



**THE CYPRUS  
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RESEARCH • TECHNOLOGY • INNOVATION

## Curriculum Vitae

# Alaric Christian Montenon

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### **Academic and Professional details:**

#### **Education:**

- 2013** Ph.D. in Electric Engineering – University of Toulouse, France, 2013 - “Analysis, Mutualization and optimization of the energy consumption of autonomous heliostats by the control for solar concentrated power plants”
- 2009** MSc in Hydraulics and Fluid Mechanics - ENSEEIHT of Toulouse, France, Higher National School of Electrotechnics, Electronics, Computer Science, Hydraulics and Telecommunications

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#### **Professional Experience:**

- 10/03/2014 (ongoing)** Postdoctoral Fellow in the Solar Energy Division of the EEWRC and Associate Research Scientist since 01/05/2018
- 04/11/2013 to 09/03/2014** Maths teacher at the Jean Mermoz high school, Blagnac, France

#### **Research Experience:**

European funded projects related to solar concentration, thermal storage and building efficiency in Europe and Mediterranean region: STS-MED (ENPI CBCMED), STAGE-STE (Seventh Framework Programme for Research and Technological Development), STEP-EW (European Regional Development Fund and National Funds of Greece and Cyprus), SMART-GEMS (H2020-MSCA-RISE-2014), ZERO-PLUS (H2020-EE-2015-1-PPP), NESTER (Horizon 2020 TWINNING), QUANTUM (H2020-EeB-07-2015), INSHIP (H2020 TWINNING), SFERA III (H2020-INFRAIA-2018-2020) and CYSTEM Horizon 2020 ERA Chair)

#### Detailed achievements:

- Design, simulation and set-up installation of the first Cypriot solar integrated air-conditioning system on a near to zero energy building supported by a Fresnel collector and an absorption chiller, technical and scientific manager (STS-MED).
- Development of a simulation model of molten salts Thermal Energy Storage with Matlab/Simulink and TRNSYS (STAGE-STE).
- Control and integration of a molten salts tank for steam generation (TESLAB facility).
- Staff exchange within SMART-GEMS, NESTER and INSHIP programs: 2 months in Sicily in August and September 2016, one month at PROMES-CNRS, France in July 2018.
- Collaboration with visiting researcher and engineers from Italy and Lithuania for joined activities on the Fresnel collector and the Nearly Zero Energy Building.

#### **Teaching Experience:**

- Lectures in Cyprus, Egypt and Spain in solar energy fields and absorption chillers, webinars.
- NESTER Schools 2016, 2017 and 2018
- Maths teacher at high school, French Ministry of Education, Blagnac, France

#### **Management and Administrative experience:**

- Public procurement,
- Budget management in STS-MED project for infrastructures (>400k€),
- Coordination of Tasks/Subtasks in European funded projects,
- Supervisor for undergraduate internships.

#### **Other Skills:**

- Guided tours of the Fresnel collector

#### **Professional Service and Memberships:**

- First aider

#### **Presentations and Outreach:**

- NESTER Schools 2016, 2017 and 2018

#### **Publications:**

- A. Montenon and P. Maussion. Energy optimization of control loops for concentrated solar plants with the design of experiments. In IECON 2013 - 39th Annual Conference of the IEEE Industrial Electronics Society, pages 1607–1612, Nov 2013
- N. Fernandez, A. Street, A. Montenon, and P. Maussion. A scheduling optimization model for sun tracking of an autonomous heliostat. In 2013 IEEE Grenoble Conference, pages 1–6, June 2013
- Analysis, mutualization and optimization of the energy consumption of autonomous heliostats by the control for solar concentrated power plants, INP Toulouse, May 2013. (phD thesis, French)
- A. Montenon, P. Maussion, and A. Ferrière. An advanced control system for an autonomous heliostat. Perpignan, France, September 2010. Proceedings of SolarPACES
- J. R. Perez Gallardo, A. Montenon, P. Maussion, C. Azzaro-Pantel, and S. Astier. Comparative life cycle assessment of autonomous and classical heliostats for heliothermodynamic power plants for concentrated solar power. In 2012 First International Conference on Renewable Energies and Vehicular Technology, pages 348–353, March 2012

- Alaric C. Montenon, Panagiotis Tsekouras, Christos Tzivanidis, Mathéou Bibron, and Costas Papanicolas. Thermo-optical modelling of the linear fresnel collector at the cyprus institute. AIP Conference
- Konstantinos G. Stokos, Efstathios Stiliaris, Aristides M. Bonanos, Marios C. Georgiou, Elena Guillen,
- Alaric Montenon, and Costas Papanicolas. The control system at proteas. AIP Conference Proceedings, 2033(1):210019, 2018
- A. Montenon, E. Guillen, C. Marakkos, E. Stiliaris, A. Agapious, E. Tsioli, and C. Papanicolas. TESLA: an experimental test facility for thermal storage in Molten Salts. Abu Dabhi, United Arab Emirates, October 2016. Proceedings of SolarPACES
- C. Marakkos, E. Stiliaris, E. Guillen, A. Montenon, and C. Papanicolas. Temperature and Thermal Power Measurements for a Helical-Coil Steam Generator in a Thermal Storage Tank of Molten Solar Salt. Abu Dabhi, united arab emirates, October 2016. Proceedings of SolarPACES
- C. N. Papanicolas, A. M. Bonanos, M. C. Georgiou, E. Guillen, N. Jarraud, C. Marakkos, A. Montenon, E. Stiliaris, E. Tsioli, G. Tzamtzis, and E. V. Votyakov. Csp cogeneration of electricity and desalinated water at the pentakomo field facility. volume 1734, page 100008, Cape Town, South Africa, October 2015. Proceedings of
- A. C. Montenon and C. Papanicolas. Theoretical study of a hybrid Fresnel collector to supply electricity and air-conditioning for buildings. Nicosia, Cyprus, November 2018. Proceedings of RESEE
- N. Kampelis, K. Gobakis, V. Vagias, D. Kolokotsa, L. Standardi D. Isidori, C. Cristalli, , F.M. Montagnino, F. Paredes, P. Muratore, L. Venezia, M. Kyprianou, A. Montenon, A. Pyrgou, T. Karlessi, and M. Santamouris. Evaluation of the performance gap in industrial, residential and tertiary near-zero energy buildings. Energy and Buildings, 148:58 – 73, 2017
- Alaric C. Montenon, Nestor Fylaktos, Fabio Montagnino, Filippo Paredes, and Costas N. Papanicolas. Concentrated solar power in the built environment. AIP Conference Proceedings, 1850(1):040006, 2017
- A. Montenon, F. Paredes, A Giacona, N. Fylaktos, S. Di Bono, C. Papanicolas, and F. Montagnino. Solar multi-generation in the Mediterranean area, the experience of the STS-Med project. La Palma de Mallorca, Spain, October 2016. Proceedings of Eurosun
- A. Montenon, N. Fylaktos, F. Montagnino, F. Paredes, and C. Papanicolas. Concentrated Solar Power in the Built Environment. Abu Dabhi, united arab emirates, October 2016. Proceedings of SolarPACES
- A. C. Montenon and N. Fylaktos. First solar air-conditioning system in Cyprus supported by a Fresnel collector. Nicosia, Cyprus, May 2016. Proceedings of RESEE
- C. Papanicolas, M. A. Lange, N. Fylaktos, A. Montenon, G. Kalouris, N. Fintikakis, M. Fintikaki, D. Kolokotsa, K. Tsirbas, C. Pavlou, K. Vasilakopoulou, and M. Santamouris. Design, construction and monitoring of a near-zero energy laboratory building in cyprus. Advances in Building Energy Research, 9(1):140–150, 2015
- Alaric Montenon. Techno-economic study of the model. Technical report, December 2019. Deliverable of INSHIP project, Work Package 3
- Alaric Montenon. Assessment of a light hybrid fresnel collector. Technical report, December 2018. Deliverable of INSHIP project, Work Package 3
- Fritz Zaversky, Bernhard Seubert, Jiahui Lu, Martin Karl, Ralf Müller, Thomas Fluri, Alaric Montenon, Luis Guerreiro, Diogo Canavarro, and Manuel Collares Pereira. Performance comparison of advanced thermal energy storage systems through simulations. Technical report, July 2017. Deliverable of STAGE-STE project, Work Package 7
- Alaric Montenon, Nestor Fylaktos, Miguel Angel Reyes, Elena Díaz, Manuel Romero, and José González. Integration of advanced thermal storage systems in central receiver solar power plants. Technical report, July 2017. Deliverable of STAGE-STE project, Work Package 7

- Alaric Montenon. Set-up of systems components at reduced scale and integration into demonstration units. Technical report, October 2016. Deliverable of STS-MED project, Work Package 6
- Nikos Kampelis et al. Guidelines for smart buildings and smart grids. report on the operational phase. Technical report, September 2016. Deliverable of SMART-GEMS project, Work Package 3
- Costas Marakkos, Alaric Montenon, Joao Lemos, and Pablo Cadiz. Thermo-mechanical considerations for solar central receivers. Technical report, July 2016. Milestone of STAGE-STE project, Work Package 12
- Alaric Montenon and Maria Kyprianou Dracou. Technical and financial optimisation of the integrated design on zero energy settlements. Technical report, April 2016. Deliverable of ZERO-PLUS project, Work Package 5
- Alaric Montenon, Costas Marakkos, Walter Gaggioli, Luca Rinaldi, Manuel Romero, Bernhard Seubert, Alexander Vogel, Ralf Müller, Luis Guerreiro, and Manuel Collares Pereira. Report on one-tank thermal storage molten salts assessment. Technical report, March 2016. Deliverable of STAGE-STE project, Work Package 7
- F. Telle, M. Burisch, M. Sanchez Villasenta, C. Sansom, P. Kirby, .P Turner and C. Caliot, A. Ferriere, A. Bonanos, C. Papanicolas, A. Montenon, R. Monterreal, and J. Fernandez. State of the art in heliostats and definition of specifications–survey for a low cost heliostat development. Technical report, 2014. Deliverable of STAGE-STE project, Work Package 11