

Journal and Conference Publications

Space Exploration Engineering Group

1 Journal Publications

- [1] G. de Croon, L. OConnor, C. Nicol, and D. Izzo. “Evolutionary Approach to Odor Source Localization”. In: *Neurocomputing* 121 (2013), pp. 481–497.
- [2] M. Cross, A. Ellery, and Ala‘Qadi. “Estimating terrain parameters for a rigid wheeled rover using neural networks”. In: *Journal of Terramechanics* 50 (2013), pp. 165–174.
- [3] M. Cross, C. Nicol, A. Qadi, and A. Ellery. “Application of COTS Components for Martian Surface Exploration”. In: *Journal of the British Interplanetary Society* 66 (2013).
- [4] M. Gallant, A. Ellery, and J. Marshall. “Rover-Based Autonomous Science by Probabilistic Identification and Evaluation”. In: *J. Intell. Robot Sys.* (2013).
- [5] T. Setterfield and A. Ellery. “Terrain Response Estimation Using an Instrumented Rocker-Bogie Mobility System”. In: *IEEE Transaction on Robotics* 29 (2013), pp. 172–188.
- [6] A. Ellery. “Invited Commentary: Asteroid Ho!” In: *Journal of the British Interplanetary Society* 65 (2012).
- [7] A. Ellery. “Selective snapshot of state-of-the-art artificial intelligence and robotics with reference to the Icarus starship”. In: *Journal of the British Interplanetary Society* 62 (2010).
- [8] A. Ellery, J. Kreisel, and B. Sommer. “The case for robotic on-orbit servicing of spacecraft: Spacecraft reliability is a myth”. In: *Acta Astronautica* 63 (2008), pp. 632–648.

2 Oral Presentations

- [1] E. Clousit, L. Whyte, A. Qadi, A. Ellery, et al. “How to search for methane on Mars: Results of rover field trials at Mars analogue sites”. In: *Geological Association of Canada - Mineralogical Association of Canada Joint Annual Meeting. #SS17-01*. Winnipeg, MB, May 2013.
- [2] E. Cloutis, A. Qadi, A. Ellery, et al. “Mars methane analogue mission (M3) results of the 2012 field deployment”. In: *44th Lunar & Planetary Science Conf. #1579*. 2013.
- [3] E. Cloutis, A. Qadi, A. Ellery, et al. “Mars methane analogue mission - results of first field deployment”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [4] E. Cloutis, A. Qadi, A. Ellery, et al. “Mars methane analogue mission (M3) results of the 2011 field deployment”. In: *43rd Lunar & Planetary Science Conf. #1569*. Woodland, TX, 2012.
- [5] R. Hewitt, A. Ellery, and A. de Ruiter. “Efficient navigation and mapping techniques for the Kapvik analogue micro-rover”. In: *Global Exploration Conf. GLEX-2012.P.8.p1x12478*. Washington D.C., May 2012.
- [6] R. Hewitt, A. Ellery, and A. de Ruiter. “FastSLAM on a planetary micro-rover prototype”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [7] R. Kruselecky, A. Ellery, et al. “LORE: lunar origins resource explorer science payload”. In: *Global Exploration Conf. GLEX-2012.02.1.8x12372*. Washington D.C., May 2012.

- [8] R. Kruzelecky, A. Qadi, A. Ellery, et al. “Mars Methane Mission: A field deployment in a Mars analogue environment”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [9] C. Nicol, A. A. Ellery, and E. Cloutis. “On-Line Estimation of Enceladus Plume Sources for Penetrator Targeting”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [10] C. Nicol, A. A. Ellery, and E. Cloutis. “Sniffing as a Strategy For Detecting Life on Mars”. In: *Global Exploration Conf*. Washington D.C., May 2012.
- [11] A. Qadi, A. Ellery, et al. “Mars methane analogue mission rover operations at Jeffery mine deployment”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [12] A. Qadi, C. Nicol, A. Mack, and A. Ellery. “Design and experiments for a Mars methane analogue mission rover operations”. In: *63rd International Astronautical Congress*. #15336. Naples, Italy, October 2012.
- [13] H. Sharif, A. Ellery, and C. Samson. “Strategies for sampling of planetary materials based on images”. In: *Global Exploration Conf*. GLEX-2012.03.P .6x12403. Washington D.C., May 2012.
- [14] H. Sharif, C. Samson, and A. Ellery. “Autonomous rock identification based on image processing techniques”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [15] M. Skulinova, W. Zheng, A. Ellery, Y.-R. Hu, and Y. Soucy. “Enceladus micro-penetrator mission concept”. In: *16th CASI Conf ASTRO*. Quebec City, QC, April 2012.
- [16] M. Gallant, A. Ellery, and J. Marshall. “Science-influenced mobile robot guidance using Bayesian Networks”. In: *IEEE CCECE 2011*. Niagara Falls, ON, May 2011.
- [17] L. M. Scott R Ellery A. “Non-resolved detection of objects performing on-orbit servicing in geostationary orbit”. In: *AMOS Technical Conf*, #BJW-RLS-CM. 2011.
- [18] M. Gallant, A. Ellery, and J. Marshall. “Exploring salience as an approach to rover-based planetary exploration”. In: *15th CASI Conf ASTRO*. Toronto, ON, May, 2010.
- [19] R. Hewitt, A. de Ruiter, and A. Ellery. “Hybridizing neural networks and Kalman filters for robotic exploration”. In: *15th CASI Conf ASTRO*. Toronto, ON, May, 2010.
- [20] R Kruzelecky, B Wong, B Aissa, E Haddad, W Jamroz, E Cloutis, I Rosca, S Hoa, D. T. D, and A Ellery. “MoonDust lunar dust simulation and mitigation”. In: AIAA-2010-764033. 2010.
- [21] R Kruzelecky, B Wong, J Zou, E Haddad, W Jamroz, E Cloutis, K Strong, A Ellery, N Ghafoor, and R. G. “LORE: Lunar Origins & Resource Explorer”. In: AAS 10-467. 2010.
- [22] A. Mack and A. Ellery. “The potential steering function and its application to planetary exploration rovers”. In: *15th CASI Conf ASTRO*. Toronto, ON, May, 2010.
- [23] T. Setterfield and A. Ellery. “Potential chassis designs for Kapvik, a Canadian reconfigurable planetary microrover”. In: *15th CASI Conf ASTRO*. Toronto, ON, May, 2010.
- [24] A. Mack and A. Ellery. “A method of real-time obstacle detection and avoidance using cameras for autonomous planetary rovers”. In: *Towards Autonomous Robotic Systems (TAROS 09)*. Londonderry, 2009, pp. 112–118.
- [25] A. Ellery. “Optic flow-based navigation for the ExoMars rover”. In: *14th CASI Conf ASTRO*. #110. Montreal, QC, 2008.
- [26] D. Grove and A. Ellery. “Designing a modular penetrator to accommodate multiple mission scenarios”. In: *59th International Astronautics Congress*. Glasgow, UK, 2008.
- [27] T. Hopkins and A. Ellery. “Drilling model and applications of space drilling”. In: *14th CASI Conf ASTRO*. #79. Montreal, QC, 2008.
- [28] T. Hopkins and A. Ellery. “Rotary and percussive drilling penetration rate prediction model verification”. In: *CSME Forum (AM)*. Ottawa, Canada, 2008.

- [29] B. Lynch and A. Ellery. “Kinematics and dynamics of spacecraft robotic manipulators”. In: *14th CASI Conf ASTRO. #89*. Montreal, QC, 2008.
- [30] B. Lynch, A. Ellery, and F. Nitzsche. “Two-dimensional robotic vehicle path planning based on artificial potential fields”. In: *CSME Forum (CCToMM)*. Ottawa, Canada, 2008.
- [31] D. McLean and A. Ellery. “Survey of traction control systems for planetary rovers”. In: *CSME Forum (CCToMM)*. Ottawa, Canada, 2008.
- [32] M. Swartz and A. Ellery. “Towards adaptive localisation for rover navigation using multilayer feedforward neural networks”. In: *14th CASI Conf ASTRO. #74*. Montreal, QC, 2008.

3 Books

- [1] A. Ellery. *Planetary Rovers: Tools for Space Exploration*. Springer Praxis Books, 2014.
- [2] A. Ellery. *An Introduction to Space Robotics*. Springer Praxis Books, 2000.