

Wireless sensor networks



Research Projects

Smart Environmental Monitoring and Analysis Technologies - SEMAT, University of Queensland, R Johnstone, 2009-2012, Partner Institution(s): Queensland State Government, Milan Foundation, Torino Foundation., Funding: Queensland Smart State

Automated detection and identification of marine organisms using sensor networks, University of Melbourne, Marimuthu Palaniswami, 2010-2011, Funding: ARC

Event detection and data management using cloud computing based systems for sensor network data, University of Melbourne, Marimuthu Palaniswami, 2010-2011, Funding: ARC

CREON Thailand Mooring, National Electronics and Computer Technology Centre, Scott Bainbridge, Mulica Jaroensutasine, P Srichaikul, 2010-2011, Partner Institution(s): Australian Institute of Marine Science, Walailak University, Funding: National Electronics and Computer Technology Centre

Next generation satellite tools for understanding change in coral reef ecosystems due to multiple global and local stressors, University of Queensland, O Hoegh-Guldberg, S Dove, Mark Eakin, Ray Berkelmans, Scott Bainbridge, David Wachenfeld, 2011-2016, Partner Institution(s): University of Queensland, Australian Institute of Marine Science, Great Barrier Reef Marine Park Authority, NOAA, Funding: ARC Linkage Project

Space-based National Wireless Sensor Network, University of South Australia, Jeff Kasparian, 2011-2015, Partner Institution(s): CSIRO, Defence Science and Technology Organisation, Australian Institute of Marine Science, Sage Automation, Funding: Department of Innovation, Industry, Science and Research

SeaDroid: Low cost, real-time water temperature logging, National Oceanic and Atmospheric Administration, William Skirving, 2011-2012, Partner Institution(s): Australian Institute of Marine Science, Funding: National Oceanic and Atmospheric Administration

Postgraduate Research Projects

Honours degree, Seabirds and climate change: Can wedge-tailed shearwaters adapt to changing resource availability?, James Cook University; Fiona McDuie, 2009-2010, Supervisor(s): B Congdon

Doctor of Philosophy (PhD), Biodiversity, ecology and distribution of benthic foraminiferal assemblages from the southern Great Barrier Reef, Macquarie University; Erika Woolsey, 2010-2014, Supervisor(s): Glenn Brock

Doctor of Philosophy (PhD), Morphodynamics of coral reef platforms and sedimentary bodies, University of Sydney; Daniel Harris, 2010-2013, Supervisor(s): Ana Vila-Concejo

Book Chapters

Lough, JM, Bainbridge, S, Berkelmans, R, Steinberg, C 2010, Physical monitoring of the Great Barrier Reef to understand ecological responses to climate change, in Y You, A Henderson-Sellers (eds.), *Climate Alert: Climate Change Monitoring and Strategy*, Sydney University Press, Sydney, pp.66-110

Community White Papers / Technical Papers

Brainard, RE, Bainbridge, S, Brinkman, R, Eakin, CM, Field, M, Gattuso, J-P, Gledhill, D, Gramer, L, Hendee, J, Hoeke, RK, Holbrook, O, Hoegh-Guldberg, O, Lammers, M, Manzello, D, McManus, M, Moffitt, R, Monaco, M, Morgan, J, Obura, D, Planes, S, Schmitt, RJ, Steinberg, C, Sweatman, OJ, Vetter, KB, Wong, KB; 2010, An International Network of Coral Reef Ecosystem Observing Systems (I-CREOS), *Proceedings of OceanObs'09: Sustained Ocean Observations and Information for Society (Vol. 2)*, Venice, Italy, 21-25 September 2009, doi:10.5270/OceanObs09.cwp.09

Conference Proceedings

Bainbridge, S, Rehbein, MA, Feather, G, Eggeling, D 2008, Sensor networks on the Great Barrier Reef - managing marine sensor data, *Proceedings of the Environmental Information Management Conference*, Albuquerque, 2009, Albuquerque

Bainbridge, S 2010, The Design Of A Novel Time Series Client For Ocean Data, *Proceedings of the IEEE Oceans 2010 Conference*, Sydney, May 2010, Sydney, Presenter: Scott Bainbridge

Bainbridge, S, Eggeling, D 2010, Smart Sensors - A New Paradigm For Marine Management: An Example From The Great Barrier Reef, *Proceedings of the IEEE Oceans 2010 Conference*, Sydney, May 2010, Sydney

Bainbridge, S, Steinberg, C, Heron, M, Furnas, M 2010, Integrating Observation Systems: An Example from the Great Barrier Reef , *Proceedings of the IEEE Oceans 2010 Conference*, Sydney, May 2010, Sydney

Bainbridge, S 2010, GBROOS – An Ocean Observing System for the Great Barrier Reef, *Proceedings of the Eleventh International Coral Reef Symposium*, 2008, Fort Lauderdale, Presenter: Scott Bainbridge

In Press

Journals

Bainbridge, S, Steinberg, C, Heron, M 2010, Integrating Observations: an example from the Great Barrier Reef Why Integration matters and why achieving Integration is harder than it looks - lessons from the Reef, *Sea Technology*, vol. 51, no. 8, pp. 33-38

Bainbridge, S, Eggeling, D, Page, G 2011, Lessons from the field - Two years of deploying operational wireless sensor networks on the Great Barrier Reef, *Sensors*, vol. 11, no. 7, pp. 6842-6855, doi:10.3390/s110706842

Reports

Public Seminars

Conferences, Symposia or Workshops

Conference Oral Presentation

Doherty, P; GBROOS – an Observation System for the Great Barrier Reef; Australian Marine Science Association Conference, 09/07/2007 - 13/07/2007, University of Melbourne, Melbourne, Presenter(s): Peter Doherty

Bainbridge, S, Rehbein, MA, Feather, G, Eggeling, D; Sensor networks on the Great Barrier Reef - managing marine sensor data; Environmental Information Management Conference , 10/09/2008 - 11/09/2008, Albuquerque

Bainbridge, S, Feather, G, Eggeling, D; GBROOS – Application of sensor networks to coral reef systems; 9th International Conference on Southern Hemisphere Meteorology and Oceanography (9ICSHMO), 09/02/2009 - 13/02/2009, Melbourne

Bainbridge, S; I-CREOS – Towards an International Network of Coral Reef Ecosystem Observing Systems; 5th International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), 07/12/2009 - 10/12/2009, Melbourne, Presenter(s): Scott Bainbridge

Hollier, W, Dargaville, R, Bainbridge, S, Rau, G, Dicks, A; Reef Climate Adaptation Research and Technology; The Second International Conference on Climate Change, 08/07/2010 - 10/07/2010, University of Queensland, Brisbane

Bainbridge, S; The role of sensor networks in monitoring and managing coastal systems including ecological monitoring of coral reefs; Thailand National Science and Technology Development Agency (NSTDA) Annual Conference, 25/03/2011 - 25/03/2011, Bangkok, Presenter(s): Scott Bainbridge

Bainbridge, S; Sensor Networks - working towards smart monitoring of environmental systems; Taiwan-AU-NZ Conference on Marine Biology, Biodiversity and Ecosystem, 19/06/2011 - 24/06/2011, Keelung, Presenter(s): Scott Bainbridge

Conference Poster

Bainbridge, S, Steinberg, C, Heron, M, Rigby, P; The role of observation systems in coral reef monitoring and management; 2009 Joint Assembly, 24/05/2009 - 27/05/2009, Toronto

Bainbridge, S, Eggeling, D; Application of Wireless Sensor Networks to Coastal Observing Systems - An Example From the Great Barrier Reef; OceanObs'09 Conference, 21/09/2009 - 25/09/2009, Venice

Bainbridge, S, Steinberg, C, Furnas, M, Heron, M; GBROOS - An Ocean Observing System for the Great Barrier Reef; OceanObs'09 Conference, 21/09/2009 - 25/09/2009, Venice

Key Note Speaker

Bainbridge, S; Sensor Networks in the real world - ten lessons from the Great Barrier Reef; 6th International Conference on Intelligent Sensors, Sensor Networks and Information Processing - ISSNIP 2010, 07/12/2010 - 10/12/2010, Queensland University of Technology, Brisbane, Presenter(s): Scott Bainbridge

Meeting Presentation

Bainbridge, S; GBROOS - Sensor Networks on the Great Barrier Reef; CREON (Coral Reef Environmental Observatory Network) 6 Meeting, 13/09/2010 - 16/09/2010, Taipei, Presenter(s): Scott Bainbridge

Bainbridge, S, Eggeling, D, Page, G; Sensor Networks - integrate or perish; CREON (Coral Reef Environmental Observatory Network) 7 Meeting, 07/12/2010 - 10/12/2010, Brisbane, Presenter(s): Scott Bainbridge

Session Chair

Workshop Chair - CREON workshop on the application of sensor networks to Coral Reef Systems: towards an International system of systems; 5th International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP), 07/12/2009 - 10/12/2009, Melbourne, Presenter(s): Scott Bainbridge

Session Co-Chairs - Advances in marine management; IEEE Oceans 2010, 24/05/2010 - 27/05/2010, Sydney, Presenter(s): Scott Bainbridge, Douglas Cato

Session Co-Chairs - DVIM Data visualization and information management; IEEE Oceans 2010, 24/05/2010 - 27/05/2010, Sydney, Presenter(s): Scott Bainbridge, Paulo de Souza

Session Co-Chair - Reef Climate Adaptation Research and Technology; The Second International Conference on Climate Change, 08/07/2010 - 10/07/2010, University of Queensland, Brisbane, Presenter(s): Scott Bainbridge

Meeting Co-Chair; CREON (Coral Reef Environmental Observatory Network) 6 Meeting, 13/09/2010 - 16/09/2010, Taipei, Presenter(s): Scott Bainbridge

Workshop Co-chair - Workshop on Monitoring the Impact of Climate Change on the Environment; International Conference on Intelligent Robots and Systems (IROS 2010), 18/10/2010 - 22/10/2010, Taipei, Presenter(s): Scott Bainbridge

Meeting Co-Chair; CREON (Coral Reef Environmental Observatory Network) 7 Meeting, 07/12/2010 - 10/12/2010, Brisbane, Presenter(s): Scott Bainbridge

Workshop Co-Chair - ISSNIP-CREON workshop, Building coral reef sensor networks as systems of systems; 6th International Conference on Intelligent Sensors, Sensor Networks and Information Processing - ISSNIP 2010, 07/12/2010 - 10/12/2010, Queensland University of Technology, Brisbane, Presenter(s): Scott Bainbridge

Symposium Presentation

Bainbridge, S; The Application of sensor networks to coastal monitoring: an example from the Great Barrier Reef; 6th China-Australia Symposium: Towards Sustainable Coastal and Deltaic Systems under Climate Change, 13/10/2009 - 15/10/2009, Guangzhou and Xiamen, Presenter(s): Scott Bainbridge

Workshop Presentation

Bainbridge, S; GBROOS - An Ocean Observing System for the Great Barrier Reef; GSSC-XII Workshop - Global and Regional Operational Oceanographic Systems: A Workshop to Explore Collaborative Benefits in the Indian, Asian, Southern Pacific and Australian Oceanic regions , 23/02/2009 - 24/02/2009, Perth, Presenter(s): Scott Bainbridge

Bainbridge, S; IMOS - Australia's Integrated Marine Observing System; Scientific Committee on Oceanic Research (SCOR) Workshop on Ocean Biology Observatories, 16/09/2009 - 18/09/2009, Mestre, Presenter(s): Scott Bainbridge

Bainbridge, S; GBROOS – the Great Barrier Reef Ocean Observing System; Pacific Rim Applications and Grid Middleware Assembly (PRAGMA) 18 Workshop, 03/03/2010 - 04/03/2010, San Diego, Presenter(s): Scott Bainbridge

Bainbridge, S; Sensor networks and web services: opportunities for new infrastructure; Australia-EU Workshop on marine data information, 04/04/2011 - 05/04/2011, Brussels, Presenter(s): Scott Bainbridge

Bainbridge, S; Sensor networks and the internet of things; International Hack Event - the Internet of Things, 08/04/2011 - 08/04/2011, London, Presenter(s): Scott Bainbridge