JAMES COOK UNIVERSITY
AUSTRALIA

EXPLORING FIELD SPACES AS LEARNING PLACES

SYMPOSIUM PROGRAM

30 JUNE, 2016

PROGRAM

8:45am

SIGN IN
Symposium program, refreshments

via Videoconference

9:00am — 9:15am

WELCOME AND OPENING ADDRESS
Professor Iain Gordon, DVC, Division of Tropical Environments and Societies (DTES)

9:15am — 10:15am

KEYNOTE ADDRESS
Associate Professor Jacqueline McLaughlin, Penn State University

10:15am — 11:35am

JCU SHOWCASE
"How do you design field work experiences that promote high levels of student engagement and learning?"
Eight JCU academics respond to this key question.

Campus – Based

11:35am — 12:00pm

LIGHT EARLY LUNCH

12:00pm — 12:30pm

FOCUSSED DISCUSSION
Townsville facilitators: Professor Lin Schwarzkopf and Drs Janine Sheaves and Tanya Doyle
Cairns facilitators: Associate Professors Paul Nelson and Michelle Lasen

via Videoconference

12:30pm — 12:40pm

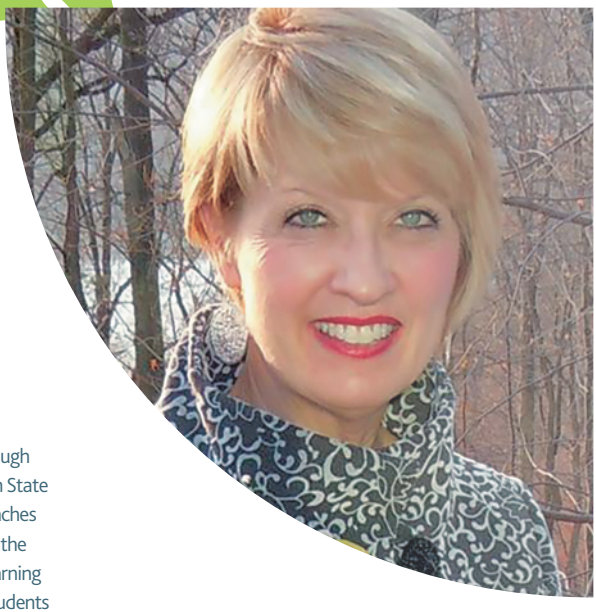
STUDENT VIMEOS

12:40pm — 1:40pm

SYMPOSIUM SYNTHESIS
Facilitators report back and keynote speaker to reflect on campus contributions and facilitate reflective dialogue

1:40pm — 1:45pm

CLOSE AND VIEW FORWARD
Phil Turner, DTES Director, Academic Quality and Strategy



The Story of Penn State CHANCE: Teaching Conservation through Experience

CHANCE (Connecting Humans And Nature through Conservation Experiences) is an established Penn State University engaged scholarship program that teaches conservation science and global sustainability at the front line. To do this, CHANCE creates unique learning environments which immerse its participants, students and science teachers, in nature. Participants work directly or indirectly (online) in the field with scientists to EXPLORE species biodiversity, RESEARCH ecology, and CONSERVE the biological structure of select and threatened ecosystems around the world. The ultimate goal: To prepare global-minded citizens who can analyse, create, and implement solutions to the challenges of our time such as habitat destruction, energy, air, food, water pollution, and climate change.

CHANCE was founded in 2004 and today has nearly forty-five partners world-wide. CHANCE's current work in Costa Rica, China, and Panama will be presented, as well as its online modules and three step "field course experiential learning model." The latter includes: 1) innovative web-based pre-trip assignments that provide essential background knowledge; 2) a two week long field-based trip experience that includes journal keeping, authentic ecological research and presentations, hands-on conservation work, participation in discussion groups, species assignments, and independent exploration; and, 3) post-trip web-based assignments that encourage the integration and application of key concepts learned via reflection. Data supporting improved student engagement and knowledge, perception of research skills, and interest in future conservation-based work using the CHANCE learning model will also be shared.

ASSOCIATE PROFESSOR

Jacqueline McLaughlin

Dr Jacqueline McLaughlin is an Associate Professor of Biology at Penn State Lehigh Valley and Founding Director of Penn State's award-winning, international, and engaged scholarship program called CHANCE (Connecting Humans And Nature through Conservation Experiences; www.chance.psu.edu). She is a visionary who effectively "reimagines" educational interfaces, course delivery mechanisms, and programs that utilise authentic science research in both formal and informal settings. Dr. McLaughlin's research interests hold true to her endless passion for teaching itself: (1) the utilisation of authentic research in undergraduate biology education; (2) building pedagogical and mentoring frameworks that help science faculty transform undergraduate laboratory environments into authentic research experiences; and, (3) creating and assessing international programs that are interdisciplinary, research-rich, and effectively teach conservation.

ASSOCIATE PROFESSOR

Ellen Ariel, Biomedicine

For the past five years, I have cooperated with Indigenous owner groups in the Townsville region. The main research focus has been the investigation of a hotspot for fibropapillomatosis, a serious viral induced disease in green sea turtles. In addition to a research team and undergraduate volunteers from JCU, both the Gudjuda and Girrungun Indigenous rangers have been heavily involved in field support, and because of a partnership based on respect for both traditional and scientific knowledge, as well as a common interest in turtles, we have succeeded in furthering science and mutual understanding, but also acted as a model for other communities.

A significant element in the building of an inclusive learning community is for students to feel that multiple perspectives and cultures are represented in the topic they are studying. Student cohorts at JCU include a high proportion of 'first in family' students, Australian Aboriginal and Torres Strait Islander students and students from non-English-speaking backgrounds, developing countries, as well as those of low socio-economic status. These demographic characteristics often make university studies more challenging. An inclusive and supportive curriculum and learning environment with virology examples from daily life, which students can readily engage with, has an impact on student learning. The approach of embedding discipline research and community engagement, in the classroom, opens students' eyes to the potential that their learning affords. Moreover, the students gain an understanding of how their qualifications can contribute to the wider community, giving them a sense of belonging and purpose combined with a deep motivation to learn.

Dr Nigel Chang, Archaeology

I have run two recent New Colombo Plan funded projects in Laos (Jan 2015 & 2016) with a strong archaeology focus, but also emphasising cultural competence. Our JCU students work directly with National University of Laos students, as well as other local stakeholders, to learn field skills and to understand the role of heritage and archaeology in supporting community and national identity. These projects have built on previous AsiaBound-funded mobility projects and long-term research and consultancy networks already in place in Laos.

Archaeology is the study of the human past based on its material remains. Understanding how those material remains are identified, recorded and recovered in the field is central to constructing theories and models of human society - and to assessing and critiquing the literature. Further, archaeology is conducted in association with communities, whether they be local or 'exotic'. It is important that our students understand the social milieu surrounding the basic work of archaeology.

ASSOCIATE PROFESSOR

Will Edwards, Terrestrial Ecosystems

I designed and have been subject co-ordinator of the third year semester-long subject, Field Ecology. Currently, the field component of the subject is based on industry and government standards for surveying biological diversity, and includes animal capture/handling and data collection techniques. Students undertake activities focused on four taxonomic groups: plants, birds, small mammals and lizards.

There is a well-documented decline in teaching of undergraduate field skills in biology (and other natural sciences). This decline has resulted in few graduating students possessing crucial identification skills. These skills, however, are the primary requirement for many of the positions students aspire to as employment destinations. I consider it is vitally important to build student confidence in these skills while enhancing students' career development.

Dr Kate Hutson, Centre for Sustainable Tropical Fisheries and Aquaculture

My teaching strategy centres on Career Development Learning for which I received a 2015 National Citation for Outstanding Contributions to Student Learning from the Australian Office for Learning and Teaching. To develop internationally career-relevant content, I have built constructive collaborative relationships with local, national and international industry, government and academics. This network enables me to integrate field-directed learning and assessment, as well as national and international industry placements for JCU students. My emphasis on learning outcomes that target knowledge and skill development in the field has advanced graduate competitiveness against job selection criteria in aquatic sciences and aquaculture, ultimately resulting in outstanding student progression and employability.

Networks and experience lead to employment. Students that are exposed to field experiences and industry placements develop skills valued by potential employers. Career-relevant field experiences help students understand their future profession and build their knowledge of employer expectations. Moreover, career workshops give students an opportunity to learn effective job application skills and have one-on-one engagement with potential employees from various backgrounds including business, private industry, government and research.

ASSOCIATE PROFESSOR

Lisa Law, Geography and Planning

In 2015, I ran a field studies subject to Singapore under the auspices of DFAT's New Colombo Plan. Urban geography and planning students were introduced to tropical urban planning in a densely populated metropolis. Later, in 2015, I ran a design studio in Ingham, FNQ to investigate the dynamics of place making in a declining regional town. Together these experiences gave students opportunities to think about the challenges of urban and regional development in the tropics.

Urban geographers and planners must be capable of conducting investigations in unfamiliar contexts under challenging conditions. Working in different national and regional contexts, with distinct histories, cultures and governance systems, provides students with a learned competence that provides outstanding opportunities for creative thinking and learning. Such place-based learning is a helpful means to engage students in abstract critical thinking.

Danny Munnerley, Head, Blended Learning and Innovation

In February 2016, I lead the education program for the 'Drones for Good' competition established by the Prime Minister Office in Dubai. This event brought together students from around the world to compete in a high stakes technology design competition to develop the best use for drones in improving peoples' lives today. The education program ran in parallel to the competition and attracted students, from many UAE universities, who participated in workshops to develop future drone and robotics designs under the mentorship of leading developers.

The benefits of participating in such activities and events are not necessarily specific to any discipline or subject. Through creating problems and challenges that students might face in the contemporary workplace they can quickly test their approaches and strategies, develop interpersonal skills and think creatively in a risk free environment. This approach has been used to develop projects that connect students with local business, government departments, communities and schools. It has resulted in several business start-ups and entrepreneurial activities in the areas of technology, science and cultural heritage.

PROFESSOR

Simon Robson, Head, Terrestrial Ecosystems

I have over 30 years of experience in facilitating student learning in the field. These field-based learning activities occur on a global scale, ranging from the campuses of JCU to Borneo, Peru, Thailand, India, Mozambique, USA and Vietnam. They are funded by a variety of agencies, including the Student Mobility Plan, Colombo Plan, National Science Foundation and California Academy of Science, as well as JCU.

Field work experiences represent a critical step in helping students transition from 'learning about biology' to 'being a biologist'. In an often confronting, challenging and unpredictable manner, field experiences provide students with the opportunity to ask and answer their own questions about their world and develop the skills required to see the world through the eyes of a biologist. Field work presents a very personal and meaningful experience linking students to the biological world in a way that makes sense to them. It helps students 'own' the learning experience.

PROFESSOR

Marcus Sheaves, Head, Marine Biology and Aquaculture

For the last 20 years, I have coordinated a third year undergraduate and a postgraduate subject at JCU that is directed at real world problems so has a strong field-based component (four field trips per year). This includes a series of topic/ecosystem based three hour field trips and a major full day field trip – all focussed on students experiencing the ecosystems they are learning about and investigating applied aspects in a real-world situation. Over the same period, I have coordinated a third year undergraduate and a postgraduate advanced biostatistics subject. Perhaps surprisingly, adding a hands on field work session working on the problems of collecting data in the real world has been one of the most useful things we have done. In recent years, in my role as Head of Marine Biology and Aquaculture, I have had oversight of our diverse undergraduate field engagement ranging from Marine Biology's multiday field trips to JCU's Orpheus Island research station to Aquaculture's diverse engagements with industry involving field trips and student placement.

Field work is critical in linking ideas and knowledge to the real world of organisms, environments and ecosystems, and to the real-world problems that a professional biologist, manager or aquaculture professional will need to solve. This linking with living, breathing nature and the complexity of real-world problems is critical in the development of students, and something that is much easier to achieve when students are faced with the actual, rather than the virtual. Field work also provides the opportunity for students to learn hands-on skills. Not only does this up-skill students but it gives them a real sense of achievement and tangible learning that enhances their whole learning experience.

PROJECT AND SYMPOSIUM CONTEXT AND AIMS

The JCU Learning and Teaching Blueprint, 2014-16 recognises "place-based learning at our tropical and world heritage fieldlocations as an important aspect of the student experience" (p. 4). In a broad review of field-based activities in biology curricula at Australian universities (Burke da Silva, 2014), JCU was found to be the university with the highest number of subjects with embedded field work experiences. The literature indicates that, across Australian universities, field-based learning is under threat given funding declines, more stringent regulations and approvals processes, increased class sizes, lack of commitment from students as a result of competing responsibilities, and lack of lecturer expertise and time for planning (Durrant & Hartman, 2014; Gill, Adams & Eriksen, 2012; Krakowka, 2012; Lyu et al., 2013; Moore, Kerr, & Hedgraft, 2011). It is timely then to investigate the value of field work to student learning and the student experience.

The purpose of the symposium is to provide opportunity for academics to share practices and perceptions regarding effective field-work pedagogy. This symposium forms part of data collection efforts of an OLT-funded project, which seeks to develop a good practice principles guide and promote scholarship related to field-based learning and teaching. To date, the project team has facilitated staff focus groups, engaged as participant-observer in field-work trips, and captured the student voice by way of an online, post field work survey and digital media. The research will be broadly applicable across the higher education sector, especially for universities maintaining field research stations, facilitating field trips and where field-based learning is an integral part of the curriculum. The project's webpage serves as a repository for symposium and project artefacts: https://www.jcu.edu.au/learning-and-teaching/staff/scholarship-in-learning-and-teaching/field-based-learning

Australian Government

Office for Learning & Teaching