Forestier G, Penet C, Zemiti N, Poignet P, **Jannin P.** Unsupervised Trajectory Segmentation for Surgical Gesture Recognition in Robotic Training. *IEEE Trans Biomed Eng.* 2016 Jun;63(6):1280-91
80. Houvenaghel JF, Le Jeune F, Dondaine T, Esquevin A, Robert GH, Péron J, Haegelen C, Drapier S, **Jannin P**, Lozachmeur C, Argaud S, Duprez J, Drapier D, Vérin M, Sauleau P. Reduced Verbal Fluency following Subthalamic Deep Brain Stimulation: A Frontal-Related Cognitive Deficit? *PLoS One.* 2015 Oct 8;10(10):e0140083. doi: 10.1371/journal.pone.0140083. eCollection 2015. PMID: 26448131

- 2015

81. Bouget, D.; Benenson, R. ; Omran, M. ; Riffaud, L. ; Schiele, B. ; **Jannin, P.** Detecting surgical tools by modelling local appearance and global shape *IEEE Transactions on Medical Imaging* 2015 Dec;34(12):2603-17
82. Essert C, Fernandez-Vidal S, Capobianco A, Haegelen C, Karachi C, Bardinnet E, Marchal M, **Jannin P.** Statistical study of parameters for deep brain stimulation automatic preoperative planning of electrodes trajectories. *Int J Comput Assist Radiol Surg.* 2015 Dec;10(12):1973-83
83. Machno A, **Jannin P**, Dameron O, Korb W, Scheuermann G, Meixensberger J. Ontology for assessment studies of human-computer-interaction in surgery. *Artif Intell Med.* 2015 Feb;63(2):73-84
84. Morineau T, Riffaud L, Morandi X, Villain J, **Jannin P.** Work domain constraints for modelling surgical performance. *Int J Comput Assist Radiol Surg.* 2015 Oct;10(10):1589-97
85. Langner-Lemercier S, Drapier S, Naudet F, Le Clanche N, Houvenaghel JF, Sauleau P, **Jannin P**, Haegelen C, Le Jeune F, Vérin M. Preoperative brain metabolism and quality of life after subthalamic nucleus stimulation in Parkinson's disease. *J Neurol.* 2015 Apr;262(4):881-9
86. D'Albis T, Haegelen C, Essert C, Fernández-Vidal S, Lallys F, **Jannin P.** PyDBS: an automated image processing workflow for deep brain stimulation surgery. *Int J Comput Assist Radiol Surg.* 2015 Feb;10(2):117-28
87. Katic D, Julliard C, Wekerle A, Kenngott H, Müller-Stich B, Dillmann R, Speidel S, **Jannin P**, Gibaud B. Lapontospm - an Ontology for Laparoscopic Surgeries and Its Application to Surgical Phase Recognition. *Int J Computer Assisted Radiology and Surgery.* 2015. 2015 Sep;10(9):1427-34
88. Forestier G, Riffaud L, **Jannin P.** Automatic phase prediction from low-level surgical activities. *Int J Comput Assist Radiol Surg.* 2015 Jun;10(6):833-41

- 2014

89. Forestier G, Petitjean F, Riffaud L, **Jannin P.** Non-linear temporal scaling of surgical processes. *Artif Intell Med.* 2014 Nov;62(3):143-52
90. Yiming Xiao, **Pierre Jannin**, Tiziano D'Albis, Nicolas Guizard, Claire Haegelen, Lallys Florent, Marc Verin, D. Louis Collins, Investigation of morphometric variability of subthalamic nucleus, red nucleus and substantia nigra in advanced Parkinson's disease patients using automatic segmentation and PCA-based analysis, *Human Brain Mapping*, 2014 35(9):4330-44
91. Estelle Michinov, Eric Jamet, Virginie Dodeler, Claire Haegelen, **Pierre Jannin** Assessing Neurosurgical Non-Technical Skills: An exploratory study of a new behavioral marker system, *Journal of Evaluation in Clinical Practice*, 2014, 20(5): 582-588
92. L. Maier-Hein, A. Groch, A. Bartoli, S. Bodenstedt, G. Boissonnat, P.-L. Chang, N. T. Clancy, D. S. Elson, S. Haase, E. Heim, J. Hornegger, **P. Jannin**, H. Kenngott, T. Kilgus, B. Müller-Stich, D. Oladokun, S. Röhl, T. R. dos Santos, H.-P. Schlemmer, A. Seitel, S. Speidel, M. Wagner, and D. Stoyanov, Comparative Validation of Optical Techniques for Laparoscopic 3D Surface Reconstruction, *IEEE Transactions on Medical Imaging* 2015 Oct;33(10):1913-30

93. Florent Lalys, Claire Haegelen, **Pierre Jannin**, Analysis of electrode deformations in Deep Brain Stimulation surgery, *International Journal of Computer Assisted Radiology and Surgery*, 2014, Jan;9(1):107-17
94. Florent Lalys, **Pierre Jannin**, Surgical Process Modelling: a review, *International Journal of Computer Assisted Radiology and Surgery*, 2014 May;9(3):495-511
- 2013
95. Germain Forestier, Florent Lalys; Louis Collins; Jurgen Meixensberger; Shafik Wassef; Thomas Neumuth; Benoit Goulet; Laurent Riffaud; **Pierre Jannin**, Multi-site study of surgical practice in neurosurgery based on Surgical Process Models, *Journal of Biomedical Informatics*, 2013, Oct;46(5):822-9
96. J.C. Gentric, **P. Jannin**, B. Trelhu, L. Riffaud, H. Raoult, J.C. Ferré, J.Y. Gauvrit-Effects of low dose protocols in endovascular treatment for intracranial aneurysms: Development of Workflow Task Analysis during Cerebral Endovascular Procedures", *American Journal of Roentgenology*, 2013, Aug;201(2):W322-5
97. Marta Kersten-Oertel, **Pierre Jannin**, D. Louis Collins, The State of the Art of Visualization in Mixed Reality Image Guided Surgery, *Computerized Medical Imaging and Graphics* 2013 ; 37(2) :98-112
98. Jean Christophe Gentric, Brivael Trelhu, **Pierre Jannin**, Laurent Riffaud, Jean-Christophe Ferré, Jean-Yves Gauvrit, Development Of Workflow Task Analysis during Cerebral Diagnostic Angiographies; Time-Based Comparison of Junior and Senior Tasks. *Journal of Neuroradiology* , 2013, Dec;40(5):342-7
99. Lalys F, Bouget D, Riffaud L, **Jannin P**, Automatic knowledge-based recognition of low-level tasks in ophthalmological procedures., *Int J Comput Assist Radiol Surg.* (2013) 8: 39-49.
100. Haegelen C, Coupé P, Fonov V, Guizard N, **Jannin P**, Morandi X, Collins DL.. Automated segmentation of basal ganglia and deep brain structures in MRI of Parkinson's disease., *Int J Comput Assist Radiol Surg.* (2013) 8: 99-110
101. Morineau T, Morandi X, Le Moëllic N, **Jannin P**, A cognitive engineering framework for the specification of information requirements in medical imaging: application in image-guided neurosurgery. *Int J Comput Assist Radiol Surg.* 2013 Mar;8(2):291-300
102. Cristian A. Linte, Katherine P. Davenport, Kevin Cleary, Craig Peters, Kirby G. Vosburgh, Nassir Navab, Philip Eddie Edwards, **Pierre Jannin**, Terry M. Peters, David R. Holmes III, and Richard A. Robb, On mixed reality environments for minimally invasive therapy guidance: Systems architecture, successes and challenges in their implementation from laboratory to clinic, *Computerized Medical Imaging and Graphics* 2013 Mar;37(2):83-97
- 2012
103. Lalys F, Haegelen C, Mehri M, Drapier S, Vérin M, **Jannin P**. Anatomico-clinical atlases correlate clinical data and electrode contact coordinates: Application to subthalamic deep brain stimulation., *J Neurosci Methods.* 2012, 212(2):297-307
104. Lalys F, Riffaud L, Bouget D, **Jannin P**. A framework for the recognition of high-level surgical tasks from video images for cataract surgeries. *IEEE Trans Biomed Eng.* 2012, 59(4):966-76
105. Forestier G.; Lalys F. ; Riffaud L.; Trelhu B.; **Jannin P**. Classification of Surgical Processes using Dynamic Time Warping, *Journal of Biomedical Informatics*, 2012, 45, pp. 255-264.
106. Neumuth T, Loebe F, **Jannin P**. Similarity Metrics for Surgical Process Models. *Artificial Intelligence in Medicine*, 2012 Jan;54(1):15-27.
107. **Jannin P**. Validation in medical image processing: Methodological issues for proper quantification of uncertainties. *Current Medical Imaging Reviews*, 8(4), 2012 , pp. 322-330(9)
108. Kersten-Oertel M, **Jannin P**, Collins DL., DVV: A Taxonomy for Mixed Reality Visualization in Image Guided Surgery. *IEEE Trans Vis Comput Graph.* 2012 18 (2): 332–52.
109. Essert, C., Haegelen C., Lalys F., Abadie A. and **Jannin P**. Automatic computation of electrode trajectories for Deep Brain Stimulation: a hybrid symbolic and numerical approach. *Int J Comput Assist Radiol Surg.* (2012) 7: 517-532
- 2011
110. de Guibert C., Maumet C., **Jannin P**, Ferre J. C., Treguier C., Barillot C., Le Rumeur E., Allaire C., Biraben A. Abnormal functional lateralization and activity of language brain areas in typical specific language impairment (developmental dysphasia). *Brain.* 2011, 134(Pt10): 3044-58

111. Neumuth T., **Jannin P.**, Schlomberg J., Meixensberger J., Wiedemann P., Burgert O. Analysis of surgical intervention populations using generic Surgical Process Models, *Int Journ. Comput. Assisted Radiol and Surg.* 2011 Jan;6(1):59-71.
- 2010
112. Riffaud L., Neumuth T., Morandi X., Trantakis C., Meixensberger J., Burgert O., Trelhu B., **Jannin P.**, Recording of surgical processes: a study comparing senior and junior neurosurgeons during lumbar disc herniation surgery, *Neurosurgery*, 2010, 67(2):325-332.
113. Lalys F., Haegelen C., Ferre J.C., El-Ganaoui O., **Jannin P.**, Construction and assessment of a 3T MRI brain template, *Neuroimage*, 2010, 49(1):345-354.
114. de Guibert C., Maumet C., Ferre J.C., **Jannin P.**, Biraben A., Allaire C., Barillot C., Le Rumeur E., fMRI language mapping in children: A panel of language tasks using visual and auditory stimulation without reading or metalinguistic requirements, *NeuroImage*, 2010, 51(2):897-909.
115. Duhamel B., Ferre J. C., **Jannin P.**, Gauvrit J. Y., Verin M., Millet B., Drapier D., Chronic and treatment-resistant depression: A study using arterial spin labeling perfusion MRI at 3Tesla, *Psychiatry Res*, 2010, 182(2):111-6.
116. Grunert R., Korb W., **Jannin P.**, Dengl M., Mockel H., Neumuth T., Strauss G., Trantakis C., and Meixensberger, J., Systematic user-based assessment of Navigated Control Spine, *Biomedizinische Technik. Biomedical engineering Biomed Tech*, 2010, (Berl). 55(6):351-359
- 2009
117. Paul P., Morandi X., **Jannin P.**, A Surface Registration Method for Quantification of Intraoperative Brain Deformations in Image-Guided Neurosurgery, *IEEE Trans on Information Technology in BioMedicine*, 2009, 13(6):976-983.
118. Morineau T., Morandi X., Le Moellic N., Diabira S., Riffaud L., Haegelen C., Henaux PL., **Jannin P.**, Decision Making During Preoperative Surgical Planning, *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 2009; 51: 67-77.
119. Neumuth T., **Jannin P.**, Strauss G., Meixensberger, Burgert O. Validation of Knowledge Acquisition for Surgical Process Models, *Journal of the American Medical Informatics Association*, 2009 Jan-Feb;16(1):72-80.
- 2008
120. Duchesne S., **Jannin P.** Proposing a manuscript peer-review checklist, *NeuroImage*, 2008, 39(4):1783-7.
- 2007
121. **Jannin P.**, Morandi X. Surgical models for computer-assisted neurosurgery, *NeuroImage* 2007, 3(37) :783-791.
- 2006
122. **Jannin P.**, Grova C., Maurer C.. Model for designing and reporting reference based validation procedures in medical image processing. *Int Journ. Comput. Assisted Radiol and Surg.* 2006 1(2):1001-115
- 2005
123. Haegelen C, Verin M, Broche BA, Prigent F, **Jannin P.**, Gibaud B, Morandi X. Does subthalamic nucleus stimulation affect the frontal limbic areas? A single-photon emission computed tomography study using a manual anatomical segmentation method. *Surg Radiol Anat.* 2005 Sep 14;1-6
124. Paul P, Fleig O and **Jannin P.** Augmented Virtuality based on Stereoscopic Reconstruction in Multimodal Image-Guided Neurosurgery: Methods and Performance Evaluation, *IEEE Transactions on Medical Imaging*, July 2005, 24(11), pp 1500-1511.
125. Aubert-Broche B, **Jannin P.**, Biraben A, Bernard AM, Haegelen C, Prigent-Lejeune F, and Gibaud B. Evaluation of intra-scan intra-subject interhemispheric asymmetry detection methods in brain SPECT - application in epilepsy. *Journal of Nuclear Medicine*, 2005 Apr;46(4):707-713.
126. Grova C, **Jannin P.**, Buvat I, Benali H, Bansard JH, Biraben A, and Gibaud B. From anatomic

standardization analysis of perfusion SPECT data to perfusion pattern modelling: evidence of functional networks in healthy subjects and temporal lobe epilepsy patients. *Academic Radiology*, 2005 May;12(5):554-65.

· 2003

127. Grova C, **Jannin P**, Biraben A, Buvat I, Benali H, Bernard AM, Scarabin JM and Gibaud B. A methodology for generating normal and pathological brain perfusion spect images for evaluation of mri/spect fusion methods: application in epilepsy. *Phys. Med. Biol.*, 2003;48(24):4023-4043.
128. **Jannin P**, Raimbault M, Morandi X, Riffaud L and Gibaud B. Modeling Surgical Procedures for Multimodal Image-Guided Neurosurgery, *Journal of Computer Aided Surgery*, 2003;8(2):98-106.
129. Aubert-Broche B, Grova C, **Jannin P**, Buvat I, Benali H and Gibaud B. Detection of inter- hemispheric asymmetries of brain perfusion in SPECT, *Phys. Med. Biol.*, 2003;48(11):1505-1517.
130. Toulouse P, Agulhon C, Taussig D, Napuri S, Biraben A, **Jannin P**, Carsin M and Scarabin JM. Magnetoencephalographic studies of two cases of diffuse subcortical laminar heterotopia or so-called double cortex, *Neuroimage*, 2003;19(4):1251-9.

· 2002

131. **Jannin P**, Morandi X, Fleig OJ, Le Rumeur E, Toulouse P, Gibaud B and Scarabin JM. Integration of sulcal and functional information for multimodal neuronavigation, *Journal of Neurosurgery*, 2002;96:713-723.

· 2001

132. **Jannin P**, Seigneuret E, Morandi X, Fleig OJ, Riffaud L, Le Goualher G, Brassier G and Scarabin JM. Guidage sulcal en neuro-navigation dans la chirurgie des cavernomes supratentoriels, *Neurochirurgie*, 2001;46(6):534-540.
133. **Jannin P**, Grova C and Gibaud B. Fusion de données en imagerie médicale: une revue méthodologique basée sur le contexte clinique“, *ITBM-RBM Innovation et technologie en biologie et médecine*, 2001 ;22(4) :196-215.

· 2000

134. **Jannin P**, Fleig OJ, Seigneuret E, Grova C, Morandi X and Scarabin JM. A Data Fusion Environment for Multimodal and Multi-Informational Neuro-Navigation, *Journal of Computer Aided Surgery*, 2000;5(1):11-17.
135. Le Rumeur E, Allard M, Poiseau E and **Jannin P**. Role of the fMRI sensory stimulation type for the understanding of normal and lesional cortex connections for presurgical brain mapping, *Journal of Neurosurgery*, 2000;93:427-431.

· Before ...

136. **Jannin P**, et al. A Ray traced Texture Mapping for Enhanced Virtuality in Image Guided NeuroSurgery. *Health Care in the Information Age : Future Tools for Transforming Medicine*, Study in Health Technology and Informatics, Vol. 29, IOS Press, Amsterdam, Janv 1996, pp 553-563.
137. **Jannin P**, Prévost G, Le Noach R and Coatrieux JL. Conception d'architectures spécialisées pour des stations de travail interactives à base d'octrees en imagerie médicale, *Revue Innovation Technologique en Biologie et Médecine*, 1991;12(2):223-232.

· Editorials in international peer reviewed journals

138. Linte CA, Kersten-Oertel M, Yaniv Z, Xiao YM, Essert C, Jannin P, et al. Guest Editorial: Papers from the 12th workshop on Augmented Environments for Computer-Assisted Interventions. *Healthcare Technology Letters*. 2018;5(5):136-.
139. Descoteaux M, Maier-Hein L, Franz A, Jannin P, Collins LD, Duchesne S. Guest editorial for the IJCARS special issue on MICCAI 2017. *International Journal of Computer Assisted Radiology and Surgery*. 2018;13(9):1309-10.
140. Descoteaux M, Maier-Hein L, Franz A, Jannin P, Collins DL, Duchesne S. Special Issue on MICCAI 2017. *Medical Image Analysis*. 2018;48:259-.
141. Stoyanov D, Collins DL, Sakuma I, Abolmaesumi P, **Jannin P**. Information processing in computer-assisted interventions: 5th international conference, 2015. *Int J Comput Assist Radiol Surg*. 2015 Sep;9(5):755-7

142. Barratt D, **Jannin P**, Fichtinger G, Cotin S. Information processing in computer-assisted interventions: 4th international conference, 2014. *Int J Comput Assist Radiol Surg*. 2014 Sep;9(5):755-7 Fourth International Conference, IPCAI 2013, Heidelberg, Germany, June 26, 2013, Proceedings Series: Lecture Notes in Computer Science, Vol. 7915, Subseries: Image Processing, Computer Vision, Pattern Recognition, and Graphics, Barratt, D.; Cotin, S.; Fichtinger, G.; **Jannin, P**; Navab, N. (Eds.) 2013, X, 111 p.
143. Lemke H., Vannier M., Cleary K , **Jannin P**. CARS 2012: Computer Assisted Radiology and Surgery - Proceedings of the 26th International Congress and Exhibition Pisa, Italy, June 27 - 30, 2012, Springer, Volume 7, Supplement 1 / juin 2012 Third International Conference, IPCAI 2012, Pisa, Italy, June 27, 2012, Proceedings Series: Lecture Notes in Computer Science, Vol. 7330, Subseries: Image Processing, Computer Vision, Pattern Recognition, and Graphics, Abolmaesumi, P.; Joskowicz, L.; Navab, N.; **Jannin, P**. (Eds.) 2012, 2012, XIII, 180 p.
144. **Jannin P**, Krupinski E, Warfield S. Validation in medical image processing. *IEEE Trans Med Imaging*. 2006 Nov;25(11):1405-9.
145. **Jannin P**, Cleary K, Joskowicz L. ISCAS at CARS 2006. *Comput Aided Surg*. 2006 May;11(3):107-8
146. **Jannin P**, Fitzpatrick JM, Hawkes DJ, Pennec X, Shahidi R and Vannier MW. Editorial: Validation of Medical Image Processing in Image-Guided Therapy, *IEEE Transactions on Medical Imaging*, 2002;21(11):1445-1449.

· *Book chapters*

147. Pierre Jannin, Automatisation en chirurgie, in Médecine et intelligence artificielle , Sous la direction de Bernard Nordlinger, Cédric Villani, Olivier de Fresnoye, Editions CNRS, 2022
148. Pierre **Jannin**, Thierry Morineau, **Chapter 8**. Cognitive Oriented Design and Assessment of Augmented Reality in Medicine, Book Mixed and Augmented Reality in Medicine 1st Edition, Editors Terry M. Peters, Cristian A. Linte, Ziv Yaniv, Jacqueline Williams CRC Press Published November 13, 2018
149. Marta Kersten-Oertel, Pierre **Jannin**, and D. Louis Collins « Augmented Reality for Image-Guided Surgery », *Fundamentals of Wearable Computers and Augmented Reality*, Second Edition / Chapter 20 July 29, 2015 CRC Press ISBN 9781482243505
150. **Jannin, P.** (2014). "S'orienter-t-on vers une Modélisation des Compétences Chirurgicales ?" *Réalités Industrielles des Annales des mines* (Novembre 2014): 51-56.
151. Scarabin JM, Mercier Ph, Delion M, Barillot C, **Jannin P**, Gibaud B, Berton E. (2012) "From Bourgerly's anatomy to multiparameter, 3D, digital imaging, individual for each patient. In 'Stereotaxy and epilepsy surgery' Jean-Marie Scarabin (Ed), published by John Libbey Eurotext Editions, 2012, pp. 41-90.
152. Korb W, **Jannin P.** (2010) « Bewertung der Mensch-Maschine-Interaktion » in "Computerassistierte Chirurgie" Elsevier (2010)
153. Bidaut L., **Jannin P.** (2008) "Biomedical multimodality imaging for clinical and research applications: principles, techniques and validation" in Lemoigne Y and Caner A (Eds). "Molecular Imaging: Computer reconstruction and practice" Springer, Dordrecht (Netherlands), NATO Science for Peace and Security Series, p. 249-281
154. **Jannin P.**, Korb W.. (2008) "Assessment in Image Guided Interventions" in Peters TM and Cleary K (Eds). "Image-Guided Intervention Technology and Applications." Springer-Verlag Berlin Heidelberg: 2008. p. 531-549
155. **Jannin P**, Grova C and Gibaud B. (2001) Medical applications of NDT data fusion, in *Applications of NDT data fusion*, Edited by Gros X.E., Kluwer academic publishers, p. 227-267

· *Books sections from selective international peer-reviewed conferences*

· 2020

156. Baxter J, **Jannin P**. Topology-Aware Activation Layer for Neural Network Image Segmentation. *Medical Imaging 2020: Image-Guided Procedures, Robotic Interventions, and Modeling*; 2020. SPIE.
157. Baxter J, Maguet E, **Jannin P**. Localisation of the Subthalamic Nucleus in Mri Via Convolutional Neural Networks for Deep Brain Stimulation Planning. *Medical Imaging 2020: Image-Guided Procedures, Robotic Interventions, and Modeling*; 2020. SPIE.
158. Sarikaya D, **Jannin P**. Towards Generalizable Surgical Activity Recognition Using Spatial Temporal Graph Convolutional Networks. *CARS (Computer Assisted Radiology and Surgery)*; 2020; Munich.

· 2019

159. Nakawala H, De Momi E, Bianchi R, Catellani M, De Cobelli O, **Jannin P**, Ferrigno G, Fiorini P. Toward a Neural-Symbolic Framework for Automated Workflow Analysis in Surgery. 15th Mediterranean Conference on Medical and Biological Engineering and Computing, MEDICON 2019; 2019 2019-09-26; Coimbra, Portugal. Springer; p. 1551-8.

· 2018

160. Reinke, Annika, Eisenmann, Matthias, Onogur, Sinan, Stankovic, Marko, Scholz, Patrick, Full, Peter, Bogunović, Hrvoje, Landman, Bennett, Maier, Oskar, Menze, Bjoern, Sharp, Gregory, Sirinukunwattana, Korsuk, Speidel, Stefanie, Van der Sommen, Fons, Zheng, Guoyan, Müller, Henning, Kozubek, Michal, Arbel, Tal, Bradley, Andrew, **Jannin Pierre**, Maier-Hein, Lena. (2018). How to Exploit Weaknesses in Biomedical Challenge Design and Organization. 388-395. 10.1007/978-3-030-00937-3_45.

· 2016

161. Baumgarten C, Zhao Y, Sauleau P, Malrain C, **Jannin P**, Haegelen C., Image-guided preoperative prediction of pyramidal tract side effect in deep brain stimulation: proof of concept and application to the pyramidal tract side effect induced by pallidal stimulation. SPIE Med Imaging Conference (San Diego, US). Feb. 2016
Best paper award
162. Claude G, Gouranton V, Caillaud B, Gibaud B, Arnaldi B, **Jannin P**. Synthesis and Simulation of Surgical Process Models. 22nd Conference on Medicine Meets Virtual Reality (MMVR); 2016 April 7-9; Los Angeles, CA, USA. p. 63-70.
163. Monge F, Shakir DI, Navab N, Jannin P. Partition-Based Acquisition Model for Speed up Navigated Beta-Probe Surface Imaging. Medical Imaging 2016: Image-Guided Procedures, Robotic Interventions, and Modeling; 2016; Bellingham. Spie-Int Soc Optical Engineering.
164. Muller S, Despinoy F, Bratbak D, Tronvik E, Jannin P. Real-Time Phase Recognition in Novel Needle-Based Intervention: A Multi-Operator Feasibility Study. Proceedings of Medical Imaging 2017: Image-Guided Procedures, Robotic Interventions, and Modeling; 2017; Bellingham. Spie-Int Soc Optical Engineering.
165. Hamze, Noura & Voirin, Jimmy & Collet, Pierre & **Jannin**, Pierre & Haegelen, Claire & Essert, Caroline. (2016). Pareto Front vs. Weighted Sum for Automatic Trajectory Planning of Deep Brain Stimulation. Conference: International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI) LNCS 534-541. 10.1007/978-3-319-46720-7_62.
166. Dergachyova O, Bouget D, Huaultmé A, Morandi X, **Jannin P.**, Automatic data-driven real-time segmentation and recognition of surgical workflow. *IPCAI Conference, Int J Comput Assist Radiol Surg*. 2016
Best paper award

· 2015

167. Forestier G, Petitjean F, Riffaud L, **Jannin P**. Optimal Sub-Sequence Matching for the Automatic Prediction of Surgical Tasks. . AIME 2015 conference on Artificial Intelligence in Medicine; 2015 17-20 June 2015; Pavia (Italy). **Best paper award**
168. Beatriz Graciano Fouquier A, Bardinet E, Touvet F, Durrelman S, **Jannin P**, Yelnik J, Karachi C, Welter M, Fernandez Vidal S. Could Atlas-Based Preoperative Planning Simplify Electrophysiological Exploration During Deep Brain Stimulation Surgery ? Intertional conference of computer assisted radiology and surgery (CARS); 2015 June 2015; Barcelona Spain.
169. Essert C, Fernandez-Vidal S, Capobianco A, Haegelen C, Karachi C, Bardinet E, Marchal M, **Jannin P**. Statistical Study of Parameters for Deep Brain Stimulation Automatic Pre-Operative Planning of Electrodes Trajectories. International Conference on Information Processing in Computer-Assisted Interventions (IPCAI); 2015 June 2015; Barcelona, Spain.
170. Perez-Garcia F, Lehongre K, Bardinet E, **Jannin P**, Navarro V, Hasboun D, Vidal SF. Automatic Segmentation of Depth Electrodes Implanted in Epileptic Patients: A Modular Tool Adaptable to Multicentric Protocols. 31st International Epilepsy Congress; 2015 5-9 September; Istanbul, Turkey. p. 227-.

· 2014

- 171. Tiziano D'Albis, Claire Haegelen, Caroline Essert, Sara Fernandez-Vidal, Florent Lalys, Pierre **Jannin** PyDBS: An automated image-processing workflow for planning and postoperative assessment of deep brain stimulation, International Conference of Computer Assisted Radiology and Surgery (CARS), Fukuoka (Japan) June 2014 **Best paper award**
- 172. M. Uemura, P. **Jannin**, M. Yamashita, M. Tomikawa, M. Hashizume, Procedural surgical skill assessment in laparoscopic training environments International Conference of Computer Assisted Radiology and Surgery (CARS), Fukuoka (Japan) June 2014
- 173. David Bouget, Florent Lalys, Pierre **Jannin**, Fast surgery type classification from 2D videos using a hierarchical Bag-Of-Words, International Conference of Computer Assisted Radiology and Surgery (CARS), Fukuoka (Japan) June 2014
- 174. Fabien Despinoy , Alonso Sanchez , Pierre **Jannin**, and Philippe Poignet., Comparative assessment of a novel optical human-machine interface for laparoscopic telesurgery., International Conference of Information Processing in Computer Assisted Interventions (IPCAI), Fukuoka (Japan) June 2014
- 175. Alexandre Bilger, Eric Bardinnet, Sara Fernandez-Vidal, Christian Duriez, Pierre **Jannin**, Stephane Cotin (2014) Intra-operative Registration for Stereotactic Procedures driven by a combined Biomechanical Brain and CSF Model. In ISBMS-International Symposium on Biomedical Simulation. Strasbourg, France.
- 176. Alexandre Bilger, Eric Bardinnet, Sara Fernandez-Vidal, Christian Duriez, Pierre **Jannin**, Stephane Cotin (2014) Intra-operative Registration for Deep Brain Stimulation Procedures based on a Full Physics Head Model. In MICCAI 2014 Workshop on Deep Brain Stimulation Methodological Challenges-2nd edition. Boston, USA.
- 177. Olga Dergachyova, Yulong Zhao, Claire Haegelen, Pierre **Jannin**, Caroline Essert (2014) Automatic Pre-operative Planning of DBS Electrodes Placement using Anatomico-Clinical Atlases. In MICCAI 2014 Workshop on Deep Brain Stimulation Methodological Challenges-2nd edition. Boston, USA

· 2012

- 178. Linte CA, Davenport KP, Cleary K, Peters C, Vosburgh KG, Edwards P, **Jannin** P, Peters TM, Holmes Iii DR, Robb RA., Augmented environments for minimally invasive therapy: implementation barriers from technology to practice., Stud Health Technol Inform. 2012;173:263-9., MMVR 2012, Newport Beach (USA) February 2012
- 179. Bouget D, Lalys F, **Jannin** P, Surgical tools recognition and pupil segmentation for cataract surgical process modeling., Stud Health Technol Inform. 2012; 173:78-84., MMVR 2012, Newport Beach (USA) February 2012
- 180. C. Essert, M. Marchal, S. Fernandez-Vidal, T. D'Albis, E. Bardinnet, C. Haegelen, M.-L. Welter, J. Yelnik, P. **Jannin**. Automatic Parameters Optimization for Deep Brain Stimulation Trajectory Planning. Proceedings of MICCAI workshop DBSMC 2012, Nice, France, Oct. 2012.
- 181. Maroua Mehri; Florent Lalys; Camille Maumet; Claire Haegelen; Pierre **Jannin** Analysis of electrodes' placement and deformation in deep brain stimulation from medical images *SPIE medical imaging*, Feb 2012, San diego, CA, United States. pp. 8316-32

· 2011

- 124. Florent Lalys, Claire Haegelen, Alexandre Abadie, and Pierre **Jannin**, Correlating clinical scores with anatomical electrodes locations for assessing deep brain stimulation, Springer, Lecture Notes in Computer Science, 2nd International Conference on Information Processing in Computer-Assisted Interventions, IPCAI'2011, Berlin (D) June 2011
- 125. H. Yang, M.A. Audette, A. Enquobahrie, J. Finet, S. Barre, P. **Jannin**, M. Ewend The Application of textbook-based surgical ontologies to neurosurgery simulation requirements International Journal of Computer Assisted Radiology and Surgery, 2011, (CARS) 2011, Berlin, (D)
- 126. Florent Lalys, David Bouget, Pierre **Jannin**, An application-dependent framework for the recognition of high-level surgical tasks in the OR, Springer, Lecture Notes in Computer Science, MICCAI conference, Toronto (CAN) September 2011
- 127. Germain Forestier, Florent Lalys, Laurent Riffaud, Brivael Trelhu, and Pierre **Jannin** Assessment of surgical skills using Surgical Processes and Dynamic Time Warping, 2nd M2CAI workshop at MICCAI conference, Toronto (CAN) September 2011

· 2010

128. Lalys, Florent, Riffaud, Laurent, Morandi, Xavier, et **Jannin**, Pierre Surgical phases detection from microscope videos by combining SVM and HMM, LNCS, MICCAI workshop in Medical Computer Vision, MICCAI MCV'10, Beijing (China) September 2010
129. Lalys, Florent, Haegelen, Claire, Baillieul, M., Abadie, Alexandre, et **Jannin**, Pierre, Anatomico-clinical atlases in subthalamic Deep Brain Stimulation correlating clinical data and electrode contacts coordinates, 7th Annual World Congress for Brain Mapping and Image Guided Therapy, IBMISPS'2010
130. Lalys, Florent, Riffaud, Laurent, Morandi, Xavier, et **Jannin**, Pierre Automatic phases recognition in pituitary surgeries by microscope images classification, Springer, Lecture Notes in Computer Science, 1st International Conference on Information Processing in Computer-Assisted Interventions, IPCAI'2010, Geneva (CH) June 2010
131. P. **Jannin**, N. Le Moëllic, T. Morineau, X. Morandi, Assessment of medical imaging based on work domain analysis, CARS 2010: Computer Assisted Radiology and Surgery, Geneva (CH)
132. C. Essert, C. Haegelen, P. **Jannin**. Automatic Computation of Electrodes Trajectory for Deep Brain Stimulation. In proceedings of Medical Imaging and Augmented Reality (MIAR 2010), Beijing, China, Sept. 2010. LNCS 6326, p. 149-158. ISSN: 0302-9743, ISBN:978-3-642-15698-4, doi:10.1007/978-3-642-15699-1_16.

· 2009

133. Florent Lalys, Claire Haegelen, Alexandre Abadie, and Pierre **Jannin**, Post-operative assessment in Deep Brain Stimulation based on multimodal images: registration workflow and validation, Proc. SPIE Medical Imaging 7261, 72612M (2009), DOI:10.1117/12.810475, San Diego (USA) February 2009
134. N. Geißler, G. Strauss, P. **Jannin**, W. Korb, Effects of automation to the surgeons. , *WC 2009, IFMBE Proceedings*, vol. 25, no. XIII, O. Dössel and W. C. Schlegel, 2009 p. 954-957
135. Le Moëllic, N., Morineau, T., Morandi X., Diabira S., Riffaud L., Haegelen, C., Hénaux P.-L., **Jannin** P. (2009) Problem-solving during Pre-operative Surgical Planning. International Conference on Medical Image Computing and Computer Assisted Intervention. Workshop on modeling and monitoring of computer assisted interventions. MICCAI, London: 20-24 sept.
136. T. Neumuth, G. Strauss, J. Meixensberger, O. Burgert, P. **Jannin** Are live observations as accurate as video observations for Surgical Process Modeling? CARS 2009: Computer Assisted Radiology and Surgery, Proceedings Berlin (D)

· 2008

137. J. Traub, A. Ahmadi, N. Padoy, L. Wang, S.M. Heining, E. Euler, P. **Jannin**, N. Navab, Workflow Based Assessment of the Camera Augmented Mobile C-arm System International Workshop on Augmented Reality environments for Medical Imaging and Computer-aided Surgery (AMI-ARCS 2008), New York, NY, USA, September 2008
138. O. El Ganaoui, X. Morandi, S. Duchesne, P. **Jannin**. Preoperative Brain Shift: Case studies. *SPIE Medical Imaging 2008 – Visualization and image guided procedures*.
139. J. Ferré, B. Duhameau, P. **Jannin**, D. Drapier, B. Millet, J.-Y. Gauvrit, M. Carsin Dépression chronique et résistante : étude par IRM de perfusion par arterial spin labeling à 3T. *Journal of Neuroradiology* Volume 35, Issue 1 Pages 5-6
140. B. Duhameau, J.C. Ferre, B. Millet, P. **Jannin**, D. Drapier, Study of Chronic and Resistant Depression in RMN With Arterial Spin Labeling, 161TH ANNUAL MEETING of the AMERICAN PSYCHIATRIC ASSOCIATION, Washington, DC, May 3-8, 2008

· 2007

141. Neumuth T, Mudunuri R, **Jannin** P, Meixensberger J, Burgert O: *SWAN-Suite: The tool landscape for surgical workflow analysis*, in J. Troccaz, P. Merloz (Eds.): Computer Assisted Medical and Surgical Interventions (SURGETICA), 9782840235262, 2007, pp.199-204.

· 2006

142. Grunert R, Strauss G, Moeckel H, Hofer M, Poessneck A, Fickweiler U, Thalheim M, Schmiedel R, **Jannin P**, Schulz T, Oeken J, Dietz A, Korb W ElePhant - An anatomical Electronic Phantom as simulation-system for otologic surgery. Conf Proc IEEE Eng Med Biol Soc. 2006;1:4408-11.
143. Paul P, Quere A, Arnaud E, Morandi X, **Jannin P**. A surface registration approach for video-based analysis of intraoperative brain surface deformations, MICCAI, Workshop AMI-ARCS, October 6th, 2006, Copenhagen (D).
144. Neumuth T, Schumann S, Strauß, Gero, **Jannin**, Pierre, Meixensberger, Jürgen, Dietz, Andreas, Lemke, Heinz U., Burgert, Oliver: Visualization Options for Surgical Workflows, *International Journal of Computer Assisted Radiology and Surgery*, vol. 1, no. sup. 1, 2006, pp. 438-440 (CARS) 2006, Osaka, Japan
145. Burgert, Oliver, Neumuth, Thomas, Lempp, Frieder, Mudunuri, Raj, Meixensberger, Jürgen, Strauß, Gero, Dietz, Andreas, **Jannin**, Pierre, Lemke, Heinz U.: Linking Top-level Ontologies and Surgical Workflows, *International Journal of Computer Assisted Radiology and Surgery*, vol. 1, no. sup. 1, 2006, 437-438 (CARS) 2006, Osaka, Japan
146. W. Korb, R. Grunert, O. Burgert, A. Dietz, S. Jacobs, V. Falk, J. Meixensberger, G. Strauß, C. Trantakis, H. Lemke and P. **Jannin**, An Assesment Model of the Efficacy of Image Guided Therapy , *International Journal of Computer Assisted Radiology and Surgery*, vol. 1, no. sup. 1, 2006, pp. 515 (CARS) 2006, Osaka, Japan.
147. R. Grunert, M. Hofer, H. Möckel, M. Thalheim, G. Strauß, J. Meixensberger, T. Schulz, P. **Jannin**, A. Dietz and W. Korb, Accuracy of anatomical Rapid Prototyping Models for preoperative surgical planning, *International Journal of Computer Assisted Radiology and Surgery*, vol. 1, no. sup. 1, 2006, pp. 499-500 (CARS) 2006, Osaka, Japan
148. Neumuth T, Durstewitz N, Fischer M, Strauß G, Dietz A, Meixensberger J, **Jannin P**, Cleary K, Lemke HU, Burgert O, Structured Recording of Intraoperative Surgical Workflows". in S.C Horii, O.M.Ratib (Eds): *SPIE Medical Imaging 2006 – PACS and Imaging Informatics*, SPIE 2006

· 2005

149. J Cohen-Adad, P Paul, X Morandi, P **Jannin** Knowledge modeling in image-guided neurosurgery: application in understanding intraoperative brain shift, in S.C Horii, O.M.Ratib (Eds): *SPIE Medical Imaging 2005 – Visualization and image guided procedures*, SPIE 2005
150. Raimbault M, Rakotomalala R, Morandi X, and **Jannin P**. Mise en évidence d'invariants dans une population de cas chirurgicaux, Revue des Nouvelles Technologies de l'Information, Cloppet F, Petit JM, Vincent N (eds), 2005, Editions Cépaduès, Toulouse, France pp 339-344.
151. Raimbault M, Morandi X, and **Jannin P**, Towards models of surgical procedures: analyzing a database of neurosurgical cases, SPIE Medical Imaging 2005, Février 2005, San Diego USA [5748-13]
152. Paul P, Fleig O, Morandi X, and **Jannin P**, Virtualité augmentée en neurochirurgie guidée par l'image, Surgetica 2005, Janvier 2005, Chambéry, France.

· 2004

153. C. Grova, **P. Jannin**, I. Buvat, H. Benali, and B. Gibaud, Evaluation of registration of ictal SPECT/MRI data using statistical similarity methods," in *MICCAI 2004 - Part II*, vol. LNCS-3217, Lecture Notes in Computer Sciences, C. Barillot, D. R. Haynor, and P. Hellier, pages 687-695, Eds.: Springer-Verlag, 2004.
154. P. Paul, O. Fleig, S. Tranchant, and **P. Jannin**, Performance evaluation of a stereoscopic based 3D surface localiser for image-guided neurosurgery, in *MICCAI 2004 - Part II*, vol. LNCS-3217, Lecture Notes in Computer Sciences, C. Barillot, D. R. Haynor, and P. Hellier, Eds.: Springer-Verlag, 2004.
155. Raimbault M, **Jannin P**, Morandi X, Riffaud L and Gibaud B, Models of surgical procedures for multimodal image-guided neurosurgery, Stud Health Technol Inform. 2003;95:50-5. PMID: 14663962

· 2003

156. Grova C, **Jannin P**, Buvat I, Benali H, Bansard JY, Biraben A and Gibaud B. From anatomic standardization analysis of perfusion SPECT data to perfusion pattern modelling. In *MICCAI 2003, Montreal (Canada), Lecture Notes in Computer Science*, volume 2879, pages 328-335. Springer Verlag, 2003.

· 2002

157. **Jannin P**, Fitzpatrick JM, Hawkes DJ, Pennec X, Shahidi R and Vannier MW. White paper: Validation of Medical Image Processing in Image-guided Therapy. In *Computer Assisted Radiology and Surgery 2002*, Elsevier Science H.U. Lemke and al. Editors 2002.

158. Aubert-Broche B, Grova C, **Jannin P**, Buvat I, Benali H and Gibaud B. Detection of inter-hemispheric asymmetries of brain perfusion in SPECT, MICCAI 2002 Tokyo (Japan), Lecture Notes in Computer Science, volume 2488-I, pages 500-507. Springer 2002.
159. Scarabin JM, Broche B, Grova C, Argaud C, Schaeffer M and **Jannin P**. Perfusion weighted MRI: A new tool for epilepsy surgery. In Computer Assisted Radiology and Surgery 2002, Elsevier Science H.U. Lemke and al. Editors 2002.
160. Grova C, **Jannin P**, Biraben A, Buvat I, Benali H, Bernard AM, Scarabin JM and Gibaud B. Validation of MRI/SPECT similarity-based registration methods using realistic simulations of normal and pathological SPECT data. In Computer Assisted Radiology and Surgery 2002, Elsevier Science H.U. Lemke and al. Editors 2002.
161. **Jannin P**, Raimbault M, Fleig OJ, Morandi X, Scarabin JM and Gibaud B. Neuronavigation multi-modalité. In J. Troccaz and P. Mermoz, editors, *Surgetica, Grenoble*, pages 174-180, 2002.
162. Raimbault M, **Jannin P**, Morandi X, Riffaud L and Gibaud B. Modèles de procédures chirurgicales pour la neurochirurgie guidée par l'image. In J. Troccaz and P. Mermoz, editors, *Surgetica, Grenoble*, pages 217-223, 2002.

· 2001

163. **Jannin P**, Raimbault M, Morandi X and Gibaud B. Modeling Surgical Procedures for Multimodal Image-Guided Neurosurgery, MICCAI 2001 Utrecht The Netherlands, W Niessen and M Viergever (Eds), Lecture Notes in Computer Science, 2208, pp 565-572.
164. Grova C, Biraben A, Scarabin JM, **Jannin P**, Buvat I, Benali H and Gibaud B. A methodology to validate MRI / SPECT registration methods using realistic simulated SPECT data. MICCAI 2001 Utrecht The Netherlands , W Niessen and M Viergever (Eds), Lecture Notes in Computer Science, 2208, pp 275-282.
165. **Jannin P**, Raimbault M, Morandi X, Seigneuret E and Gibaud B. Design of a neurosurgical gestures model for multimodal image guided surgery", Computer Assisted Radiology and Surgery 2001 Elsevier Science H.U. Lemke and al. Editors, pp 102-107.
166. Fleig OJ, Devernay F, Scarabin JM and **Jannin P**. Stereoscopic reconstruction of the surgical field in neurosurgery". Computer Assisted Radiology and Surgery, 2001 Elsevier Science H.U. Lemke and al. Editors, pp 259-264.

· 2000

167. **Jannin P**, Fleig OJ, Seigneuret E, Morandi X, Raimbault M and Scarabin JM. Multimodal and Multi-Informational Neuro-Navigation , Computer Assisted Radiology and Surgery 2000 (San Fransisco/USA) , H.U. Lemke and al. Editors, pp 167-172.

· 1999

168. **Jannin P**, Grova C, Schwartz D, Barillot C and Gibaud B. Visual qualitative comparison between functional neuro-imaging (MEG, fMRI, SPECT), Computer Assisted Radiology and Surgery 1999, H.U. Lemke and al. Editors pp 238-243.
169. Scarabin JM, Croci S, **Jannin P**, Romeas R, Maurincomme E, Behague M and Carsin M. A new concept of stereotactic room with multimodal imaging, Computer Assisted Radiology and Surgery 1999, H.U. Lemke and al. Editors pp 841-845.

· 1997

170. **Jannin P**, Bouliou A *et al.* Visual matching between real and virtual image guided neurosurgery , SPIE Medical Imaging. 1997, Vol 3031, p518-526.
171. Scarabin JM, **Jannin P**, Schwartz D and Morandi X. MEG and 3D Navigation in Image Guided Neurosurgery », Computer Assisted Radiology and Surgery 1997, H.U. Lemke and al. Editors, pp. 767-771.

· Before

172. **Jannin P**, Scarabin JM, Rolland Y and Schwartz D, A real 3D approach for the simulation of neuro-surgical stereotactic act, SPIE Medical Imaging VIII : Image Capture, Formatting, and Display, Yongmin Kim, Editor, Vol. 2164, 1994, pp 155-166.

173. **Jannin P**, Mével G, Gandon Y and Cordonnier E. Design of user interface in medical imaging : lessons of a 3D application definition, Medical Imaging VI : Image Capture, Formatting, and Display, Yongmin Kim, Editor, Newport Beach, Californie, 1992 Proc. SPIE, Vol. 1653, p 410-421.
174. **Jannin P**, Gibaud B, Barillot C, Scarabin JM and Bouliou A. Octree encoding with volume and surface information in medical imaging, 9ème Conférence annuelle de l'"Engineering in Medecine and Biology Society" Boston, 1987.

· *Other national conference publications*

175. Gibaud B, Penet C, **Jannin P**. OntoSPM: a core ontology of surgical procedure models. *Surgetica* 2014. Chambéry (France)
176. Garraud C, Gibaud B, Penet C, Cazuguel G, Dardenne G, **Jannin P**. An ontology-based software for the analysis of surgical process model. *Surgetica* 2014. Chambéry (France)
177. Germain Forestier; Florent Lalys; Laurent Riffaud; Brivael Trelhu; Pierre **Jannin**, Clustering de séquences d'activités pour l'étude de procédures neurochirurgicales *12e Conférence Internationale Francophone sur l'Extraction et la Gestion des Connaissances*, Feb 2012, Bordeaux, France. pp. 489-494
178. Florent Lalys, Claire Haegelen, Maroua Mehri, Pierre **Jannin**, Anatomico-Clinical Atlases in SubThalamic Deep Brain Stimulation: correlating clinical data and electrode contacts coordinates, *Troisième réunion annuelle de l'ITMO Technologies pour la Santé*, 2011 October 3-4, Tours
179. Florent Lalys, Laurent Riffaud, David Bouget, Pierre **Jannin**, Recognition of high-level surgical tasks in the OR, *Troisième réunion annuelle de l'ITMO Technologies pour la Santé*, 2011 October 3-4, Tours
180. Claire Haegelen, Florent Lalys, Pierrick Coupé, Vladimir Fonov, D. Louis Collins, Pierre **Jannin**, Segmentation of deep brain structures on MRI of patients with Parkinson's disease, *Troisième réunion annuelle de l'ITMO Technologies pour la Santé*, 2011 October 3-4, Tours
181. Florent Lalys, Laurent Riffaud, Xavier Morandi, Pierre **Jannin** Analyse de vidéos de microscopes chirurgicaux pour la reconnaissance automatique d'étapes en combinant SVM et HMM, *ORASIS* 2011
182. Haegelen, Claire, Lalys, Florent, **Jannin**, Pierre, Abadie, Alexandre, Collins, D. Louis, Brassier, Gilles, et Morandi, Xavier Validation de la Segmentation des Ganglions de la Base sur un Template IRM 3 Tesla, *Société de Neurochirurgie de Langue Française, SNCLF*, 2010
183. Morineau, T., Le Moëllic N, Morandi, X., **Jannin P**. L'imagerie médicale en neurochirurgie : du réalisme scientifique au réalisme écologique. In F. Douguet, T. Fillaut & F.-X. Schweyer (Eds). *La santé par et à travers l'image*. Rennes : Presses de l'EHESP. 2009
184. Moëllic N, Morandi, X., **Jannin**, & Morineau, T. L'effet intermédiaire dans l'expertise médicale et la formation de chunks: une interprétation écologique. *Journées EPIQUE*, Nice, sept 2009.
185. Brivael Trelhu, Florent Lalys, Laurent Riffaud, Xavier Morandi, **Pierre Jannin**: Analyse de données pour la construction de modèles de procédures neurochirurgicales. *EGC 2009*: 427-432
186. Morineau T, Le Moëllic N, Morandi X, **Jannin P**. La capacité de l'imagerie médicale en neurochirurgie à rendre compte des contraintes du domaine de travail. *Journée "Images et acteurs du champ de la santé"*, UBO, Brest : 4 avril 2008.
187. J-C Ferré, B Godey, P **Jannin**, M Carsin, B Carsin-Nicol, E Le Rumeur Activation du cortex auditif primaire par IRMf silencieuse, *Journées Françaises de Radiologie Paris* 2004
188. Scarabin JM, Croci S, **Jannin P**, Romeas R, Maurincomme E, Behague M and Carsin M. A new concept of stereotactic room with multimodal imaging. In XIIth Meeting of the World Society of Stereotactic and Functional Neurosurgery, Lyon, 1997.
189. Grova C, **Jannin P**, Le Rumeur E and Morandi X. Fusion de données orientée vers la comparaison MEG/IRMf : une approche qualitative. In Réunion Scientifique inaugurale de la Société d'anatomie fonctionnelle cérébrale (SAFC), ENST, Paris, 1999.
190. Grova C, **Jannin P**, Le Rumeur E, Morandi X and Gibaud B. Comparaison qualitative de données anatomo-fonctionnelles (MEG/IRMf) pour la réalisation d'une cartographie anatomo-fonctionnelle. In 10ième Forum du jeune chercheur en Génie Biologique et Médical, Tours, 2000.
191. Grova C, **Jannin P**, Biraben A and Scarabin JM. Fusion de données anatomo-fonctionnelles pour l'aide au diagnostic des épilepsies pharmaco-résistantes: problème de la validation. In *Journées Françaises de l'épilepsie, Epilepsies*, 12, pages 256-257, 2000.
192. Grova C, **Jannin P**, Biraben A and Scarabin JM. Fusion de données anatomo-fonctionnelles pour l'aide au diagnostic des épilepsies pharmaco-résistantes: problème de la validation. In Réunion de la Société Française de Biophysique et de Médecine Nucléaire (SFBMN), 2000.
193. Grova C, **Jannin P**, Biraben A, Scarabin JM, Benali H and Gibaud B. Generation of realistic models of ictal SPECT using Monte-Carlo simulations. In *Human Brain Mapping, Neuroimage*, 13 (6), page S137, 2001.

194. Grova C, **Jannin P**, Biraben A, Scarabin JM, Buvat I, Benali H and Gibaud B. Méthodologie de validation de méthodes de recalage TEMP / IRM à l'aide de simulations réalistes de données TEMP. In 11ième Forum Des Jeunes Chercheurs En Génie Biologique et Médical, Compiègne, 2001.
195. Grova C, **Jannin P**, Scarabin JM and Gibaud B. Multimodal data fusion: state of the art, issues and perspectives. Application: SPECT/MRI data fusion in epilepsy. In Neurophysiologie Clinique / Clinical Neurophysiology, 32 (2), page 9, 2001.
196. Broche B, Grova C, **Jannin P**, Buvat I, Benali H and Gibaud B. Détection d'asymétries inter-hémisphériques sur la perfusion cérébrale en TEMP. In Réunion annuelle de la Société d'Anatomie Fonctionnelle Cérébrale, Paris, 2002.
197. **Jannin P**, Fleig OJ, Morandi X, Riffaud L, Raimbault M, Scarabin JM, and Gibaud B. Neuronavigation multi-modalité. In Réunion annuelle de la Société d'Anatomie Fonctionnelle Cérébrale, Paris, 2002.
198. Morandi X, Raimbault M, Riffaud L, Gibaud B, Seigneuret E and **Jannin P** Modélisation de procédures chirurgicales pour la neurochirurgie guidée par l'image. In Société de Neurochirurgie de Langue Française, Paris, 2002.
199. Le Rumeur E, Taussig D, Morandi X, Trebon P, Riffaud L, Seigneuret E, **Jannin P**, Allard M. Cartographie et latéralité des aires corticales du langage : étude comparative par IRM fonctionnelle chez des volontaires sains et des patients porteurs de lésion périsylvienne et/ou d'épilepsie chronique partielle pharmaco-résistante. 10^{ème} congrès du Groupe de Recherche sur les Applications du Magnétisme en Médecine; Angers, Février 2003

• **Technological transfert and industrial collaboration**

- *Software protected at APP*
 - Five (2019)
 - S3PM (2019)
 - OR 3D Models (2019)
 - MedPhysioDBS Note (2019)
 - TOSCANA (2018)
 - AdCAS (2016)
 - Ref-MedAtlas (2015)
 - Park-MedAtlas (2019, 2016, 2014) IDDN.FR.001.440011.000.D.P.2014.000.31230
 - pyDBS (2019, 2015, 2013) IDDN.FR.001.490012.000.S.P.2013.000.31230
 - ProcSide (Surgical Process Modeling Acquisition software): 2012
 - Vignes (image guided neurosurgery): 2008
 - SIM3D (3D visualization), SIMMORPHO (segmentation), SIMAP (registration and visualization of both pre and intra operative images), SIMIV (display and interaction in medical imaging) : 1997,1998
- *Patents*
 - METHOD FOR CONVERTING A VIRTUAL SURGICAL PROCESS - Automatic annotation of surgical activities using virtual reality environments (ASURA) WIPO Patent Application WO/2020/239961 (2020)
 - Proficiency Assessment System and Method for Deep Brain Stimulation 17306370.2 - 1666 (2017)
 - Procédé de simulation de stimulation cérébrale, dispositif et programme d'ordinateur correspondant 1000254773 (2014)
 - Système de Simulation, dispositifs, méthodes et programmes correspondants. 1000268342 (2014)
- *Grants*

Industrial collaboration and grants :

- Stryker : 2019
- Intuitive: 2019
- Carl Zeiss : 4 3-year PhD fundings: 1998, 2001, 2009, 2012
- Medtronic SNT : 1 Ph D funding in 2003
- Adicor Rennes : 1 M Sc funding

International grants :

- IMPACT (Japan) (2017-2019)
- COMET (Austria) (2022-2025)

Public grants :

- ANR PRCI « iSafeRS » (2024-2028)
- AIR DemoES PIA4 (2022-2025)
- National “Grand défis du numérique” CONDOR (2016-2019)
- National “Investissement d’Avenir” IRT B-COM (2013-2016)
- SPARS, S3PM, SunSET, S3PM-Int: National “Investissement d’Avenir” LabEX CominLabs on Surgical Process Modeling (2013-2016) and non technical surgical skills training (2016-2019)
- National ANR “Projet blanc” on Planning for Deep Brain Stimulation (2011-2014)
- ODL INRIA for software development in Image Guided Neurosurgery (2008-2010)
- Projet de Recherche d’Intérêt Régional « PlogICI » (2004-2006)
- RNTS « Plamaivic » (2002-2004) : Validation on medical image processing

Fundation Grants:

- DBS-COMP (2017-2020) Fondation pour la Recherche Médicale
- AFTCYN (2019-2020) INCR
- pyDBS2 (2015-2016) INCR
- M-DBS (2016-2020) INCR

- **Scientific animation**

- *Invited lectures*

- 2024

1. « Conscience de la Situation Automatisée pour Augmenter l'Interaction Humain / Machine en Chirurgie », Plenary Keynote Speaker, IHM national Conference, Paris, 03/04/2024

- 2023

2. « Surgical Data Science for Decision Making Support and Knowledge Discovery in Deep Brain Stimulation » Hamlyn 2023 Winter School on Surgical Imaging and Vision - December 4 2023, at Imperial College London, GB
3. « Automation of Surgical Decisions and Actions ? Or Useful and Intelligent Collaboration between Human and Robot » Plenary Keynote Speaker, CRAS international Conference, Paris, 12/09/2023
4. « Surgical Skill Analysis with Surgical Data Science » Summer School of Surgical Robotics, Montpellier, 05/09/2023
5. « Surgical Workflow Analysis: a bridge between model and data driven AI », Invited Talk, CARS international Conference, Munich, 19/06/2023
6. « Surgical Skill Analysis with Surgical Data Science » Laboratoire commun APHP-Inria Daniel Bernoulli, Paris, 03/02/2023

- 2022

7. « Surgical Data Science for Decision Making Support and Knowledge Discovery in Deep Brain Stimulation », Montreal Neurological Institute, Montreal, Canada, November 2022
8. « Surgical Training With Surgical Data Science », MIGSA 2022: November 25th, 2022 MONTREAL IMAGE -GUIDED SURGERY AND APPLICATIONS WORKSHOP
9. « Le Bloc Opératoire du Futur sera Conscient de la Situation » National conference SCGP, 11/11/22, Rennes
10. « Surgical Skill Analysis with Surgical Data Science » Children's Hospital, Washington DC, USA, 03/10/2022
11. « Surgical Skill Analysis with Surgical Data Science » Concordia University, Perform Colloquium Series, Montreal, Canada, 20/09/2022
12. « Surgical Skill Analysis » Medical Imaging and Augmented Reality conference, online, Shanghai University, China, 15/07/2022

- 2021

13. « Responsible research in digital technology for health care » Plenary Keynote Speaker, MICCAI international Conference, Online, 28/09/2021
14. « Un bloc virtuel pour l'apprentissage de compétences non techniques » Congrès National APECO, Saint Malo, 30/11/2021
15. « Le Bloc Opératoire du Futur sera Conscient de la Situation » Congrès National SOFCOT, 11/11/21, Paris
16. « Automation in Surgery ? How AI can help Decisions and Actions » French/Sweden Research Day, Online, 15/11/21
17. « Automatisation des décisions et actions chirurgicales ? » Joint Working group on Artificial Intelligence between French Academy of Medicine and French Academy of Sciences, 12/10/21
18. « Surgical Skill Analysis and Modeling » Summer School of Surgical Robotics, Montpellier, 22/09/2021
19. « Surgical Skill Analysis » Technical University Dresden, CETI Institute, Germany, 07/09/2021
20. "Situation Awareness for adapted assistance in the Operating Room », Medical Augmented Reality Summer School, Balgrist Hospital Zurich, TUM Munich, 02/09/21

21. "Surgical Skill Analysis" Hamlyn Symposium on Medical Robotics on June 24 2021, at Imperial College London, GB
22. « AI and Robots in surgery » Symposium On Ai & Medicine: Promises And Limits, MIT, CSAIL, Académie Nationale de Médecine, Boston, 05/05/21
23. « Comment l'IA et la science des données chirurgicales pourraient être utiles en chirurgie » Semaine numérique - SNQC21, Québec, Canada, 13/04/2021
 - 2020
24. « Surgical Skill Analysis and Modeling » CAMP Laboratory, TUM, Munich, Germany, 15/12/2020
25. « Surgical Skill Analysis: Methods and Applications » CAMI days, Grenoble, France, 09/12/2020
26. "Surgical Data Science" Hamlyn 2020 Winter School on Surgical Imaging and Vision - December 1 2020, at Imperial College London, GB (on-line)
27. « Le Bloc Opératoire du Futur sera Conscient de la Situation », 11^e congrès de la Société Francophone de Chirurgie Oncologique » SFCCO, 11/06/20
28. "Situation Awareness for the Operating Room of the Future », University College of London, Workshop AI and surgical training, 10/01/20
 - 2019
29. « Educational VR in the Operating Room », Conférence annuelle de la Société Francophone d'Arthroscopie, Rennes (France) 11/12/19
30. « Operating Room of the Future », Digital Revolution, Tokyo Forum, Tokyo (Japan) 07/12/2019
31. « Operating Room of the Future: AI and Human Factors », Seminar at The University of Tokyo, Tokyo (Japan), 05/12/2019
32. « Etude et modélisation des compétences chirurgicales techniques et non techniques », Invité d'Honneur CAOS France, SOFCOT 2019, Palais des congrès, Paris, 13/11/2019
33. « Bloc Chirurgical du Futur : Réalité virtuelle, Robotique et Science des Données Chirurgicales » Journées ITMO Santé, Rennes-France 3/10/19
34. « Surgical Skill Analysis and Modeling » Summer School of Surgical Robotics, Montpellier, 24/09/2019
35. "Surgical Data Science » 23rd July 2019, University of Verona, Italy, GB
36. "Surgical Skill Analysis and Understanding » 9 July 2019, University of Verona, Italy
37. "What's next for surgeons » Congrès de la Société Francophone de Chirurgie Oncologique, 17 May 2019, Montpellier, FR
38. "Surgical Training: Challenges and Possible Solutions », SPIGC/CRAS Italian Congress of Young Surgeons, 21 March 2019, Genova, Italy
39. "Surgical Skill Analysis and Modeling » Feb 2019, 28/02/19 Stanford University USA
40. "Surgical Skill Analysis and Modeling » Feb 2019, Sorbonne University, Paris, FR
 - 2018
41. "Learning Procedural Skills" Hamlyn Symposium on Medical Robotics "Workshop on Autonomous Surgical Robots" on June 28 2018, at Imperial College London, GB
42. « Surgical Skill Analysis and Modeling: Cognition for Surgical Robotics » Summer School on Control for Surgical Robots (COSUR 18), Verona Italy, July 9-13 2018
43. « Validation and Evaluation Methodology for Image Guided Interventions» Seminar at The University of Tokyo, Tokyo (Japan), 23/04/2018
44. « Surgical Skill Analysis and Modeling» Seminar at The University of Tokyo, Tokyo (Japan), 16/04/2018
 - 2017

45. « Surgical Skill Analysis and Modeling » ORF Simulation Forum Speaker Series CSTAR University of Western Ontario, London, Ontario (CAN), 10/08/2017
46. « Surgical Data Science for Decision Making Support and Knowledge Discovery in Deep Brain Stimulation » BIRC Speaker Series Roberts Research Institute, London, Ontario (CAN), 11/08/2017
47. « Surgical Skill Analysis and Modeling » SickKids Hospital, Toronto, Ontario (CAN), 08/08/2017
48. «Surgical Workflow Analysis for Skill Analysis and Situation Awareness» The Hamlyn Symposium on Medical Robotics - Workshop on Surgical Workflow and Process Modeling - on June 28 2017, at Imperial College London, GB
49. « Surgical Analysis and Modeling » Seminar at Kyushu University, Fukuoka (Japan), 23/05/2017
50. « Surgical Data Science for Decision Making Support and Knowledge Discovery in Deep Brain Stimulation » ESIEE, Paris, 19/01/2017

- 2016

51. "Analyzing and Modeling Surgical Processes: Application for Simulation" Webinar from the International Society for Simulation in Healthcare" - on Nov 3rd 2016
52. "Surgical Process Modeling: Methods and Applications" MICCAI CARE Workshop (Computer Assisted Robotic Endoscopy) - on October 17th 2016 Athens, Greece
53. «Surgical Skill Analysis and Modeling» Asian Conference on Computer Aided Surgery ACCAS 2016 - on October 14th 2016, in Daejeon, Korea
54. «Computer Aided Surgery» IROS 2016 conference - on October 13th 2016, in Daejeon, Korea
55. «Model-Guided Neurosurgery: Methods and Applications for Deep Brain Stimulation» Hamlyn 2015 Winter School - on December 8 2015, at Imperial College London, GB
56. «Surgical Skills Modeling and Monitoring» Première conférence "Surgical Data Science" - on June 8 2016, Heidelberg, Allemagne
57. «Surgical Imaging and Data for Deep Brain Stimulation» The Hamlyn Symposium on Medical Robotics - Workshop on Surgical Imaging, Guidance and Augmented Reality - on June 28 2016, at Imperial College London, GB
58. "Surgical Process Modeling: Methods and Applications" ICCAS Digital Operating Room Summer School -on September 15th 2016 Leipzig, Germany
59. "Surgical Data Science and DPM for Decision Making Support and Knowledge Discovery in Deep Brain Stimulation" ICCAS Digital Operating Room Summer School" - on September 16th 2016 Leipzig, Germany
60. «Surgical Skills Modeling and Monitoring» ICCAS Summer School on June 8 2016, Heidelberg, Allemagne
61. « Training of Surgical Procedural Knowledge » Seminar at Kyushu University, Fukuoka (Japan), 18/05/2016
62. «Surgical Process Modeling: Methods and Applications» January 14 2016, UFR27 : Mathématiques et Informatique Université Paris 1 Panthéon Sorbonne, Paris, France

- 2015

63. «Model-Guided Neurosurgery: Methods and Applications for Deep Brain Simulation» Hamlyn 2015 Winter School on Surgical Imaging and Vision - December 8 2015, at Imperial College London, GB
64. «Surgical Skills Modeling and Monitoring» 7th Summer School on SURGICAL ROBOTICS - september 8 2015, Montpellier, FRANCE
65. «Model-Guided Neurosurgery: Methods and Applications for Deep Brain Simulation» 3rd Biomedical Image Analysis Summer School : Modalities, Methodologies & Clinical Research - Paris, July 6-10, 2015, FRANCE
66. « Model Guided Surgery » International Joint Conference on Medical Innovation, 4th International Workshop of HALIDAT-GC, 2nd International Symposium of WaFLES, Chiba University, Chiba (Japan), 06/03/2015
67. « Models for Surgical Assistance and Evaluation: Applications in Neurosurgery » Seminar at Université de Montpellier 2, LIRRM, Montpellier (France), 18/03/2015

- 2014

68. «Modélisation des Processus Chirurgicaux: *Surgical Process Modelling*» GDR STIC-Santé, GT «Modélisation et Simulation, Paris (F) 05/06/2014
69. « Surgical Skill Models for Computer Assisted Surgery » SINTEF and Dept. of Medical Technology, NTNU (Université Technologique de Trondheim), Trondheim (N), 21/05/2014
70. « Images et modèles pour assister la préparation et l'évaluation de la stimulation cérébrale profonde : le projet ACouStiC » TECHNOFERENCE # 8 E-Santé, Pole de compétitivité Images et Réseaux, Laval (F) 27/02/2014

- 2013

71. « Surgical Skill Models for Computer Assisted Surgery » Hamlyn Distinguished Lecture Series, The Hamlyn Centre, Imperial College London (UK), 26/11/2013
72. « Surgical Skill Models in Computer Assisted Surgery » MITI, Klinikum rechts der Isar Technische Universität München, Munich (Germany), 20/11/2013
73. « Models for Surgical Assistance and Evaluation » IRCAD, Strasbourg (France), 08/11/2013
74. « Modélisation des Compétences Chirurgicales » CGEIET, Ministère de l'industrie, Paris (France), 09/10/2013
75. « Surgical Process Modeling for Intelligent CAI: Methods and Applications » Invited talk at The 6th International Workshop on Medical Imaging and Augmented Reality, MIAR 2013, Nagoya, Japan September 22 2013
76. « Introduction to Workflow Modeling » International Conference of Computer Assisted Radiology and Surgery, Heidelberg (Allemagne), 27/06/2013
77. « Models for Surgical Assistance and Evaluation: Applications in Neurosurgery » Seminar at Kyushu University, Fukuoka (Japon), 05/06/2013
78. “Surgical Process Modeling” Conference Medicine Meets Virtual Reality, Newport Beach (USA), February 2013
79. “Surgical Process Modeling: Methods And Applications “ Scuola Di Dottorato In Scienze Della Vita E Della Salute, Dottorato In Tecnologia Applicate Alle Scienze Chirurgiche, University Of Torino, February 1st 2013

- 2012

80. “Surgical Process Modeling: Where are we ? Where do we go ?” ICCAS Leipzig Forum CAS, Leipzig, Germany, October 8 2012
81. “Knowledge Models for Deep Brain Stimulation” First International Symposium on Deep Brain Connectomics, Clermont-Ferrand, France, September 28-29 2012
82. “Model Based Computer Assisted Surgery: A New Paradigm for Surgical Decision Making Support” Invited Plenary Talk at "51st Annual Conference of Japanese Society for Medical and Biological Engineering, Fukuoka, Japan, May 12th, 2012
83. “Surgical Process Modeling: Methods and Applications” First International Workshop on Cognitive Robotics in Surgery, Heidelberg, Germany, January 26-28 2012

- 2011

84. “Assessment methodology in computer assisted surgical interventions “ Conference Medicine Meets Virtual Reality, Newport Beach (USA), February 2011
85. “Surgical Process Models” European Science Foundation Exploratory Workshop on IMAGE-GUIDED LAPAROSCOPIC THERAPIES, June 15th, Caceres (Spain)

86. "Management and Assessment of OR Systems Integration via Surgical Process Models » 1st Educational Course on Computer Surgery MICARS, October 20-21, 2011, Barcelona (Spain)
 - 2010
87. "Model Guided Neurosurgery" Joint Technical Lecture, IEEE EMB/RA/CS Societies Chapter of IEEE Kingston Section and School of Computing PerKLab at Queen's University, Kingston, Ontario, Canada, July 14, 2010
88. "Model Guided Neurosurgery" Thayer School of Engineering, Dartmouth College, Hanover, NH, USA, March, 5th, 2010
89. "An Introduction to Surgical Process Modeling" Montreal Neurological Institute, Montreal, Canada, February, 2nd, 2010
 - 2009
90. "Models in Deep Brain Stimulation" Montreal Neurological Institute, Montreal, Canada, November 2009
91. "Models in Computer Assisted Neurosurgery" 2nd INRIA-NIH Biomedical Computing Workshop, Paris
 - 2008
92. "Model Guided Therapy" Computer Assisted Radiology and Surgery. June 25, 2008, Barcelona (E)
 - 2007
93. "Model guided Surgery" and "Validation in medical image processing" Montreal Neurological Institute, Montreal, Canada, July 2007
94. "Modeling surgical procedures". Workshop on Surgical Workflows, Computer Assisted Radiology and Surgery. Saturday, June 30, 2007, Berlin (D)
 - 2006
95. "Models of surgical procedures in Computer Assisted NeuroSurgery", IST 2006, November 22, Helsinki
96. "From intuitive to scientific computer assisted neurosurgery". Computer Assisted Radiology and Surgery. Saturday, July 1, 2006, Osaka (J)
97. "Validation of Medical Image Processing". Joint Workshop on Intelligent Media Integration and Nagoya-MIC. Tuesday, July 4, 2006, Nagoya (J)
98. "Information Guided Neurosurgery: From Multimodal Images to Surgical Knowledge". Joint Workshop on Intelligent Media Integration and Nagoya-MIC. Tuesday, July 4, 2006, Nagoya (J)
99. "Models of surgical procedures in computer assisted neurosurgery". Annual Meeting of the International Brain Mapping and Intra operative Surgical Planning Society, Clermont Ferrand (F) Thursday, September 7, 2006
100. Processus neurochirurgical assisté par l'information et la connaissance. 13emes Rencontres INRIA – Industrie. Les Sciences et Technologies de l'Information et de la Communication au service de la Médecine. Rocquencourt, 24 janvier 2006
101. La Neurochirurgie Assistée par l'Information et la Connaissance : Arguments pour la modélisation des procédures, Société Française de Neurochirurgie, Meeting of the French neurological surgeons College, 29 Mars 2006 Caen
 - 2005
102. "From Intuitive to Scientific Computer Assisted Surgery". 4th Leipzig Forum CAS, December 12th, 2005, Leipzig (D)
103. "Validation of medical image processing for computer aided surgery: terminology and methodology", Eight Israeli Symposium on Computer-Aided Surgery, Medical Robotics, and Medical Imaging (ISRACAS), Thursday May 19, 2005, Medical Center Auditorium, Rabin Medical Center (Bellinson) Petach Tikva, ISRAEL
 - 2004-2003
104. « Fusion d'images réelles et virtuelles en neurochirurgie » Atelier des Technologies de l'Information et de la Communication (TIC) et de la Santé, 14 septembre 2004, ESIEA, Laval, France
105. « Validation in Medical Image Processing » 2nd Forum « Computer und Roboter-Assistierte Chirurgie », Leipzig, 13-14 october 2003

106. « Validation of image processing in image guided therapy » at the international session of the German Congress for Computer Assisted Surgery, CURAC 2003, Nuremberg, November 2003
107. « Principes du recalage d'images et introduction à la fusion », French Forum on Research in Medical Imaging, Journées de Recherche en Imagerie Médicale, Forum des Jeunes Chercheurs en GBM, INSERM, Nantes, May 2003
108. « Validation en traitement d'images médicales » Action Spécifique du CNRS ICOMIM « Intégration de Connaissances et Modélisation en Imagerie Médicale », Paris, June 2003
 - Before
109. « Image Guided Surgery in France » British Congress of Radiology. UK Radiological Congress, Birmingham, UK, June 2002
110. « Image Guided Surgery in France and in Rennes », Deutsches Krebsforschungszentrum DKFZ (German Cancer Research Center), Heidelberg, Germany, October 2002
111. « MEG, Data Fusion and Neurosurgery: Rennes approach », European Workshop on MEG and EEG, Erlangen, Germany, May 1999
112. « Multimodal data fusion in medical imaging », 14th Symposium of the BVZF/SBPH, Bruges, Belgium, October 1998
113. « Fusion de données multimodalités en imagerie médicale », Congrès de Radiophysique, Lille, January 1997

- *Multicenter projects*

- Manager of the validation part for image registration in the national RNTS “Plamaivic” project (2002-2004)

- *Organization of workshops/ conferences (non exhaustive):*

- 2022
- Program Committee Member MICCAI 2022 Singapore (Singapore)
 - 2021
- Program Committee Member MICCAI 2021 Strasbourg (France)
 - 2020
- Program Committee Member MICCAI 2020 Lima (Peru)
 - 2019
 - President of CARS conference 2019, Rennes (France) 17-21 June 2019
 - Program Committee Member MICCAI 2019 Shenzhen (China)
 - 2018
 - President of the 22nd Annual Conference of the International Society for Computer Aided Surgery Berlin (Germany) June 2018
 - 2017
 - Program chair of the MICCAI 2017 international conference (Quebec City-Canada)
 - President of the 21st Annual Conference of the International Society for Computer Aided Surgery Barcelona (Spain) June 2017
 - 2016
 - President of the 20th Annual Conference of the International Society for Computer Aided Surgery Heidelberg (Germany) June 2016
 - Co-General chair of the IPCAI 2016 international conferences(LNCS proceedings)
 - Program chair of the 7th International Conference on Medical Imaging and Augmented Reality, MIAR 2016, August 24-26, 2016, University of Bern, Bern, Switzerland.
 - 2015
 - President of the 19th Annual Conference of the International Society for Computer Aided Surgery Barcelona (Spain) June 2015

- Co-General chair of the IPCAI 2015 international conferences(LNCS proceedings)
 - *Before ...*
- Co-General chair of the IPCAI from 2010 to 2016 international conferences (LNCS proceedings)
- Congress Organizing and Program Committee member of Computer Assisted Radiology and Surgery from 2005 to 2020
- Organization, management and co-chair of “Modeling and Monitoring of Computer Assisted Interventions (M2CAI)” at MICCAI London 2009, Toronto 2011, Nice 2012, Nagoya, 2013, Boston 2014, Athens 2016
- Co-chair of the 2013 MICCAI workshop and tutorial committee (Nagoya, Japan)
- Organization, management and co-chair of “2nd ISCAS SURGICAL WORKSHOP ON NeuroSURGERY”(CME credits) at CARS 2010 in Geneva
- Organization, management and co-chair of “1st ISCAS SURGICAL WORKSHOP ON COMPUTER-AIDED ENT AND MAXILLOFACIAL SURGERY”(CME credits) at CARS 2009 in Berlin (D)
- Organization, management and presentation of a workshop (2 hours) on “Validation in medical image registration” at SPIE Medical Imaging 2007 conference in San Diego
- Program Committee member of SPIE Medical Imaging and Medicine Meets Virtual Reality (MMVR) conference
- Program Committee member of ICS4Med 2011 - 1st International Workshop on Interactive Computing Systems for Medicine and Health Care

· *Journals*

- Editor-in-chief of “Computer Aided Surgery” (Taylor&Francis publisher) from 2020
- Area editor of “International Journal for Computer Aided Radiology and Surgery” (Springer)
- Reviewer and associate editor for IEEE Transactions on Medical Imaging, IEEE Engineering in Medicine and Biology, IEEE Transactions in Information Technology in Biomedicine, Medical Image Analysis, Academic Radiology, American Journal of NeuroRadiology, Neuroimage, IEEE Transactions in Biomedical Engineering, IMIA Yearbook of Medical Informatics and for international conferences CARS, SPIE Medical Imaging, MICCAI, Asian Conference on Computer Vision (ACCV), and IPCAI

· *Miscellaneous*

- SPIE courses: “Validation in Medical Image Processing” SPIE 2008, 2009 and 2010 at SPIE Medical Imaging San Diego-Orlando (USA)
- Tutorial at Computer Assisted Radiology and Surgery. “Tutorial on Assessment of Medical Image Processing for CAS - Validation in Medical Image Processing Tools for CAS” 2008, Barcelona (E), 2009, Berlin (D), 2010 Geneva, 2011 Berlin (D)
- Management and Chair of 4 special sessions on Validation in Medical Image Processing at the CARS conference Computer Assisted Radiology and Surgery (CARS 2002 Paris, CARS 2003 London, CARS 2004 Chicago, CARS 2005 Berlin)
- Organization, management and presentation of a tutorial (4 hours) on Validation in medical image processing at MICCAI 2003 conference in Montreal
- Member of the patent and technological transfer committee of the University of Rennes from 2002

Project reviews

- Expert for a working group on new neurosurgical procedures accreditation at the ANAES governmental organization. Paris, May 2004
- Expert for ANR Call “Technologies pour la Santé” 2007
- Expert for ANR Call “Blanc” 2011
- Expert for Région Rhone-Alpes 2012
- Expert for BPI France 2014
- Expert Wellcome Trust 2016
- Expert German Research Foundation AO SFB 2015
- Expert Swiss National Science Foundation 2015
- Expert IBSAM AO Ville de Brest 2015

Large-public Communication

Media coverage

1. « Un bloc opératoire virtuel pour mieux former le personnel chirurgical », Le Pèlerin Magazine, Septembre 2023
2. « Ils forment les chirurgiens grâce à la réalité virtuelle » Ouest-France Aout 2023
3. « Emission 30 minutes santé » INSERM Mars 2022
4. « Votre santé m'intéresse » BFM-TV 17 Janvier 2018
5. « Les Matinales » France 3 Bretagne TV November 9 2017
6. « Simuler pour mieux soigner », L'Express, March 2017
7. « Immersion au coeur de la réalité mixte », Sciences et Avenir, March 2016
8. « Neurochirurgie assistée par ordinateur », Ouest-France, March 2016
9. « Neurochirurgie guidée en 3D », Rennes Métropole, Feb-March 2016
10. « Têtes chercheuses - Pierre Jannin: Créateur d'outils "intelligents" pour les neurochirurgiens », Sciences et Santé, Nov. 2014
11. Article de vulgarisation "Fusion d'images : des outils au service des neurochirurgiens" pour INTERSTICES, journal web de l'INRIA Juin 2006

Invited talks

1. « Intelligence Artificielle en Chirurgie: Aide à la décision et à l'action en stimulation cérébrale profonde » Réseau des CentraleSupélec Canada, Montréal, 30/11/22
2. « L'intelligence artificielle au service de la neurochirurgie » West Data Festival, Laval (France) 05/02/20
3. « Le Bloc opératoire du futur » Les Matinales, Le Pool, Rennes, 21/11/2019
4. « Le Bloc Opératoire du Futur : Réalité virtuelle, Robotique et Science des Données Chirurgicales » Maison associatif de la Santé - France Asso Santé - Harmonie Mutuelle , Rennes, 5/11/2019
5. MeetUp Machine Learning Le Pool « Science des données chirurgicales » Rennes, September 2019
6. Lycée Bréquigny Rennes Février 2019
7. Festival Utopiales Table ronde « Les serious games », Nantes, Octobre 2018
8. « Ouvrir les champs de l'imaginaire: quand l'intelligence artificielle se met au service de la médecine et de la neurochirurgie » Les Jeudis de l'Espace des Sciences, Théâtre de Saint Malo, 11/10/18
9. TedX Rennes, 8/04/18
10. Pint of Science, Semaine du cerveau « French Brain Week », March 14th, 2017, Rennes
11. Semaine du cerveau « French Brain Week », March 13rd, 2017, Rennes
12. Festival Utopiales Table ronde « Le voyage fantastique », Nantes, Octobre 2016
13. Inserm Science tour, Rennes, Octobre 2014
14. Présentations en Lycée: Lycée Pasteur 1ère S, Nov 2015 Paris, Lycée Victor et Hélène Basch 2nde Rennes Mars 2012
15. Présentation à la «Fête de la Science» 10/2013, Rennes
16. Présentation à la «Fête de la Science» 10/2005, Rennes
17. Présentation à la «Fête de la Science» «Quartiers des Sciences», Table ronde «L'imagerie et le numérique au service de la santé» 15/10/2011, Paris
18. Présentation sur la Fusion d'images médicales pour la neurochirurgie 15 et 16 Octobre 2005 pour les 30 ans de l'IRISA