

Aymeric P. Rousseau

Argonne National Laboratory
Center for Transportation Research
9700 South Cass Avenue, Building 362
Argonne, IL 60439-4837
phone: 630/252-7261, fax: 630/252-3443
e-mail: arousseau@anl.gov

Professional Experience

- **June 1999-Present.** Research Engineer in the Center for Transportation Research of the Energy Systems Division at Argonne National Laboratory
 - Team leader for Advanced Vehicle Modeling Software
 - Defined goals, planning and deadlines for the development of PSAT (Powertrain System Analysis Toolkit)
 - Developed a series of innovative tools specifically oriented towards the key for advanced vehicles (control strategy understanding)
 - Developed unique set of tools to directly integrate test data from Argonne's Advanced Powertrain Research Facility into Matlab for quality analysis and direct comparison with the simulated data
 - Developed unique techniques allowing PSAT to be one of the most flexible tools for vehicle modeling (several hundred configurations are included, about 10 times more than any other tools)
 - Demonstrated the accuracy of PSAT by validating the software at the vehicle and component level within five percent for fuel economy and emission on several driving cycles (vehicles include Japan Prius, U.S. Prius, Honda Insight, Ford P2000, Ford Taurus, Ford Explorer, GM Precept, GM Equinox, and others)
 - Directed several outside software consultants to integrate state-of-the-art control strategies as well as transient component models including engine, electric motor and battery
 - Directed numerous simulation studies to support the U.S. Department of Energy's Research & Development activities, including supporting FreedomCAR Technical Teams (e.g., battery requirements for plug-in hybrid electric vehicles [HEVs], ultracapacitors for mild HEVs) as well as Government Performance Result Act/Portfolio Decision Support analysis
 - PSAT is now the software of choice to support FreedomCAR and Fuels as well as 21st Century Truck Partnership activities
- **July 1997-May 1999.** Engineer at PSA Peugeot Citroen Research Center; Paris, France
 - Responsible for development of computer tools for the technical database and decision help process, concerning the vehicle drivetrain configuration choice and the control command system

- Initiated development of a new methodology called “tunnel,” allowing the selection of the appropriate HEV configuration for a particular application
- Conceived, structured, and applied the majority of the tools which lead to the realization of a program in this area and especially vehicle development according to the schedule
- Directed outside software consultants to develop specific simulation tools for HEV applications
- Participated in numerous strategy meetings
- **January 1997-May 1997.** Co-Op Student at PSA Peugeot Citroen Research Center; Paris, France
 - Responsible for testing VERT2, a series HEV using a gas turbine, including definition of tests, the procedure to follow, as well as the realization of the vehicle testing and post-processing
 - Directed technicians to develop specific data acquisition systems
 - Developed fast, generic and graphical postprocessing tools that allowed automatically generated test reports, depending on the type of test performed
- **June 1996-August 1996.** Co-Op Student at the Advanced Battery Group, Engineering, Industrial System Engineering School (EIGSI)
 - Developed test procedures for lithium-ion electric vehicle traction system in collaboration with SAFT and PSA Peugeot Citroen as part of the VEDELIC project

Education

- Postgraduate Degree, Computing Research Engineering, University of La Rochelle, France, 1997-1998
- MS, Multi-disciplinary Engineering, EIGSI, La Rochelle, France, 1992-1997

Awards

- Federal Laboratory Consortium Award (2007)
- Argonne Pacesetter Award (2007)
- R&D 100 award for PSAT (2004)

Professional Society Affiliations

- Society of Automotive Engineers

Publications & Patents

- 28 peer reviewed conference papers
- 12 conference papers
- 12 other reports and documents
- 36 oral presentations