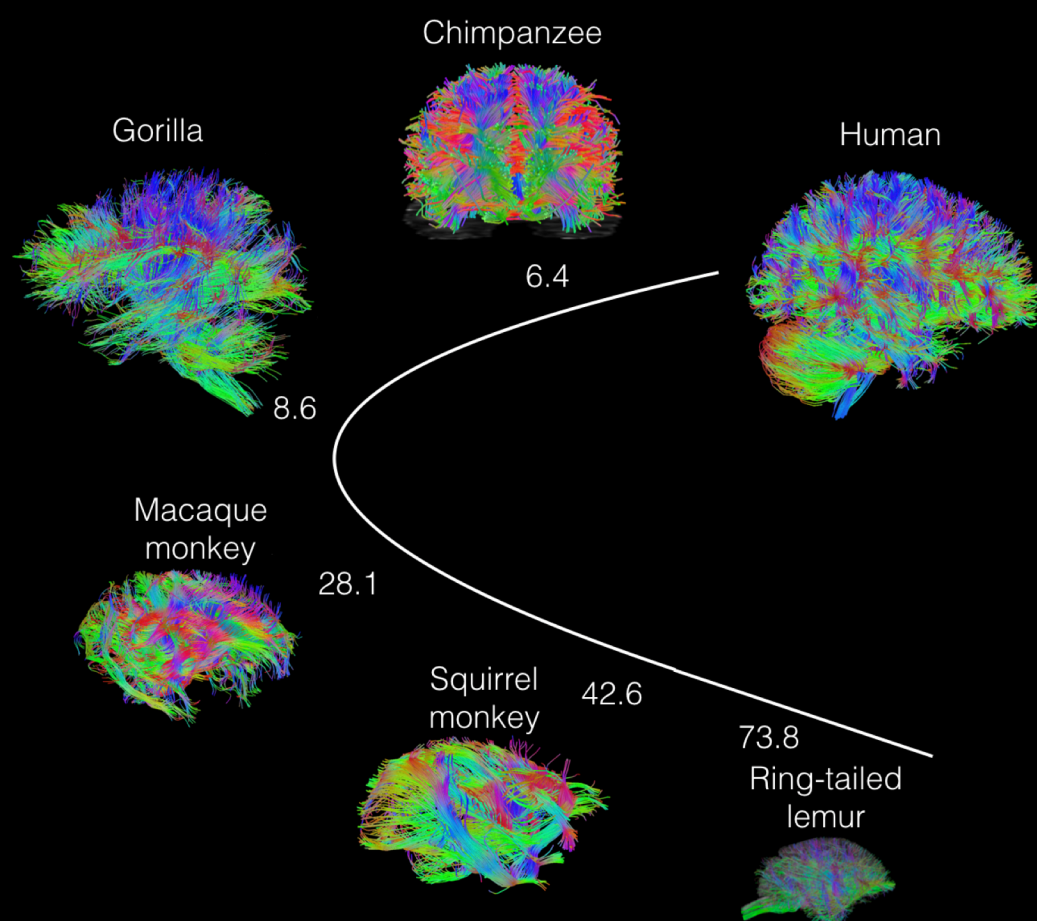


Dr. ROGIER B. MARS, WHAT'S SPECIAL ABOUT THE HUMAN BRAIN? COMPARATIVE NEUROIMAGING OF MONKEYS, APES, AND HUMANS

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Dr. ROGIER B. MARS

WHAT'S SPECIAL ABOUT THE HUMAN BRAIN?

COMPARATIVE NEUROIMAGING OF MONKEYS, APES, AND HUMANS

One of the most neglected aspects of brain organization is its diversity, especially across species. Although many cognitive neuroscientists use knowledge of the brains of 'model' species, such as the mouse or the macaque monkey, they often neglect to formally test how suitable these models are. It has been argued that failures between researchers working with different species to coordinate their knowledge and terminology is one of the main causes of the failures of many translational projects. Moreover, by neglecting species diversity in brain organization, we effectively focus on only one datapoint—the human—when trying to understand the relationship between brain structure and function, ignoring the many data points that the natural experiment of evolution provides.

In my lab, we develop approaches to understand how species' brains differ in their organization and how this affects behavioral repertoires. Using neuroimaging data from monkeys, apes, and humans, we are starting to chart the unique specializations that have occurred in the different branches of the primate family tree. It also helps us to formulate and test hypotheses about aspects of our behavior that we consider 'uniquely human', including our complex social and decision-making behavior. In this talk, I will report on some of our recent progress in this endeavor.

Rogier Mars is Associate Professor at the Wellcome Centre for Integrative Neuroimaging (University of Oxford) and Principal Investigator at the Donders Institute for Brain, Cognition and Behaviour (Radboud University Nijmegen). He graduated from The Donders Institute in 2004, before moving to University College London and then the University of Oxford for this post-doctoral. He currently leads the Cognitive Neuroecology Lab in both Oxford and Nijmegen. He is interested in brain diversity—how do differences in brain organization enable differences in function? To study this question he uses a combination of cognitive and comparative neuroscience.