



**Matilde D'Arpino**  
**Research Scientist, Center for Automotive Research (CAR),**  
**The Ohio State University (OSU)**  
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**Citizenship:** Italian, Canadian

**Education** **Ph.D.**, Engineering, University of Cassino and South Lazio, Italy, 2014/04  
**M.S.**, Electrical Engineering, University of Cassino and South Lazio, Italy, 2010/10  
**B.S.**, Electrical Engineering, University of Cassino and South Lazio, Italy, 2008/10

**Professional Experience:**

2020-present **Research Scientist**, Center for Automotive Research (CAR), OSU  
2018-2020 **Senior Research Associate**, Center for Automotive Research (CAR), OSU  
2016-2017 **Research Associate**, Center for Automotive Research (CAR), OSU  
2015-2016 **Visiting Researcher**, Center for Automotive Research (CAR), OSU  
2014-2016 **Research Fellow**, Laboratory of Industrial Automation, University of Cassino and South Lazio, Italy  
2013 **Visiting Ph.D. Student** at Ruhr-University of Bochum, Germany - Institute for Power Systems Technology and Power Mechatronics (ENESYS)

**Awards and Honors**

- Best paper award: 2017 IEEE International Transportation Electrification Conference Asia-Pacific
- Scholarship at the University of Cassino to attend the Ph.D. course of Engineering “Systems, technologies and devices for the movement and health” (XXVI cycle)

**Professional Membership and Service**

- Member of **IEEE** “Institute of Electrical and Electronics Engineers”, **SAE** “Society of Automotive Engineers”, **AEIT** “Associazione Italiana di Elettrotecnica, Elettronica, Automazione, Informatica e Telecomunicazioni”
- Member of the **SAE Committee AE-7D** Aircraft Energy Storage and Charging working on the development of standards for the introduction of lithium-ion batteries in aircraft
- Conference technical session and/or financial organization: 2020 and 2021 SAE World Congress WCX, 2016 IEEE International Conference on Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles & International Transportation Electrification Conference (ESARS-ITEC), 2013-2016 European PhD School in Power Electronics, Electrical Machine, Energy control and Power systems, Gaeta (IT), 2014 IEEE International Electric Vehicle Conference (IEVC)
- Conference panels and invited talks: 2016 IEEE International Conference on Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles & International Transportation Electrification Conference (ESARS-ITEC), 19th Polish-American Conference on Science and Technology
- Teacher within the Distance Education Program at OSU CAR, Summer School program OSU CAR
- Publication reviewer for MDPI, IEEE conferences and journals, Elsevier, ASME, SAE

**Patents and Publications**

Author of **more than 30** journal and conference publications, including IEEE, MPDI, SAE

<https://orcid.org/0000-0001-5532-0050>

- C. Attaianese, U. Abronzini, **M. D'Arpino**, M. Di Monaco, G. Tomasso, Steady-State Dead Time Compensation in VSI, IEEE Transactions on Industrial Electronics, DOI: 10.1109/TIE.2016.2586680;
- Abronzini, U., Attaianese, C., **D'Arpino, M.**, Di Monaco, M., & Tomasso, G. (2019). Cost Minimization Energy Control Including Battery Aging for Multi-Source EV Charging Station. Electronics, 8(1), 31.

- Freudiger, D., **D'Arpino, M.**, & Canova, M. (2019). A generalized equivalent circuit model for design exploration of li-ion battery packs using data analytics. *IFAC-PapersOnLine*, 52(5), 568-573.
- **D'Arpino, M.**, Cancian, M. (2019). Design of a Grid-Friendly DC Fast Charge Station with Second Life Batteries (No. 2019-01-0867). SAE Technical Paper.
- **D'Arpino, M.**, Villing, M., Chrstos, J. P., Rizzoni, G., Dynamic modeling for electric vehicle land speed record performance prediction. *2017 IEEE Transportation Electrification Conference and Expo, Asia-Pacific (ITEC Asia-Pacific)* (pp. 1-6). IEEE.
- **D'Arpino, M.**, Cancian, M., Sergent, A., Canova, M., & Perullo, C. (2019, August). A Simulation Tool for Turbo-Hybrid-Electric Aircraft Battery Life Prediction for the NASA ULI Program. In *2019 AIAA/IEEE Electric Aircraft Technologies Symposium (EATS)* (pp. 1-9). IEEE.
- Cai, Y., Cancian, **M.**, **D'Arpino, M.**, & Rizzoni, G. (2019, July). A generalized equivalent circuit model for large-scale battery packs with cell-to-cell variation. In *2019 IEEE National Aerospace and Electronics Conference (NAECON)* (pp. 24-30). IEEE.

### **Other**

Leading and co-leading several research projects at OSU CAR related to battery management system, multi-source systems (e.g. micro-grid), and electrified vehicles funded by federal agencies (**US DOE, NASA**), and/or private companies (automotive: **Ford, Cummins, FCA, Honda, Maserati, Venturi**; power system utility: **American Electric Power**; suppliers: **EATON**)