

Davide Calvaresi, Ph.D.

Curriculum Vitae, October 2018

Sierre

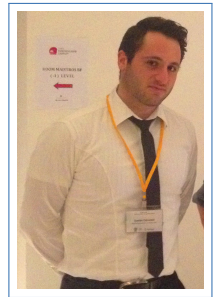
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Work

- Since Apr'18 **Postdoctoral Research**, *University of Applied Science Western Switzerland (HES-SO)*, (AISLAB), Sierre, Switzerland
Research Areas: Real-Time Multi-Agent Systems, Blockchain & MAS, Assistive and Telerehabilitation Technologies.
- Apr'17–Apr'18 **Research Assistant**, *University of Applied Science Western Switzerland (HES-SO)*, (AISLAB), Sierre, Switzerland.
- Since 2015 **Co Founder**, *Wriggle Solutions s.r.l.s.*, Innovative Startup, Pisa, Italy.
- Since 2014 **Co Founder & Scientific Committee Member**, "*Polo Tecnico - Professionale per Domotica Assistenziale*", Italy.
- 2013 **Freelance Engineer**, *Design and Development of a web based product*, CarbonMill s.n.c., Jesi, Italy.
- 2012 **Freelance Engineer**, *Personalization of a Customer Relationship Management*, STEP s.a.s, Jesi, Italy.

Education

- 2014 - 2018 **Ph.D.**, *in Emerging Digital Technologies - Embedded Systems*, *Scuola Superiore Sant'Anna*, Pisa, Italy.,
Research Areas: RT-MAS, Assistive and Telerehabilitation Technologies
Thesis: Real-Time Multi-Agent Systems: challenges, model, and performance analysis
Supervisor: Prof. Giorgio Buttazzo.
- 2005 – 2014 **M.Sc.** and **B.Sc.** in Computer and Automation Engineering,
Università Politecnica delle Marche, Ancona, Italy, *Italian Marks*: (B.Sc: **94/110**; M.Sc: **105/110**).
- (2011) Thesis M.Sc: *Requirement Engineering on a Wide Domain: i* Modeling of the Ambient Assisted Living*,
Supervisors: Prof(s). A. F. Dragoni, Eric Yu, & Arnon Sturm at: Computer Science, University of Toronto, Canada.
- (2014) Thesis B.Sc: *Study of an UPnP standard extension for the semantic description of heterogeneous devices in home automation environment*,
Supervisors: Prof. Francesco Piazza & Dr. Michele Nucci, at: Università Politecnica delle Marche, Ancona, Italy

Awards - Grants - Patents

- Awards: **Best-Paper Award**, *Venue: X Workshop on Agents Applied in Health Care @ AAMAS*, May 2017.
GSVC2016, SMARTTyre Winner of "Best social and environmental ICT Idea Award".
EGO Ericsson 2015, SMARTTyre Winner of "Change makers for a connected society".
START CUP Toscana 2015, SMARTTyre Winner of "Best business and high-tech ideas".
- Grants: **University of Évry**: 1st Agreement Technologies Winter School, Dec 2017.
University of Gdańsk: 19th European Agent Systems Summer School, Aug 2017.
COST Action: AAPELE (IC1303), Oct - Dec 2016.
- Patents: **SMARTTyre**, Patent n: 102015000079497.

Additional Training

- Dec 2017 **Agreement Technologies Winter School**, *University of Évry*, Évry, France.
Topics: autonomy, interaction, mobility, and openness of autonomous systems.
- Aug 2017 **European Agent Systems Summer School**, *University of Gdańsk*, Gdańsk, Poland.
Topics: Reinforcement Learning, Security, Game Theory, Dynamic epistemic logic, Predicting Human Decision-Making).
- Jul 2015 **Summer School on Health and Wellbeing**, *EIT Digital, Philips Res. Lab & Holst Center*, Eindhoven, Netherlands.
Topics: Business Planning, assessment, measurement and promotion of mental/physical fitness and well-being.
- Jun 2015 **Summer School on Cyber Physical Systems**, *EIT ICT Lab & KTH*, Stockholm, Sweden.
Topics: industrial and academical applications of CPS coupled with business coaching.

Research Visits

- Oct – Mar'17 **Internship**, *University of Applied Science Western Switzerland, eHealth Division*, Sierre, Switzerland.
Development of a real-time negotiation protocol for multi-agent systems applied to wearable devices for telerehabilitation.
- Aug – Feb'14 **Internship**, *University of Toronto*, Toronto, Canada, *Master Thesis*.
Modelization of Ambient Assisted Living Domain using a Goal Oriented Requirement Engineering & i* modeling lang

Academic Activities

- Pr. chair **RTcMAS2018, BCT4MAS2018.**
- Pr. committee **A2HC 2017, AIH2018.**
- Guest Editor **Special Issue "Blockchain Technologies for Multi-Agent Systems" - MDPI (2018) .**
- Reviewer **Journals, ACM Transactions on Cyber-Physical Systems, IEEE Transactions on Industrial Informatics. Conferences, AIH 2018, ICAART 2017, EPIA 2017, A2HC 2017, SAC 2016, RTSS-CPS 2016.**
- Supervisor **6 MSc and 3 BSc Thesis, n Courses-Projects, among, UNIVPM, SSSUP, and HES-SO, ([link](#)).**

Given Lectures [L] and Invited Seminars [S]

- 2014 – 2016 **[L]: Leap Motion and Real Time, TeCIP - Scuola Superiore Sant'Anna, Italy.**
- Fall 2015 **[S]: Distributed Data Service (DDS), TeCIP, Scuola Superiore Sant'Anna, Italy.**
DDS middleware and its applications in the avionics and Assistive fields with emphasis on real-time constraints.
- Fall 2014 **[S]: Introduction to Agent Oriented Paradigm, TeCIP, Scuola Superiore Sant'Anna, Italy.**
Agents concept, Multi Agent Paradigm and Software Engineering.
- Fall 2014 **[S]: Requirement Engineering, Univpm, Ancona, Italy.**
Goal Oriented Requirement Engineering, Multi Agent Software Engineering and Ambient Assisted Living Modelization.
- Fall 2014 **[S]: Virtual Caregiver, a novel approach, Istituto d'Istruzione Superiore E. Fermi, Italy.**
Overview on assistive technologies with emphasis on smart environments for elderly people.

Research Projects

- 2015 **Silence MultiMedia, Team member, TeCIP - Scuola Superiore Sant'Anna, Italy.**
Distributed embedded system for real time audio streaming with embedded and web management interfaces.
- 2013 **R&C - Autonomous Robot Competition, Team Leader, D.I.I, Univpm, Italy, "presentation link".**
Intelligent robots competition. Expertise: Real Time scheduling, Artificial Intelligence, Jade, OpenCV.
- 2012 **Web Solver for Capacited Vehicle Routing Problem, Teamwork, D.I.I., Univpm, Italy.**
Dynamic web Capacity Vehicle Routing Problem solver. Expertise: Operational Research, AMPL, Reg Exp.
- 2012 **Fault Detection in a wind farm, Teamwork, D.I.I., Univpm, Italy.**
Fault Predictions and Diagnosis in wind turbines. Expertise: Matlab, Simulink, Neural Network.
- 2011 **Hive - Enterprise applications integration, Team Leader, D.I.I., Univpm, Italy.**
Integration of (Kettle, SugarCRM, AlfrescoECM, OpenBravoERP) at web service and database level.

Languages

Italian: Native, **English:** - C1, **French:** - A2.

Social Engagements

- 2014 – 2016 **PhD Student Representative in Academic Council** *Scuola Superiore Sant'Anna, Pisa*
- Since 2003 **Blood Donor - AVIS, Volunteer - First Aid**
- 2011 **Volunteer Staff at, SAC 2016, ADA-Europe 2016.**

Certifications & Licenses

- 2015 **High Tech Business Venturing, Inside ICT & Robotic Driving License - B, A3** *Scuola Superiore Sant'Anna & Tuscan Academy Autovehicle, Motorbike*

Hobbies

- Chess, Archery and Aeromodelism
- Knowledge Sharing, Science and Technology
- Team- and Solo-sports, Gym and Hiking
- Cooking, Music, Movies and Operas

References

Person	Role	Institute	contact
○ Prof. Giorgio Buttazzo	PhD Supervisor	Scuola Sup. Sant'Aanna	g.buttazzo@sssup.it
○ Prof. Arnon Sturm	MSc Advisor	University of Toronto	sturm@bgu.ac.il
○ Prof. Michael Schumacher	Head of Aislab	HES-SO	d.cesarini@sssup.it

Publications

All the papers indicated by (✓) have been personally presented

- 2018 **Calvaresi D.**, Albanese G., Marinoni M., Dubosson F., Sernani P., Dragoni A.F., & Schumacher M. "Trusted Registration, Negotiation, and Service Evaluation in Multi-Agent Systems throughout the Blockchain Technology", Proceeding of WebIntelligence 2018, Santiago, Chile, Dec 4. (✓)
- 2018 Dubovitskaya A., **Calvaresi D.**, & Schumacher M. "Essais Clinique Multicentriques: Transparence et Contrôle de la Qualité Grâce à la Blockchain et aux Systèmes Multi-Agents", Journal: Swiss Medical Informatics, Bern, Switzerland, Sep 11. (✓)
- 2018 **Calvaresi D.**, Albanese G., Marinoni M., Dubosson F., Sernani P., Dragoni A.F., & Schumacher M. "Timing Reliability for Local Schedulers in Multi-Agent Systems", Proceeding of 1st International Workshop on Real-Time compliant Multi-Agent Systems, Stockholm, Sweden, Jul 15. (✓)
- 2018 **Calvaresi D.**, Albanese G., Dubosson F., Marinoni M., & Schumacher M. "A Task-sets Generator for Supporting the Analysis of Multi-Agent Systems under General Purpose and Real-Time Conditions", Proceeding of 1st International Workshop on Real-Time compliant Multi-Agent Systems, Stockholm, Sweden, July 15. (✓)
- 2018 **Calvaresi D.**, Dubovitskaya A., Calbimonte J.P., Taveter K., & Schumacher M. "Multi-Agent Systems and Blockchain: Results from a Systematic Literature Review", Proceeding of 16th International Conference on Practical Applications of Agents and Multi-Agent Systems, Toledo, Spain, Jun 20-22. (✓)
- 2018 Albanese G., **Calvaresi D.**, Sernani P., Dubosson F., Dragoni, A.F. & Schumacher M. "MAXIM-GPRT: A Simulator of local Schedulers, Negotiations, and Communication for Multi-Agent Systems in General-Purpose and Real-Time Scenarios", Proceeding of 16th International Conference on Practical Applications of Agents and Multi-Agent Systems, Toledo, Spain, Jun 20-22. (✓)
- 2018 **Calvaresi D.**, Appoggetti K., Lustrissimini L., Marinoni M., Sernani P., Dragoni A.F., & Schumacher M. "Multi-Agent Systems' Negotiation Protocols for Cyber-Physical Systems: Results from a Systematic Literature Review", Proceeding of 10th International Conference on Agents and Artificial Intelligence, Funchal, Madeira-Portugal, Jan 16-18. (✓)
- 2017 **Calvaresi D.**, Marinoni M., Lustrissimini L., Appoggetti K., Sernani P., Dragoni A.F., Schumacher M., & Buttazzo G. "Local Scheduling in Multi-Agent Systems: getting ready for safety-critical scenarios", Proceeding of 15th European Conference on Multi-Agent Systems, Evri, France, Dec 14-15. (✓)
- 2017 Calbimonte J.P., **Calvaresi D.**, & Schumacher M. "Multi-Agent Interactions on the Web through Linked Data Notifications", Proceeding of 15th European Conference on Multi-Agent Systems, Evri, France, Dec 14-15. (✓)
- 2017 Buonocunto P., Giantomassi A., Marinoni M., **Calvaresi D.**, & Buttazzo G. "A Limb Tracking Platform for Tele-Rehabilitation". ACM Transactions on Cyber-Physical Systems (TCPS), (to appear)
- 2017 **Calvaresi D.**, Marinoni M., Sturm A., Schumacher M., & Buttazzo G. "The Challenge of Real-Time Multi-Agent Systems for Enabling IoT and CPS", Proceeding of IEEE/WIC/ACM International Conference on Web Intelligence (WI 2017), Leipzig, Germany, Aug 23-26. (✓)
- 2017 **Calvaresi D.**, Schumacher M., Marinoni M., Hilfiker R., Dragoni A.F., & Buttazzo G. "Agent-based systems for telerehabilitation: strengths, limitations and future challenges", Post-Proceeding of the 10th Workshop on Agents Applied in Health Care @ AAMAS, S ao Paulo, Brazil, May 8-12. (✓)
- 2017 Falcionelli N., Sernani P., Bromuri S., Mekuria D.N., **Calvaresi D.**, Schumacher M., Dragoni A.F., & Bruges A. "An Event Calculus agent mind applied to diabetes monitoring", Post-Proceeding of the 10th Workshop on Agents Applied in Health Care @ AAMAS, S ao Paulo, Brazil, May 8-12. (✓)
- 2016 **Calvaresi D.**, Vincentini A., Di Guardo A., Cesarini D., Sernani P., & Dragoni A.F. "Exploiting a touchless interaction to drive a wireless mobile robot powered by a real-time operating system", Proceeding of the 2nd International Conference Recent Trends and Applications in Computer Science and Information Technology, Tirana, Albania, Nov 18-19.
- 2016 Montanaro L., Sernani P., **Calvaresi D.**, & Dragoni A.F. "A touchless human-machine interface for the control of an elevator", Proceeding of the 2nd International Conference Recent Trends and Applications in Computer Science and Information Technology, Tirana, Albania, November 18-19.
- 2016 Cesarini D., **Calvaresi D.**, Farnesi C., Taddei D, Frediani S., Ungerechts B.E., & Hermann T.. "MEDIATION: an eMbEddeD system for auditory feedback of hand-water InterAcTION while swimming", Proceeding of the 11th conference of the International Sports Engineering Association (ISEA 2016), Delft, Netherlands, July 11-14.
- 2016 Sernani P., **Calvaresi D.**, Calvaresi P., Pierdicca M., Morbidelli E., Dragoni A. F., & Buttazzo G. "Testing Intelligent Solutions for the Ambient Assisted Living in a Simulator", Proceeding of the 9th International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2016), Corfu Island, Greece, June 29 - July 1.
- 2016 **Calvaresi D.**, Sernani P., Marinoni M., Claudi A., Balsini A., Dragoni A. F., & Buttazzo G. "A Framework based on Real-Time OS and Multi-Agents for intelligent autonomous robot competitions", Proceeding of the 11th IEEE International Symposium on Industrial Embedded Systems (SIES 2016), Krakow, Poland, May 23-26. (✓)
- 2016 **Calvaresi D.**, Cesarini D., Sernani P., Marinoni M., Dragoni A. F., & Sturm A.. "Exploring the ambient assisted living domain: a systematic review". Journal of Ambient Intelligence and Humanized Computing, 1-19.

- 2015 **Calvaresi D.**, Cesarini D.,Marinoni M., Buonocunto P., Bandinelli S., and Buttazzo G., "*Non-intrusive patient monitoring for supporting general practitioners in following diseases evolution*", Proceedings of the 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, April 15-17. (✓)
- 2015 Cesarini D., **Calvaresi D.**, Marinoni M., Buonocunto P., and Buttazzo G. "*Simplifying the use of motor tele-rehabilitation devices for their practical use in non-clinical environments*", Proceedings of the 3rd International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2015), Granada, Spain, April 15-17. (✓)
- 2014 Calvaresi, P., **Calvaresi, D.**, Sernani, P., Pierdicca, M., Morbidelli E., Accattoli, D., Dragoni, A.F.: "*A Virtual Caregiver for the AAL: Testing in a 3D Simulator*". In: Workshop of the XIII AI*IA Symposium on Artificial Intelligence (AI*AAL.it 2014).
- 2014 Calvaresi, P., Dragoni, A.F., Pierdicca, M., **Calvaresi, D.**, Sernani, P.: "*3D Simulation for Ambient Assisted Living: Interaction through Mobile Application*". In: 1st International Conference Recent Trends and Applications in Computer Science and Information Technology (RTA-CIST 2014).
- 2014 **Calvaresi, D.**, Sturm, A., Yu, E., Dragoni, A.F.: "*Exploring domain requirements and technology solutions: a goal modeling approach*". In: Proceedings of the 7th International iStar Workshop (iStar 2014). (✓)
- 2014 **Calvaresi, D.**, Claudi, A., Dragoni, A.F., Yu, E., Accattoli, D., Sernani, P.: "*A Goal-Oriented Requirements Engineering Approach for the Ambient Assisted Living Domain*". in Proceedings of the the 7th ACM International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2014). (✓)
- 2013 **Calvaresi D.**, Sturm A., and Yu E.: "*Reconciling System Design Options with Domain and Elicited Requirements - A Goal Modeling Approach*". Poster Presentation in Consortium for Software Engineering Research, Fall 2013 Meeting, Markham, Ontario, CA, 2013. (✓)