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# Development of multi-cluster cortical networks by time windows for spatial growth

Marcus Kaiser<sup>a, b, c</sup> ... Claus C. Hilgetag<sup>c</sup>

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## Abstract

Many neural networks, such as the complex cortical networks of the mammalian brain, are organized in multiple clusters, with many connections within but few links between clusters. To generate this organization, we explored a wiring rule in which the establishment of a connection between two areas depended on the areas' distance as well as their respective time windows for connection establishment. The concept of time windows was based on the observation that the development of cortical areas partially overlaps in time. Our algorithm was able to generate multiple network clusters depending on the number and overlap of the time windows.



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## Keywords

Cortical connectivity; Development; Neural networks; Time windows

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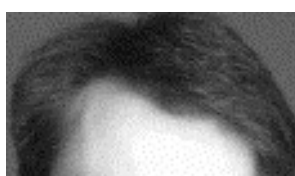
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**Marcus Kaiser** studied biology at the Ruhr-University Bochum and the International University Bremen and computer science at the distance university Hagen. He is Academic Fellow for Computational (Complex) Neural Systems and Behaviour at Newcastle University (UK). His current research is about organization, development, robustness, and activity propagation in cortical networks (<http://www.biological-networks.org/>).





**Claus C. Hilgetag** is an Associate Professor of Neuroscience at International University Bremen. He studied Biophysics in Berlin and Neuroscience in Edinburgh, Oxford, Newcastle and Boston. His research focuses on computational studies of cortical architecture and connectivity, and on understanding the mechanisms of spatial attention and inattention in mammalian brains.

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