



## Economics students awarded medals by the Economic Society of SA

Two students of the Department of Economics were each co-winners in their categories of the Founder's Medal competition of the Economic Society of South Africa (ESSA).

**Timothy Köhler** was the co-winner of the prize awarded for the best Honours research paper in South Africa completed in the 2018/2019 year. His research project entitled *Economic Growth and Environmental Degradation: Investigating the Existence of the Environmental Kuznets Curve for Local and Global Pollutants in South Africa*, was supervised by Prof Martin de Wit.

In this work, Köhler investigated the dominant claim in the environmental economic literature that continued economic growth will eventually be beneficial for the environment, with specific reference to global and local air pollutants. Using OLS and ARDL regression techniques, he tested 24 different models and could not find any evidence for such a claim for any of the selected pollutants. The implication is that environmental problems cannot be dealt with by relying on an economic policy focussed on growth alone, but would need specific environmental policy interventions.

In the Master's category, the prize was awarded to **Reid Falconer** for his work on *Using satellite data to predict food security: a case study of Malawi*. The supervisor was Prof Dieter von Fintel.

Reid adopted an interdisciplinary approach, adapting techniques originally developed by computer scientists at Stanford University and utilising transfer learning (a type of machine learning) to produce small area maps of food security indicators in Malawi. His modelling also takes spatial dependence in the data into account, a problem rarely addressed in existing literature.

The maps can be used to identify food insecurity hotspots in Malawi, and to assist in targeting input subsidies to the areas where they are most necessary. As one of the poorest countries in the world, Malawi has implemented one of the largest agricultural input subsidy programmes worldwide to support smallholder production. With further development of the paper and the methods, the tools can be implemented to provide “real time” alerts to food insecurity in Malawi and other countries.