

ECOLOGY AND EVOLUTION: WHY THEY SHOULD FORM A TWO-WAY STREET

Hanna Kokko

Hanna Kokko is a prize-winning evolutionary ecologist who until 2010 was a professor at Helsinki University. She has now joined the Research School of Biology as an Australian Laureate Fellow and is currently building up a new research group in the Division of Evolution, Ecology and Genetics. With a background in applied mathematics and systems analysis, Hanna has strived to improve the communication between theoreticians and empiricists in the biological sciences. Similarly, her work builds bridges between evolutionary biologists and ecologists, by showing that evolutionary processes often cannot be understood without taking into account the ecological consequences of each evolutionary change.



3-4 PM WEDNESDAY 24 NOVEMBER 2010

Venue: The Robertson Lecture Theatre
R.N. Robertson Building (no. 46)
Research School of Biology
Refreshments to follow in the foyer. All welcome.

Speaker: Hanna Kokko
Australian Laureate Fellow
Research School of Biology

For further information

Contact Audra Johnstone
T: 02 6125 2866
E: audra.johnstone@anu.edu.au

This *Director's Series* lecture is supported by:
Evolution, Ecology, and Genetics,
Research School of Biology.



One could be forgiven for thinking that the mathematical underpinnings of evolution have been known for almost 100 years: for example, Fisher's fundamental theorem of natural selection states that natural selection increases fitness at a rate equal to the additive genetic variance in fitness. However, Fisher's focus on this increase does not tell the whole story: any environment will impose limits on reproduction, and these limits depend on what other individuals in the population are up to... which, again, changes with evolution. In this talk, Professor Kokko will explore how understanding this principle (eco-evolutionary feedback) is crucial for understanding the evolution of diverse traits such as parental care in animals, curious reproductive systems in fish, and sex allocation in plants.