

Consortium for Health and Ecology

Level I Research Group

Brief Overview

The Consortium for Health and Ecology continues to provide quality services for the strongest and largest cluster of research postgraduate students in the School of Natural Sciences.

High on the list of achievements and developments in 2008 were Dr Andrea Hinwood's ARC Linkage grant success, and welcoming Dr Pascal Scherrer as a new Postdoctoral Fellow. We also celebrated 2 postgraduate completions and welcomed the commencement of 2 PhD students.

The Consortium for Health and Ecology continued to be involved in a global consortium to support a professional international association and publish an international journal. The journal, published by Springer, is ISI listed with an impact factor of over 1.4 in 2008. Dr Pierre Horwitz continued in his role as Co-Editor of the journal. Dr Horwitz was also re-elected Vice-President of the International Association for Ecology and Health at the Biennial Conference in Merida, Mexico, in December 2008.

Membership

Dr Andrea Hinwood

There has been little work in Australia exploring the relationships between environmental contaminants and human health. One of the major impediments is our inability to determine how much individuals are actually exposed to and how this information can be used to improve current health studies. Specific areas of interest relate to: the assessment of biomarkers for use in health studies, the development of novel exposure metrics, and the investigation of the relationships between environmental exposures and health effects. Andrea is actively involved in several projects to investigate the relationship between pollutants and health including the health effects of heavy metal contaminated soil and drinking water. Andrea is interested in the role of community perception and engagement in the EIA process as well as the development of methods to assess environmental and human health risks associated with multi media exposure and complex mixtures and the role of health impact assessment.

Associate Professor Pierre Horwitz

Pierre's primary research interests encompass the inter-relationship between human health, community well-being and ecological integrity, developing participatory approaches for the management of aquatic systems and the conservation of natural resources in general. Sustainability and health; social and ecological resilience; poverty and health inequalities are also issues of concern. He also has interests in freshwater, inland saline and estuarine fauna and flora as indicators of environmental change, the effects of fire, forestry, agriculture and urbanisation on inland aquatic systems and the contribution of flagships, keystones and other icon species to biodiversity conservation and the well-being of human communities.

Dr Pascal Scherrer – Postdoctoral Fellow

Pascal has a background in environmental science and ecotourism. His main research interest is in sustainable tourism and visitor management in natural areas, addressing the areas of environmental and social impacts and their relationship. He also has an interest in alpine ecology and monitoring tools, including the use of science based geographic information system applications to support land managers. Current and recent projects include a sustainable visitor capacity assessment of the Rottneest Island nature reserve areas, an assessment of environmental and social impacts of Kimberley coastal tourism; an assessment of long-term vegetation changes in the Kosciuszko alpine area relating to land-use change; and collaborative projects with social marketing and leisure researchers on health aspects of tourism.

New Grants and Research Projects

The following three projects commenced in 2008:

- Investigation of the Relationship between Maternal Exposure to Metals and Adverse Birth Outcomes (HINWOOD) – ARC Linkage
- The Social Ecology of Ningaloo Tourism (HORWITZ, SCHERRER) – Ningaloo Cluster, CSIRO Wealth from Oceans Flagship
- An Assessment of Rottneest Island's Sustainable Visitor Capacity (NORTHCOTE, SCHERRER, MACBETH)

The following projects were continuing or were completed in 2008:

- Impact of Disturbed Acid Sulphate Soils on Freshwater Ecosystems, Western Australia (HORWITZ)
- Fire management implications for the wetlands on the Swan Coastal Plain (HORWITZ, BLAKE, HINWOOD, FROEND, VAN ETEN)
- Fire, organic soils and acidification (HORWITZ, BLAKE)

Publications

Refereed Journal Articles

Alonso, A., Sheridan, L. and **Scherrer, P.** (2008). Importance of tasting rooms for Canary Islands' wineries. *British Food Journal* **110**: 977-988.

Alonso, A., Sheridan, L. and **Scherrer, P.** (2008). Wine tourism in the Canary Islands: An exploratory study, PASOS. *Revista de Turismo y Patrimonio Cultural* **6**: 291-300.

Hinwood, A.L., Horwitz, P. and **Rogan, R.** (2008) Human exposure to metals in groundwater affected by acid sulphate soil disturbance. *Archives of Environmental Contamination and Toxicology* **55**: 538-545.

Hinwood, A.L., Trout, M., Murby, J., **Barton, C.** and Symons, B. (2008) Assessing urinary levoglucosan and methoxyphenols as biomarkers for use in woodsmoke exposure studies. *Science of the Total Environment* **402**: 139-146.

Horwitz, P., Bradshaw, D., Hopper, S.D., Davies, P.M., **Froend, R.H.,** and Bradshaw, F. (2008) Hydrological change escalates risk of ecosystem stress in Australia's threatened biodiversity hotspot. *Journal of the Royal Society of Western Australia* **91**: 1-11.

Scherrer, P., Henley, N., Sheridan, L., Sibson, R. and Ryan, M. (2008). Maintaining Momentum: The challenge of a workplace physical activity program to sustain motivation and activity. *Journal of Research for Consumers* **14**.

Syme, G.J., Porter, N.B., **Goef, U.** and Kington, E.A. (2008) Integrating social well being into assessments of water policy: meeting the challenge for decision makers. *Water Policy* **10**: 323-343.

Research Reports

2008-25: P Horwitz, D Blake, J Cargill, RH Froend, A Hinwood, R Loomes, H McQueen, R Rogan and EJB van Etten. Fire Management Implications for Wetlands on the Swan Coastal Plain, Western Australia. Fire and Emergency Services Authority of Western Australia.

2008-27: B Sommer, P Horwitz and CD McCullough. Impact of Acid Sulfate Soils on Freshwater Ecosystems of Southwest WA. Western Australian Department of Water.

Scherrer, P., Smith, A.J. and Dowling R. (2008). Tourism and the Kimberley Coastal Waterways: a review of environmental and cultural aspects of expedition cruising along the Kimberley coast, Western Australia. STCRC Press, Gold Coast, Australia.

Henley, N., **Scherrer, P.,** Sibson, R., Sheridan, L., Bahn, S., Ryan, M. and Ganeshasundaram, R. (2008). Global Corporate Challenge Qualitative Research Project. The effect of a workplace team initiative on participants' motivation to sustain a physical activity program. Edith Cowan University, Perth, Australia.

Book Reviews

Horwitz, P. (2007) Environmental impact assessment in Australia: Theory and practice, 4th Edition. Geographical Research, **45**: 110-112.

Other publications

Horwitz, P. (2008). Keynote Address: Freshwater crayfish, conservation lists and passionate associations. International Association of Astacology, Kuopio, Finland. August 2008.

Pickering, C. and **Scherrer, P.** (2008). Managing tourists on the top of Australia: past, present and future challenges. Pp. 319-325. In: R. Dowling & D. Newsome (Eds.). Proceedings of the Inaugural Global Geotourism Conference, 17-20 August 2008, Fremantle, Australia. ISBN 1 86308 146 1.

Scherrer, P., Smith, A.J. & Dowling R. 2008. Tourism and the Kimberley Coastal Waterways: a review of environmental and cultural aspects of expedition cruising along the Kimberley coast, Western Australia. Photobook, Edith Cowan University.

Scherrer, P. 2008 Kimberley Cruising: Environmental and Cultural Aspects of a Growing Industry, Tourism Research Report, FACET News, Winter 2008, p. 16.

Higher Degree by Research Load

A significant component of the Consortium's approach with postgraduate studies is the assistance and involvement of supervisors from outside the School of Natural Sciences.

Six PhD students and four Masters students were enrolled and continuing students in the School of Natural Sciences, each of them undertaking scholastic work in the area of society, ecology and health (Table 1). Staff in the Consortium are supervising two Masters by research students enrolled outside the School (Table 2). One PhD student and one Masters student successfully completed their studies in 2008 (Table 3).

Student	Degree	Status	Supervisor (CHE)	Other supervisors
Victoria Lazenby	Masters	PT	Andrea Hinwood	Peter Franklin (UWA)
Health McQueen	Masters	PT	Andrea Hinwood	
Marie Raphael	Masters	FT	Andrea Hinwood	Eddie van Etten (SNS ECU)
Malavili Ramalingin	PhD	FT	Andrea Hinwood	Mary Boyce (SNS ECU)
Kelly Chapman	PhD	FT	Pierre Horwitz Pascal Scherrer	Geoff Syme (BPL), Jeremy Northcote (FEA),
May Carter	PhD	FT	Pierre Horwitz	Sherry Saggars (Curtin Uni)
Pat Karatna	PhD	FT	Pierre Horwitz	Dr Somsak Sukwong (Kasetsart University)
Robert Campbell	Masters	PT	Pierre Horwitz	Matthew Tonts (UWA)
David Blake	PhD	FT	Pierre Horwitz	Will Stock, Mary Boyce (SNS ECU); Ian Lau (CSIRO)
Zoe Car	PhD	PT	Pierre Horwitz	Sherry Saggars (Curtin Uni)
Bev Drayton-Witty	Honours	FT	Pierre Horwitz	

Table 1: Honours, Masters and PhD students undertaking Health and Ecology projects in 2008, showing supervision by Consortium staff, and where other supervision lies within or outside the University.

Student	Degree (Uni)	Status	Supervisor (CHE)	Other supervisors
Yuichi Yano	Masters (ECU Maths)	FT	Andrea Hinwood (Co)	Ute Mueller (P)
Ania Stanikowski	MPH (UWA)	FT	Andrea Hinwood (Assoc Sup)	Jane Heyworth and Alison Reid (both UWA)

Table 2: Masters and PhD students undertaking Health and Ecology projects in 2008 outside the School of Natural Sciences, where supervision is provided by Consortium staff, and where other supervision lies within or outside the University.

Higher Degree by Completions

Student	Degree	Status	Supervisor (CHE)	Other supervisors
Wesu Ndilia	Masters	Completed 08	Andrea Hinwood	Halina Rollin (South Africa MRC)
Ute Goeft	PhD	Completed 08	Pierre Horwitz	Ray Froend (SNS), Geoff Syme (BPL)

Table 3: Masters and PhD students completing Health and Ecology projects in 2008, where supervision is provided by Consortium staff, and where other supervision lies within or outside the University.

Community Engagement Activities and Linkages

Positions Held

Dr Andrea Hinwood: Environmental Protection Authority WA (Deputy Chair)

Associate Prof Pierre Horwitz: Vice President International Association for Ecology & Health

Associate Prof Pierre Horwitz: Invited Expert, Ramsar Convention on Wetlands Scientific and Technical Review Panel

Committee contributions

- Pacific Basin Consortium for Health and Environment (Hinwood)
- Clean Air Society –Deputy Chair SIG – Risk Assessment (Hinwood)
- Member, Rottneest Island Environment Advisory Committee (Horwitz)
- Organising Committee Asia Pacific Ecohealth Conference 2007, Deakin University, Melbourne (Horwitz)
- Department of Environment and Conservation Gngalara Sustainability Strategy Scientific Advisory Committee (Horwitz)
- Yanchep National Park Advisory Committee (Scherrer)
- Nature Based Tourism and Recreation Advisory Group, Department of Environment and Conservation (Scherrer)

Editorial positions

Co-editor of *Ecohealth* (Horwitz)

Editorial Board *International Society Environmental Forensics* (Hinwood)

Referee for papers in:

Journal Toxicology and Environmental Health, Aquatic Ecosystem Health and Management, Ecological Management and Restoration, Hydrobiologia, Chemosphere, Ecohealth, Journal Environmental Management, Natural Areas Journal, Restoration Ecology.

Future Plans and Directions

The Consortium for Health and Ecology is currently considering a vitalisation strategy for 2009 with an emphasis on the postgraduate experience, learning capacities, and research opportunities, all dealing with interdisciplinary studies at the intersections of society, health and ecology.