



Press Release

University of Freiburg

## Green Light for Research Groups

Rectorate

### Three Freiburg junior researchers receive prestigious Starting Grants from European Research Council

Public Relations

The European Research Council (ERC) has awarded three Starting Grants to University of Freiburg researchers: Literary scholar Dr. **Marco Caracciolo**, English studies scholar Dr. **Eva von Contzen**, and computer scientist Dr. **Frank Hutter** will receive a total of just under four million euros in funding over the next five years. Among the most prestigious research awards offered by the European Union, the ERC Starting Grant supports young scholars who wish to launch an independent career and establish their own research group in the years after earning their doctoral degree. In the current round, 325 projects in 23 European countries were selected for funding out of a total of almost 3000 submitted applications.

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#### **Marco Caracciolo, Freiburg Institute for Advanced Studies (FRIAS): “Narrating the Mesh”**

What do people feel when they encounter an animal? How do they describe their relationship with the weather? When do they feel at one with nature? These are questions the literary scholar Marco Caracciolo is addressing in his research project. “There are a lot of people who claim that the environmental crisis is calling into question our attitude toward the natural world around us,” says the researcher. Up to now, our world view has been shaped by the idea that humans are fundamentally different from their environment and superior to it on account of their abilities, but now the initial consequences of climate change are showing clearly how closely interconnected these two worlds are. Taking up an image from the

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philosopher Timothy Morton of humans and nature bound together in a mesh, Caracciolo is studying and comparing the narrative connections between humans and a variety of non-human ecological and geophysical processes. His project involves analyzing 20 works published in the past two decades, including Haruki Murakami's short story collection *after the quake* and Ian McEwan's novel *Solar*, and comparing their images, concepts, and stylistic devices with those from oral reports given by test subjects from various social and geographical backgrounds. The subjects are asked in interviews to narrate their encounters with animals or their last outing in natural surroundings. The goal of the comparison is to determine whether and how literary and oral accounts of the "mesh" differ and what effect they have on the narrators and their audience. Caracciolo's objective is to emphasize how stories can increase our awareness for the ways in which we are connected with nature. The researcher is the first FRIAS fellow to receive an ERC Grant for a project in the humanities.

**Eva von Contzen, Department of English: "Towards a Listology – LISTLIT"**

Shopping lists, lists of travel destinations, to-do lists at the office: Modern life is full of lists – but they are not a new invention. Humans have been making lists since the emergence of literacy, for instance to keep track of and administrate territories or to document the reign of kings and important historical events for posterity. Lists also play an important role in literary texts. "Just think about the innumerable lists in the Bible or the ship catalog in the *Iliad*," says Eva von Contzen. At the same time, it almost seems like a provocation when such lists appear in literary texts: Who hasn't just skimmed over a list instead of reading it from start to finish? Is it even possible to read a list at all? The English studies scholar plans to explore this tension between the seemingly trivial cultural practice of writing lists and their literary manifestations. Along with her research group, she will be studying the various types and genres of lists from antiquity to postmodernism, focusing on two central questions: How are lists used in literary texts and what purposes do they serve? What is the relationship between these literary forms and non-literary practices of list making in a particular era? Von Contzen understands the project as a contribution to the currently expanding discipline of cognitive literary studies. "Lists reproduce

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principles of order and disorder. They are a valuable seismograph for measuring how people perceived and ordered the world in a particular age.” Part of the project also involves creating a database of lists in literary texts that will be made accessible to the public.

**Frank Hutter, Department of Computer Science:**

**“Data-Driven Methods for Modelling and Optimizing the Empirical Performance of Deep Neural Networks”**

Artificial intelligence has been causing quite a stir in recent years with projects involving deep learning, which has been used to recognize images, understand language, defeat the world champion in the Japanese board game GO, and – like at the University of Freiburg’s Cluster of Excellence BrainLinks-BrainTools – control intelligent robot arms by the power of thought. “One of the main problems of deep learning, however, is its sensitivity,” says Frank Hutter. “In order for it to work, dozens of free parameters need to be set in just the right way. If even a single one of them is off the mark, it often prevents the entire system from functioning.” This often makes it necessary for researchers to test hundreds of settings to find one good one. However, this blind black box approach is too slow for the extensive data sets that routinely need to be handled in the age of “big data,” each of which can take several years to process. This is where Hutter’s research project comes in: “We are developing intelligent optimization methods that work in much the same way as human experts. They use previous results to analyze similar data sets and execute short experiments on subsets of the data autonomously, finding a good setting around 100 times faster.” With his methodological fundamental research, the computer scientist aims to develop deep learning to the point where it functions at the touch of a button and can be used effectively by ordinary people. In the Cluster of Excellence BrainLinks-BrainTools, Hutter intends to use his research for the concrete purpose of improving the classification of brain signals – for instance to identify which movement of a robot arm a test subject is thinking about. It currently takes days to learn an optimized classification model for this task. Thanks to Hutter’s research, it could be possible in the future to complete the same task in real time.

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