Sorina Camarasu-Pop
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1 Education

- 2010 - 2013: **PhD**, Computer Science, INSA de Lyon, France. Thesis subject: Exploiting heterogeneous distributed systems for Monte-Carlo simulations in the medical field. Supervisors: H.Benoit-Cattin and T. Glatard.
- 2007 - 2008: **Master of Science**, Systems and Images, INSA de Lyon, France. Thesis subject: Optimisation of the distributed execution of a medical application on the Grid. Supervisor: D. Sarrut
- 2004 - 2007: **Engineering degree**, Telecommunications, INSA de Lyon, France.

2 Professional experience

- 2007 - present: **CNRS research engineer** at CREATIS laboratory, Lyon, France.
- 2010 - 2013: **PhD Student**, INSA de Lyon, France.

3 Research interests

- Grid and Cloud computing
- Scientific gateways
- Reproducibility of scientific results
- Interoperability among computing and storage platforms
- FAIR data management and analysis
- Modeling and simulation of distributed application workflows and services

4 Awards

- CNRS crystal medal 2021
- Best paper from the best Euro-Par 2018 workshop (co-author)

5 Publications

5.1 Peer-reviewed papers in international journals

- O. Commowick, A. Istace, M. Kain, B. Laurent, **S. Camarasu-Pop**, et al. Objective Evaluation of Multiple Sclerosis Lesion Segmentation using a Data Management and Processing Infrastructure, *Nature Publishing Group*, 2018.
- T. Glatard, G. Kiar, T. Aumentado-Armstrong, N. Beck, P. Bellec, R. Bernard, A. Bonnet, **S. Camarasu-Pop**, F. Cervenansky, S. Das, R. Ferreira da Silva, G. Flandin, P. Girard, K. J. Gorgolewski, C. R.G. Guttmann, V. Hayot-Sasson, P.-O. Quirion, P. Rioux, M.-E. Rousseau and A. C. Evans. Boutiques: a flexible framework for automated application integration in computing platforms, *GigaScience*, 2018.
- Y. Zhou, S. Giffard-Roisin, M. De Craene, **S. Camarasu-Pop**, J. D'hooge, M. Alessandrini, D. Friboulet, M. Sermesant, and O. Bernard. Framework for the Generation of Realistic Synthetic Cardiac Ultrasound and Magnetic Resonance Imaging Sequences from the same Virtual Patients, *IEEE Transactions on Medical Imaging*, 2018.
- M. Hatt, B. Laurent, A. Ouahabi,H. Fayad, S. Tan, L. Li, W. Lu, V. Jaouen, C. Tauber, J. Czakon, F. Drapejkowski, W. Dyrka, **S. Camarasu-Pop**, F. Cervenansky, P. Girard, T. Glatard, M. Kain, Y. Yao, C. Barillot, A. Kirov, and D. Visvikis. The first MICCAI challenge on PET tumor segmentation, *Medical Image Analysis*, 2018.
- T. Glatard, M.-E. Rousseau, **S. Camarasu-Pop**, R. Adalat, N. Beck, S. Das, R. F. da Silva, N. Khalili-Mahani, V. Korkhov, P.-O. Quirion, P. Rioux, S. D. Olabarriaga, P. Bellec, and A. C. Evans. Software architectures to integrate workflow engines in science gateways, *Future Generation Computer Systems*, 2017.
- **S. Camarasu-Pop**, T. Glatard, and H. Benoit-Cattin. Combining Analytical Modeling, Realistic Simulation and Real Experimentation for the Optimization of Monte-Carlo Applications on the European Grid Infrastructure, *Future Generation Computer Systems*, 57:13–23, 2016.
- O. Bernard, J.G. Bosch, B. Heyde, M. Alessandrini, D. Barbosa, J. D'hooge, **S. Camarasu-Pop**, F. Cervenansky, and S. Valette. Standardized evaluation system for left ventricular segmentation algorithms in 3D echocardiography, *IEEE Transactions on Medical Imaging*, 2015.
- **S. Camarasu-Pop**, T. Glatard, R. Ferreira da Silva, P. Gueth, D. Sarrut, and H. Benoit-Cattin. Monte-Carlo Simulation on Heterogeneous Distributed Systems: a Computing Framework with Parallel Merging and Checkpointing Strategies, *Future Generation Computer Systems*, 29(3):728–738, 2013.
- T. Glatard, C. Lartizien, B. Gibaud, R. Ferreira da Silva, G. Forestier, F. Cervenansky, M. Alessandrini, H. Benoit-Cattin, O. Bernard, **S. Camarasu-Pop**, et al. A Virtual Imaging Platform for multi-modality medical image simulation, *IEEE Transactions on Medical Imaging*, 32(1):110-118, 2013.
- B. Leporq, **S. Camarasu-Pop**, E.E. Dávila Serrano, F. Pilleul,and O. Beuf. Enabling 3D-Liver Perfusion Mapping from MR-DCE Imaging Using Distributed Computing, *Journal of Medical Engineering*, 2013.

- T. Glatard, and **S. Camarasu-Pop**. A model of pilot-job resource provisioning on production grids, *Parallel Computing*, 37:684-692, 2011.
- **S. Camarasu-Pop**, T. Glatard, J.T. Moscicki, H. Benoit-Cattin, and D. Sarrut. Dynamic partitioning of GATE Monte-Carlo simulations on EGEE, *Journal of Grid Computing*, 241-259, 2010.

5.2 Peer-reviewed papers in international conferences and workshops

- **S. Camarasu-Pop**, C. Lartizien, T. Grenier et al. Exploiting GPUs on distributed infrastructures for medical imaging applications with VIP and DIRAC, *IEEE MIPRO'2019*, 2019.
- A. Chai, **S. Camarasu-Pop**, T. Glatard, H. Benoit-Cattin and F. Suter. Evaluation through Realistic Simulations of File Replication Strategies for Large Heterogeneous Distributed Systems, *HeteroPar'2018*, 2018.
- A. Chai, M.-M. Bazm, **S. Camarasu-Pop**, T. Glatard, H. Benoit-Cattin and F. Suter. Modeling Distributed Platforms from Application Traces for Realistic File Transfer Simulation, *CCGrid'17*, May 2017.
- **S. Camarasu-Pop**, T. Glatard, and H. Benoit-Cattin Simulating Application Workflows and Services Deployed on the European Grid Infrastructure, *13th IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid)*, 18-25, 2013.
- T. Glatard, A. Marion, H. Benoit-Cattin, **S. Camarasu-Pop**, et al. Multi-modality image simulation with the virtual imaging platform: Illustration on cardiac MRI and echography, *IEEE International Symposium on Biomedical Imaging (ISBI)*, 98-101, 2012.
- P. Gueth, **S. Camarasu-Pop**, T. Glatard, L. Grevillot, and D. Sarrut PBS proton treatment plan simulation with the GATE-Lab, *50th International PTCOG meeting (Particle Therapy Co-Operative Group)*, 2011.
- R. Ferreira da Silva, **S. Camarasu-Pop**, B. Grenier, V. Hamar, D. Manset, J. Montagnat, J. Revillard, J.R. Balderrama, A. Tsaregorodtsev,and T. Glatard Multi-infrastructure workflow execution for medical simulation in the Virtual Imaging Platform, *HealthGrid 2011*, 2011.
- A. Marion, G. Forestier, H. Benoit-Cattin, **S. Camarasu-Pop**, et al. Multi-modality medical image simulation of biological models with the Virtual Imaging Platform (VIP), *The 24th International Symposium on Computer-Based Medical Systems (CBMS 2011)*, 2011.
- B. Leporq,**S. Camarasu-Pop**, F. Pilleul, and O. Beuf 3D-liver quantitative perfusion mapping using EGEE grid with MR-DCE imaging and MS-325 blood pool contrast agent, *ISMRM*, 2011.
- W.-J. Tan, C.T. Ching, **S. Camarasu-Pop**, P. Calvat, and T. Glatard Two experiments with application-level quality of service on the EGEE grid, *Proceeding of the 2nd workshop on Grids meets autonomic computing*, 2010.
- T. Li, **S. Camarasu-Pop**, T. Glatard, T. Grenier and H. Benoit-Cattin Optimization of Mean-Shift scale parameters on the EGEE grid, *Studies in health technology and informatics, Proceedings of Healthgrid 2010*, 2010.

- **S. Camarasu-Pop**, F. Cervenansky, J. Cardenas, J-Y. Nief, and H. Benoit-Cattin Overview of Medical Data Management Solutions for Research Communities, *CCGridHealth*, 2010.
- T. Glatard, X. Zhou, **S. Camarasu-Pop**, O. Smirnova, and H. Muller A comparison between ARC and gLite for medical image processing on Grids, *2nd workshop on Medical imaging on GRID, HPC and GPU infrastructures: achievements and perspectives (MICCAI-Grid)*, 2009.
- T. Glatard, and **S. Camarasu-Pop** Modelling pilot-job applications on production grids, *7th international workshop on Algorithms, Models and Tools for Parallel Computing on Heterogeneous Platforms (Heteropar 09)*, 2009.
- K. Maheshwari, T. Glatard, J. Schaerer, B. Delhay, **S. Camarasu-Pop**, P. Clarysse, and J. Montagnat Towards Production-level Cardiac Image Analysis with Grids, *HealthGrid09*, 2009.
- **S. Camarasu-Pop**, H. Benoit-Cattin, J. Montagnat, and D. Racoceanu Grids for Content-Based Medical Image Indexing and Retrieval, *ICT4Health, Oncomedia*, 2008.
- **S. Camarasu-Pop**, H. Benoit-Cattin, L. Guigues, P. Clarysse, O. Bernard,and D.Friboulet Towards a Virtual Radiological Platform Based on a Grid Infrastructure, *Medical imaging on grids: achievements and perspectives (MICCAI Grid Workshop)*, 2008.

5.3 Book chapters

- **S. Camarasu-Pop**, T. Glatard, H. Benoit-Cattin, and D. Sarrut. Enabling Grids for GATE Monte-Carlo Radiation Therapy Simulations with the GATE-Lab *Applications of Monte Carlo Method in Science and Engineering, InTech*, 35-50, 2011.

6 Supervision

6.1 PhD students

- 2016-2019: Anchen Chai. Co-supervision with Pr Hugues Benoit-Cattin and Dr Frederic Suter. Thesis subject: Simulation of the distributed execution of a medical application.

6.2 Master students

- 2020: Obed Meralus. Thesis subject: Implementing a FAIR database interconnected with VIP
- 2014-2015: Mohammad Mahdi Bazm. Co-supervision with Dr Tristan Glatard and Dr Frederic Suter. Thesis subject: Towards an Automatic Generation of Realistic Descriptions of Distributed Computing Infrastructures from Execution Traces

6.3 Postdoctoral fellows

- 2023-present: Gaël VIla. Evaluate and enhance the numerical reproducibility of results obtained on VIP.

6.4 Research engineers

- 2022-present: Sandesh Patil. Improve the workflow and data interoperability on VIP.
- 2021-present: Alexandre Cornier. Deployment and support of medical imaging applications on VIP.
- 2016-present: Axel Bonnet. Developement of a REST API for the Virtual Imaging Platform.
- 2018-2019: Pascal Wassong. CAD-Epilepsy application integration into the Virtual Imaging Platform.
- 2016-2017: Pascal Girard. Application porting to the Virtual Imaging Platform.

7 Research funding

- 2023-2026: EUCAIM European Project, project partner.
- 2022-2023: ReproVIP ANR-21-CE45-0024-01 project, project investigator.
- 2021-2023: EGI-ACE European Project, project partner.
- 2017-2019: OpenAIRE-CONNECT European Project (European call H2020-EINFRA-2016-2017), project partner.
- 2017: VIP platform (French national call from CNRS INS2I for platform support), 12PM funded, project investigator.

8 Teaching

- 2016-2019: Distributed computing, 6h, INSA Lyon, Telecommunications Department.
- 2009-2022: Signal and image processing, 10h to 26h per year, INSA Lyon, Telecommunications Department.

9 Other activities

- Manager of the Virtual Imaging Platform (https://vip.creatis.insa-lyon.fr/)
- Manager of the biomed Virtual Organization (http://lsgc.org/biomed.html) and of the biomed Support Team
- Member of the Project Management Board of the EGI-ACE project
- Member of the Programme Committee for the JCAD and EGI conferences
- Member of the "France Life-Imaging" IAM (Analyse & Management de l'Information) Steering Committee