

PETER EASTERLUND

SIMULATION DEVELOPER, HUMAN FACTORS SAFETY LABORATORY · PETERE@UMN.EDU · 612-626-9130

EDUCATION

B.S. (Computer Science), University of Minnesota, Minneapolis, MN, 2000

Emphasis in human-machine interaction. Relevant courses include computer graphics, software engineering, user-interface design, and industrial ergonomics.

KEY QUALIFICATIONS

Peter’s experience is focused in three areas: development of virtual roadways, integration of auxiliary devices, and development of experimental scenarios in simulation. He has acted as lead developer on a number of simulation projects requiring accurate models of real-world terrain locations. He has also assisted in systems integration projects involving commercial GPS navigation equipment, eye/head tracking systems, and haptic vehicle controls.

RELEVANT EXPERIENCE

Simulation Manager and Programmer, 1997 – Present, HFSL, University of Minnesota

Development of simulation research projects, along with simulator maintenance.

Transportation Commission, 2009-2012; Commission Vice-Chair, City of Richfield

Oversight of transportation planning and projects within a first-tier suburban city.

Intelligence Specialist, 1993-2011, United States Navy Reserve

Collection and interpretation of intelligence data and analysis of electronic imagery.

RELEVANT GRANTS/CONTRACTS AND ROLE

Funding Agency	Title and Description	Years	Budget	Role
Minnesota DOT	Teen Driver Support System FOT Use smartphone technology to provide real-time feedback to teen drivers about safety critical information including speed warnings, excessive acceleration and deceleration warnings, stop sign warnings. <i>Role:</i> data validation	2011-2015	\$2,033,709	Staff
Minnesota DOT	RICWS Evaluation and Design Investigation Conduct a human factors analysis of the RICWS sign and identify what features or layouts may be problematic for proper and easy interpretation of its message and test alternative sign options in a driving simulation. <i>Role:</i> simulation development	2015-2017	\$97,984	Staff

NHTSA/Westat	Connected Vehicles: Warnings for Hazards Not Immediately Visually Verifiable Investigate the warning types for proper driver response to unseen and unverified safety threats. <i>Role:</i> simulation development	2011-2013	\$289,991	Staff
US DOT	Older Driver Support System (ODSS) Usability and Design Investigation Test older driver assistive system interface in self-driving simulation and usability test. <i>Role:</i> simulation development	2015-2017	\$120,000	Staff
National Science Foundation	Smart Tracking Systems for Safe and Smooth Interactions Between Scooters and Road Vehicles Test visual and auditory interfaces to reduce crash risk between drivers and riders of e-scooters. <i>Role:</i> experimental apparatus and programming support	2021-2024	\$1,200,000	Staff

SELECTED PUBLICATIONS

- Davis, B., Morris, N., Achtemeier, J., **Easterlund, P.** (2019). *Improvement of Driving Simulator Eye Tracking Software*. Center for Transportation Studies, University of Minnesota, Minneapolis, MN.
- Graving, J. S., **Easterlund, P. A.**, & Manser, M. M. (2011). Developing a Bus Driver Training Program for a Driver Assistive System. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 55(1), 1543-1547.
- Morris, N.L., Cooper, J.L., Ton, A, Plummer, J.P., **Easterlund, P.** (2016). *Examining the Impact of ASE (Automated Speed Enforcement) in Work Zones on Driver Attention*. Minnesota Department of Transportation. Saint Paul, MN.
- Morris, N.L., Craig, C.M., Achtemeier, J., **Easterlund, P.** (2019). *HumanFIRST Driving Simulation Educational Development*. Center for Transportation Studies, University of Minnesota, Minneapolis, MN.
- Morris, N. L., Craig, C. M., Achtemeier, J. D., & **Easterlund, P. A.** (2021). Simulators. *International Encyclopedia of Transportation: Volume 1-7*, 602-610.
- Tian, D., Gerberich, S. G., Morris, N. L., Kim, H., Ryan, A. D., Erickson, D. J., & **Easterlund, P. A.** (2021). Design and evaluation of a rural intersection conflict warning system and alternative designs among various driver age groups. *Accident Analysis & Prevention*, 162, 106388.