Name:	*Thomas Bringhenti*
Country of origin:	*Italy*
Former SIA student:	*I finished my Master in the summer semester 2018*
Currently:	*PhD student at the Division Tropical Plant Production and Agricultural Systems Modelling (TROPAGS), Department of Crop Science, Georg-August-University Göttingen*

I do not come from a tropical country, nor do I have an agricultural background at home. So how did I end up studying *Sustainable International Agriculture*, with a focus on *Tropical Agriculture*? That is because I decided to follow my own interests and dreams. And Göttingen - and the SIA program especially - are with no doubts the right place to do so. The interdisciplinary approach of this curriculum allowed me to gain insights not only on the environmental aspects of sustainable crop production in the (sub)tropics, but also on its economic and social facets. My studies were enriched by a number of field visits and excursions, both across Germany and abroad. Among the best (educational) experiences, the study trip to Costa Rica in spring 2017 has to be mentioned. Another key factor is the number of bonds that were built during those years, which still resist despite considerable physical distances. Enabling the creation of such a network of friends and contacts across the globe is, in my opinion, one of the most extraordinary features of SIA.

During my Master, I also had the opportunity to spend three months in South Africa collecting data for my MSc thesis under the supervision of Prof. Dr. Reimund Rötter from the *Tropical Plant Production and Agricultural Systems Modelling (TROPAGS)* division. My research focused on the role of smallholder homegardens in the supply of important ecosystem functions, such as agrobiodiversity conservation. In particular, I investigated the plant species diversity of homegardens in rural villages of Limpopo (the northernmost province of South Africa) and examined its main climatic, socioeconomic and management-related determining factors.

After defending my MSc thesis in July 2018, I got the opportunity to continue working at the *TROPAGS* division and I am now in the initial phase of my PhD. Focus of my research this time is the ecophysiological modelling of macadamia trees in the Limpopo Province, South Africa. South Africa is the largest producer and exporter of macadamia nuts in the world, with a constantly growing industry. However, despite the key role that macadamia plays for the country's economy, there is only limited literature describing the physiology of this crop. Furthermore, tools to enhance the learning and understanding of agro-ecosystem interactions, such as ecophysiological models, are not available for macadamia, unlike for other (sub)tropical perennials like oil palm, coffee or coconut. Therefore, the overall goal of my research is to increase understanding about and gain new insights on the processes determining the interactions of genotype, environment and management (G x E x M) in macadamia orchards and to apply and extrapolate this knowledge to explore the effects of climate change and management interventions in the Limpopo region. To this end I will first conduct field experiments and monitor a number of ecophysiological variables in macadamia orchards selected along an altitude gradient in the Limpopo Province. Secondly, I

will develop, on that basis, a first-ever process-based (ecophysiological) macadamia growth simulation model and evaluate it with existing and newly generated data sets. The resultant model will allow for upscaling of results from field experimentation across the whole region. Furthermore, the effects of climate change and management interventions on the system's productivity and related ecosystem services can be explored and quantified. My research is being conducted in the framework of the *South African Limpopo Landscapes Network (SALLnet)* joint research project, funded by the *Federal Ministry of Education and Research (BMBF)* and involving the cooperation of a number of German and South African partner universities.