



Chirine GHEDIRA ép. GUEGAN

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iaelyon School of Management, **Université Jean Moulin Lyon 3**

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AREA(S) OF EXPERTISE:

Intelligent data integration and management, Privacy, Distributed Information Systems for decision making,
Intelligent Services, Security and Quality of Service, Cloud Computing
Application to the health and environment fields

Short Biography

Chirine Ghedira Guegan is a full Professor of Computer Science at IAE Lyon School of Management, University Jean-Moulin Lyon 3, where she is President of the Computer Science-Mathematics Expert Committee and Head of the Master's Degree in Information Systems Management since 2011. She is deputy head of the Service Oriented Computing (SOC) research team and member of the scientific council of the LIRIS UMR 5205 laboratory of the CNRS. She led the Information System research group of the Magellan Center from 2011 to 2015. She is correspondent, board member and member of the thesis committee of the InfoMaths doctoral school at the University of Lyon3. Her research focuses on addressing the needs of access and integration of data and services by ensuring confidentiality, security and trust in today distributed environments. She is the author of more than 90 publications in internationally recognized journals and congresses. She is the coordinator of several research projects and an external expert for the Natural Sciences and Engineering Research Council of Canada.

Professional experience

- 2011 - **Full professor of Computer Science**, iaelyon School of Management - University Jean Moulin Lyon3
- 2008 - 2011 Associate-Professor in the IT department IUT Villeurbanne – Univ Lyon 1
- 2003- 2008 Associate-Professor in the IT department IUT Bourg-en-Bresse – Univ Lyon 1

University degrees and diplomas

- Dec. 2010 **Habilitation thesis to supervise research**, Univ Lyon 1. « Des services web élémentaires à la composition de services pour les Systèmes d'Information distribués et étendus »
- Nov. 2002 **PhD in Computer Science and Information for the Society**, specialty: Multimedia Documents, Pictures and Communicating Information Systems - INSA Lyon
- Juin 1998 **Master in Manufacturing Engineering**, specialty: Economic organization and computer engineering for the company - INSA Lyon

Key Responsibilities & Functions

- 2018/2021 **Responsible of the Research development** at IAELyon - school of Management
- Feb 2018 - **Member of the board of directors** of the IAELyon - school of Management
- Janv 2016 - **Co-head of Service Oriented Computing research team** at LIRIS-CNRS Laboratory
- Nov 2011 - **President of the Committee of Experts** in Computer Science & Mathematics in Lyon3 university
- Sept 2014 - **Member of the board of the doctoral school** n°512 InfoMaths in Lyon3 University
- Mai 2012 - **Coordinator of the Master** "Management of Information System" of IAELyon - school of Management – Lyon 3 University
- Jan 2021 - **Member of the "Parité Homme Femme" committee** at LIRIS-CNRS Laboratory
- 2012/2015 **Head** of the « Information systems » research group at MAGELLAN Center – Lyon 3 University

Teaching Areas:

- Business Process Management
- Data warehouses and Business Intelligence
- Distributed Information Systems
- Web services, security and Quality of Service
- Data integration and management
- Digital strategy for organizations
- ERP in the organization
- Enterprise Information Systems Architecture
- Technical infrastructures and application architectures
- Strategic urbanization of enterprise information systems

Research Teams: Service Oriented Computing team @ LIRIS-CNRS (UMR 5205) Laboratory of Image Informatics and Information Systems (<https://liris.cnrs.fr/equipe/soc>)

Research Activities

Research Interests: application domains of the research in health & environment

- Intelligent Data integration, management and privacy in new environments and contexts: Clouds, IoT & Big data
- Smart services, Adaptive distributed decision systems
- Service Oriented Computing: Data services, security, quality, contextualization, adaptation;
- Security governance, blockchain technology and business process in Cloud Computing;

Coordination of Projects and Grants

1. Project Region ARA (2018 – 2021). [Multi-Cloud Service for Intelligent Integration of Mass Heterogeneous Data Driven by SLA Contracts for Multi-Device Environments](#). Region funding for industrial projects (200K€). Partners : Labo LIRIS, University Lyon 3, Labo LIG, IMAG, DataMedCare (Industriel).
2. Project Region ARA (2017 – 2021). [PersoDiagMedi - Semantic Web Services Oriented Platform for Medical Service Customization and Early Detection of Emerging Diseases](#). Region funding for international projects (60K€). Partners : LIRIS – Univ Lyon3, Laboratoire Parcours santé systémique (P2S) - University Lyon1, l'Observatoire National des Maladies Nouvelles et Émergentes maladies infectieuses - Tunis, Laboratoire RIADI - Université de la Manouba - Tunis.
3. Project IA (2019 – 2022). [Service-based approach and intelligent agents for prediction and crisis management: Application to the analysis and management of emerging diseases](#). Financement Contrat IADOC.
4. Projet PhC – UTIQUE (2016 – 2019). [Restful Service-Oriented Platform for Predicting Natural Disasters](#). Hubert Curien Programme Utique, bi-lateral international collaboration France – Tunisia. (30K€)
5. Investissement Avenir Smart Electrique Lyon (2013 – 2017). Project on the privacy of Big Data collected from smart grids. Collaboration with the Lyon3 private law team and with the support of the LABEX IMU. National Grant. (65K€)
6. Projet ARC6 Rhône-Alpes region (2014 – 2017). [SLA guided data integration in clouds](#). Regionan grant. (96K€)
7. Projet ANR ARPEGE program (2009 – 2013). [PAIRSE: Privacy Preserving Data Sharing in P2P Environment: A Web Service-based Approach](#). National Grant. (192K€)

Project as a partner, coordinator of a workpackage:

1. Project Region ARA (2021 – 2024). **CLEAN4SED: Continuous LEarning and Neuroevolution for Supporting Edge Devices and predictive maintenance**. Region funding for industrial projects (200K€). Partners: Labo ERIC, University Lyon 1, Labo LIRIS, University Lyon 3, Data Intelligence Team of laboratoire Hubert Curien, WITEKIO (Industriel).

2. Projet Emergence Program 2020 (2020 – 2022): **MuSE-MED**: Multi-objective, Socio-Economic and blockchain-based services for Medicines' Traceability. Emergence Program: The Paris Seine Initiative – Scientific Excellence and internationalization. Partenaires (France – Sloveie): LIRIS - équipe SOC (CNRS UMR 5205), ETIS (CNRS UMR 8051) Université de Cergy-Pontoise (Porteur), University of Ljubljana - Sloveie.
3. Projet International Cluster 2021 (2020 - 2022): Responding to the Covid-19 Public Health Impact in UAE: An Intelligent Data Fusion Model and Predictive Analysis for Proactive and effective response, leveraging Semantic Technologies and Artificial intelligence. Partenaires : Zayed University - UAE, LIRIS - équipe SOC (CNRS UMR 5205) - France, University of Toronto – Canada, St. Joseph's Health Centre Toronto – Canada, Staffordshire University – UK, Johns Hopkins Medicine – UAE.
4. Projet ANR PRCI – Taiwan (2018 – 2020): **uPrivacy**: Enabling End-Users to Protect their Privacy by themselves. Application to Smart Healthcare Cyber-Physical Environments. Partenaires: LIRIS, Franche-Comté University, Paris Dauphine University, National Taiwan University, National Chung Hsing University, Feng Chia University.

Supervision and expertise:

- Supervision of 18 doctoral theses since 2007, 35 Master internships (2nd year M2) and 45 Master internships (1st year M1).
- Membership of more than 35 international conference program committees;

Reading Committees / Editorial Committees

- IEEE Transactions on Services Computing
- IEEE Transactions on Knowledge and Data Engineering
- Future Generation Computer Systems
- The Data & Knowledge Engineering Journal.
- International Journal of Systems and Service-Oriented Engineering
- Journal of Data and Information Quality.
- World Wide Web Journal

Academic Associations

- Member of the Research Data Alliance (RDA - <https://www.rd-alliance.org>), of RDA-France-Santé group, and Blockchain Applications in Health Working Group (<https://www.rd-alliance.org/groups/blockchain-applications-health-wg> ([//https://www.rd-alliance.org/users/chirine-ghedira-guegan](https://www.rd-alliance.org/users/chirine-ghedira-guegan))
- Member of the FinES Cluster -Future Internet Enterprise System. (since 2010).
- Member of GDR (Research Group) Cloud Computing for resource management and cloud computing services (since 2010).

Project Expertise Activity:

- External project expert of Naif University for Security Sciences (NAUSS) for the Security and Cybercrimes Research Program grants (2020)
- Evaluator of graduation applications for Al-Hussein Bin Talal University, Jordan (since 2017)
- Natural Sciences and Engineering Research Council of Canada (NSERC) external project expert for Discovery Program research grants (since 2016).

International Collaborations

Austria: University of Vienna. Collaborative project on composition and contextual mediation of web services in progress. Visiting researcher one month and collaboration with the VitaLab laboratory for a duration of 6 months.

Belgium: University of Namur. Collaborative work has started on web services. Common publications.

Brazil: DiMAP, Federal University of Rio Grande do Norte: Collaboration around the data integration project in multi-clouds. Common publications.

China: SARI Shanghai Advanced Research Institute. Collaborative stay around the theme "Big Data Dynamic Storage management in distributed environment".

E.A.U: Scientific publications in common (see publications section) and co-supervision of trainees Research Master.

Tunisia: Projects and Co-supervision of students in Research Master and PhD with three different research laboratories and joint publications.

UK: Co-organization of conferences and project editing DS-08-2017 Privacy, Data Protection, Digital Identities in Hybrid Clouds with Staffordshire University.

USA:

- University of Michigan: joint publications and collaboration on the composition of web services and the preservation of confidentiality.
- New Mexico Tech Institute: Co-Chair of the Cloud and Distributed Computing Track.

Some National Collaborations

LAAS CNRS Toulouse, INP Tarbes, LIG Laboratory, LIUPPA lab @ University of PAU

Organization of conferences and workshops

- **Member of the Steering Committee & sessions chair** of the International AICCSA conference since 2017,
- **Co-Chair du workshop Big data & smaRT hEALTH Systems (BREATHS)** - Données massives et systèmes de santé intelligents : problématiques, nouveaux défis et perspectives. 10 SEPTEMBRE 2019, Lyon. <https://iae.univ-lyon3.fr/atelier-de-recherche-donnees-massives-et-systemes-de-sante-intelligents-problematiques-nouveaux-defis-et-perspectives>
- **Women in STEM Chair** @ the ACS/IEEE International Conference on Computer Systems 2019 & 2020 (<http://www.aiccsa.net/AICCSA2020/tutorials-2>).
- **Workshop Chair** of FMEC 2020 & FMEC 2019: International Conference on Fog and Mobile Edge Computing (<https://emergingtechnet.org/FMEC2020/committee.php>)
- **Workshop Co-General Chair:** STRAPS on Smart daTa integRation And Processing on Service based environments, (2019, 2020), en conjonction avec la conférence internationale on Service Oriented Computing (ICSOC). (<https://straps-workshop.github.io/> ; <https://iae.univ-lyon3.fr/recherche-retour-sur-le-workshop-international-straps-2020-co-organise-par-chirine-ghedira-guegan-iaelyon>)

Recent International Scientific Productions & Publications

For the complete list, please visit my pages following the URLs: [Mypage](#), [DBLP](#) & [Google Scholar](#)

Publications in peer-reviewed journals

- R1. Faiza Loukil, Khoulood Boukadi, Mourad Abed & Chirine Ghedira-Guegan (2021). «Decentralized Collaborative Business Process Execution Using Blockchain ». **World Wide Web. (SJR Q1)** doi : 10.1007/s11280-021-00901-7. HAL : hal-03250846.
- R2. Shafaq Naheed Khan, Faiza Loukil, Chirine Ghedira-Guegan, Elhadj Benkhelifa & Anoud Bani Hani (2021). « Blockchain Smart Contracts: Applications, Challenges, and Future Trends ». Peer-to-Peer Networking and Applications (**SJR Q2**), pp. 2901-2925. doi : 10.1007/s12083-021-01127-0. HAL : hal-03195972.
- R3. Faiza Loukil, Chirine Ghedira-Guegan, Khoulood Boukadi & Aïcha-Nabila Benharkat (2021). «Privacy-Preserving IoT Data Aggregation Based on Blockchain and Homomorphic Encryption ». **Sensors (SJR Q1)**, vol. 21, n°7, p. 2452. doi : 10.3390/s21072452. HAL : hal-03195937.
- R4. Siyakha Mthunzi, Elhadj Benkhelifa, Tomasz Bosakowski, Chirine Ghedira & Mahmoud Barhamgi (2020). « Cloud computing security taxonomy: From an atomistic to a holistic view». **Future Generation Computer Systems (SJR Q1)**. doi : 10.1016/j.future.2019.11.013.
- R5. C. Ben Njima, Y. Gamha, C. Ghedira & L. Ben Romdhane (2019). «Development of a mobile web services discovery and composition model ». **Cluster Computing (SJR Q2)**, pp. 1-14. HAL : hal-01987385.
- R6. W. Hidri, R. Hadj M'Tir, N. Bellamine Ben Saoud & C. Ghedira (2019). « A Meta-model for context-aware adaptive Business Process as a Service in collaborative cloud environment ». **Procedia Computer Science (SJR Q3)**, vol. 164, pp. 177-186.

- R7. M. Barhamgi, C. Perera, C. Ghedira & D. Benslimane. « User-centric Privacy Engineering for the Internet of Things ». **IEEE Cloud Computing (SJR Q1)**, vol. 5, n°5, pp. 47-57. (2018) HAL : hal-01881359.
- R8. E. Benkhelifa, A. Bani Hani, T. Welsh, C. Ghedira & S. Mthunzi (2019). « Virtual Environments Testing as a Cloud Service: A Methodology for Protecting and Securing Virtual Infrastructures ». **IEEE Access (SJR Q1)**, vol. 7, pp. 108660-108676. doi : 10.1109/ACCESS.2019.2912957. HAL : hal-02294363.
- R9. E. Benkhelifa, C.Ghedira. et al.. Addressing Data governance in Cloud Storage: Survey, Techniques and Trends. **Journal of Internet Technology (SJR Q2)**. vol. 19, n°6, pp. 1763-1775. (2017);
- R10. A. Palesandro, C. Ghedira, M. Lacoste & N. Bennani. « Overcoming Barriers for Ubiquitous User-Centric Healthcare Services ». **IEEE Cloud Computing (SJR Q1)**, vol. 3, n°6, pp. 64-74. (201)
- R11. F. Shi, C. Ghedira, JL Marini. "Context Adaptation for Smart Recommender Systems". In **IEEE IT Professional journal (SJR Q3)**, vol.17, no.6, pp.18-26. doi: 10.1109/MITP.2015.96

Papers in international peer-reviewed conferences and proceedings

- C1. F. Loukil, C. Ghedira-Guegan & A-N. Benharkat (2020). « PATRIoT: A data sharing platform for IoT using a service-oriented approach based on Blockchain ». 18th edition of the International Conference on Service Oriented Computing (**ICSOC 2020**), décembre 2020, Dubai (Émirats Arabes Unis). **(CORE A)**
- C2. I. Selmi, N. Kabachi, S. Ben Abdallah, C. Ghedira & H. Baazaoui (2020). « Adaptive Multi-agent-based Alert System for Diseases' Detection ». International Conference on Advanced Information Networking and Applications (**AINA 2020**), Italie, pp. 734-745. **(CORE B)**
- C3. H. Taktak, K. Boukadi, M. Mrissa, C. Ghedira & F. Gargouri (2020). « A Model-Driven Approach for Semantic Data-as-a-Service Generation. ». The IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises – (WETICE2020), Basque Coast - Bayonne (France). **(CORE B)**
- C4. S. Romdhani, N. Bennani, C. Ghedira & G. Vargas-Solar (2019). « Trusted Data Integration in Service Environments: A Systematic Mapping ». International Conference on Service-Oriented Computing (**ICSOC 2019**). Springer, Cham, 31 octobre 2019, toulouse (France), pp. 237-242. doi : 10.1007/978-3-030-33702-5_18. HAL : hal-02344610. **(CORE A)**
- C5. S. Abidi, M. Essafi, C. Ghedira, M. Fakhri, H. Wittl & H. Hjjami Ben Ghezala (2019). « A Web Service Security Governance Approach Based on Dedicated Micro-services ». Knowledge-Based and Intelligent Information & Engineering Systems (**KES 2019**), 6 septembre 2019, Budapest (Hongrie), pp. 372-386. HAL : hal-02324616. **(CORE B)**
- C6. M. Radaoui, S. Ben Abdallah Ben Lamine, H. Baazaoui Zghal, C. Ghedira & N. Kabachi (2019). « Knowledge Guided Integration of Structured and Unstructured Data in Health Decision Process ». Information Systems Development: Information Systems Beyond 2020 (**ISD2019**), 28 août 2019, Toulon (France). HAL : hal-02445505. **(CORE A)**
- C7. F. Shi & C. Ghedira (2018). « Adapted Decision Support Service Based on the Prediction of Offline Consumers' Real-Time Intention and Devices Interactions ». 2018 IEEE 42nd Annual Computer Software and Applications Conference (**COMPSAC 2018**), 27 juillet 2018, Tokyo (France), pp. 266-271. doi : 10.1109/COMPSAC.2018.10241. HAL : hal-01872313. **(CORE B)**
- C8. F. Loukil, C. Ghedira, Khoulood Boukadi & Benharkat Aïcha-Nabila (2018). « Towards an end-to-end IoT data privacy-preserving framework using blockchain technology ». 19th International Conference on Web Information Systems Engineering (**WISE 2018**), 12 novembre 2018, Dubai (Émirats Arabes Unis), pp. 68-78. HAL : hal-01871493. **(CORE A)**
- C9. H. Wittl, C. Ghedira & E. Benkhelifa (2018). « A Conceptual Framework of Security Requirements in Multi-cloud Environment ». **SERVICES 2018** - 14th World Congress, Held as Part of the Services Conference Federation, SCF 2018. p3-17, 25 juin 2018, Seattle (États-Unis), pp. 3-17. HAL : hal-01844325. **(CORE B)**
- C10. F. Loukil, C. Ghedira, K. Boukadi & AN. Benharkat (2018). « Semantic IoT Gateway: Towards Automated Generation of Privacy-Preserving Smart Contracts in the Internet of Things ». 26th International Conference on Cooperative Information Systems (**CoopIS 2018**), 24 octobre 2018, Valletta (Malte), pp. 207-225. HAL : hal-01871490. **(CORE A)**
- C11. M. Masmoudi, H. Taktak, S. Ben Abdallah Ben Lamine, K. Boukadi, MH. Karray, H. Baazaoui Zghal, B. Archimède, M. Mrissa & C. Ghedira (2018). « PREDICAT: A Semantic Service-

- Oriented Platform for Data Interoperability and Linking in Earth Observation and Disaster Prediction ». 2018 IEEE 11th Conference on Service-Oriented Computing and Applications (SOCA – CORE C), 22 novembre 2018, Paris (France), pp. 194-201. doi : 10.1109/SOCA.2018.00035. HAL : hal-01990258.
- C12. Faiza Loukil, Chirine Ghedira, Benharkat Aïcha-Nabila, Khoulood Boukadi, Zakaria Maamar. «Privacy-Aware in the IoT Applications: A Systematic Literature Review ». International Conference on Cooperative Information Systems (**CoopIS 2017**). Proceedings, Part I. Lecture Notes in Computer Science 10573, Springer 2017, ISBN 978-3-319-69461-0, 23 octobre 2017, Rhodes (Grèce). doi : 10.1007/978-3-319-69462-7_35. HAL : hal-01630125. **(CORE A)**
- C13. Sana Ben Abdallah, Hajer Baazaoui Zghal, Michael Mrissa & Chirine Ghedira. « An ontology-based approach for personalized RESTful Web service discovery ». Knowledge-Based and Intelligent Information & Engineering Systems: Proceedings of the 21st International Conference (**KES-2017**), 6 septembre 2017, Marseille (France). HAL : hal-01599006. **(CORE B)**
- C14. Alex Palesandro, Marc Lacoste, Nadia Bennani, Chirine Ghedira & Bourge Denis. « Mantus: Putting Aspects to Work for Flexible Multi-Cloud Deployment ». **(CLOUD 2017)**, 30 juin 2017, Honolulu, CA (États-Unis). doi : 10.1109/CLOUD.2017.88. HAL : hal-01590673. **(CORE B)**
- C15. Fanjuan Shi, Chirine Ghedira. Improving Recommender Systems with an Intention-based Algorithm Switching Strategy. The 32nd ACM SIGAPP Symposium On Applied Computing, **(SAC 2017)**, April 2017. Marrakech, Morocco. **(CORE B)**

Educational Production

Educational materials:

- Urbanisation stratégique des systèmes d'information. 220 pages.
- Entrepôt de Données et BI. 120 pages.
- Les architectures applicatives. 110 pages.

MOOC & Videos

Outreach of the presentation of the Master in Information Systems Management:
<https://www.youtube.com/watch?v=LMYw7Ma2VGo>

Web sites & Social Networks

Lab Site : <http://liris.cnrs.fr/chirine.ghedira-guegan>

Linkedin : <https://www.linkedin.com/in/chirine-ghedira-guegan-72559849/>

Research Gate : https://www.researchgate.net/profile/Chirine_Ghedira2