

Media Release

Chiefs of Staff, News Directors

Thursday 3 July 2014

University researchers advancing knowledge of life on Earth

Life on Earth is capable of growing from temperatures well below freezing to above the boiling point of water – and now the microbiology team at the Tasmanian Institute of Agriculture (TIA), at the University of Tasmania, has produced a predictive model with the potential to produce the temperature dependence of all biological growth processes on Earth.

This exciting research will be revealed at a School of Land and Food seminar tomorrow (**Friday 4 July**). The seminar will outline the model, which can accurately describe relative growth rates in 230 single-celled and multi-celled species, from all three domains of life.

Potential future applications of the new model may span diverse areas of science, including climate change. Here, growth rates of an indicator species could be a simple way to predict an ecosystem tipping point. The work also provides strong support for a system common to all life, perhaps even illuminating what we know about the 'last universal common ancestor' to all life.

Other applications of the research include:

- to advance knowledge on the origin of life on Earth and evolutionary adaptation to temperature
- being able to define the limits of life on Earth set by combinations of temperature and eventually by salinity and pH

Seminar: "From Biological Growth Rates to Thermodynamics" – members of the public are welcome to attend.

Presented by: Dr Ross Corkrey, Senior Research Fellow in Biometrics, and Dr Tom Ross, Associate Professor in Food Microbiology

Time: 3pm; Friday 4th July

Venue: Lecture Theatre 1, Life Sciences Building, UTAS Sandy Bay Campus

Biographies of speakers: Dr Ross Corkrey studied at the University of Adelaide as a mature-aged student, and completed his Honours in zoology, for which he won the Michael Smyth memorial award. He then worked for the Australian Bureau of Statistics and the University of Newcastle where he handled public health interventions and survey work. He completed his PhD at the University of Newcastle and later developed a Bayesian model of dolphin populations in Scotland. Since relocating to Tasmania, he has been increasingly engaged in thermal biology, particularly using Bayesian methods.

Associate Professor Tom Ross, who works within the Food Safety Centre at TIA, was recently awarded the prestigious Keith Farrer Award of Merit at the Australian Institute of Food Science and Technology Convention – this award is given for achievements in food science and technology in the wide areas of research, industry and education and contributions to further the aims and objectives of the Institute. Assoc. Professor Ross' research focuses on developing science and decision support systems to help industry and government to reduce the chances of food-borne infections.

Information released by:

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