

University of Groningen

## Exploring the VISTA of glial cells

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# **Exploring the VISTA of glial cells**

Astrocytes and microglia from  
development to disease

**Malte Borggrewe**

# Propositions

Accompanying the doctoral thesis

## Exploring the VISTA of glial cells

Astrocytes and microglia from development to disease

1. Enhancing VISTA signaling amplifies inhibitory signals in neuroinflammation and alleviates multiple sclerosis burden (this thesis).
2. VISTA has important functions in peripheral immunity, but also in the healthy central nervous system, hence modulating its function should be done with great caution as side effects are difficult to predict (this thesis).
3. Microglia maturation during early development renders the fetal central nervous system vulnerable towards perturbations (this thesis).
4. Over-categorizing cellular heterogeneity is obstructive in finding meaningful cellular mechanisms (this thesis).
5. Data sets from omics studies must be more readily accessible for their use in future studies (this thesis).
6. Isolating astrocytes and microglia using (surface) markers poses the risk of bias for functional subtypes (this thesis).
7. True biological mechanisms can most reliably be identified by integrated use of tissue culture, animal models, and intact human tissues.
8. The rise of science deniers illustrates a severe gap between scientists and society, a gap that can only be bridged by researchers engaging with the public and politicians standing up for science.
9. The SARS-CoV-2 pandemic highlights that unconditional data sharing and open science is key to accelerate lifesaving scientific discoveries.
10. Academia suffers from a mental health crisis, and universities are responsible to enforce environments with fair hours, acceptable pressure, and better support.
11. Science is a public good and thus it must be open and free.

**Malte Borggrewe**

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The book cover and chapter cover pages illustrate a scenic view (VISTA) of glial cells from development to disease.

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# Exploring the VISTA of glial cells

Astrocytes and microglia from development to disease

**PhD thesis**

to obtain the degree of PhD at the  
 University of Groningen  
 on the authority of the  
 Rector Magnificus Prof. C. Wijmenga  
 and in accordance with  
 the decision by the College of Deans.

This thesis will be defended in public on

Wednesday 12 May 2021 at 9.00 hours

by

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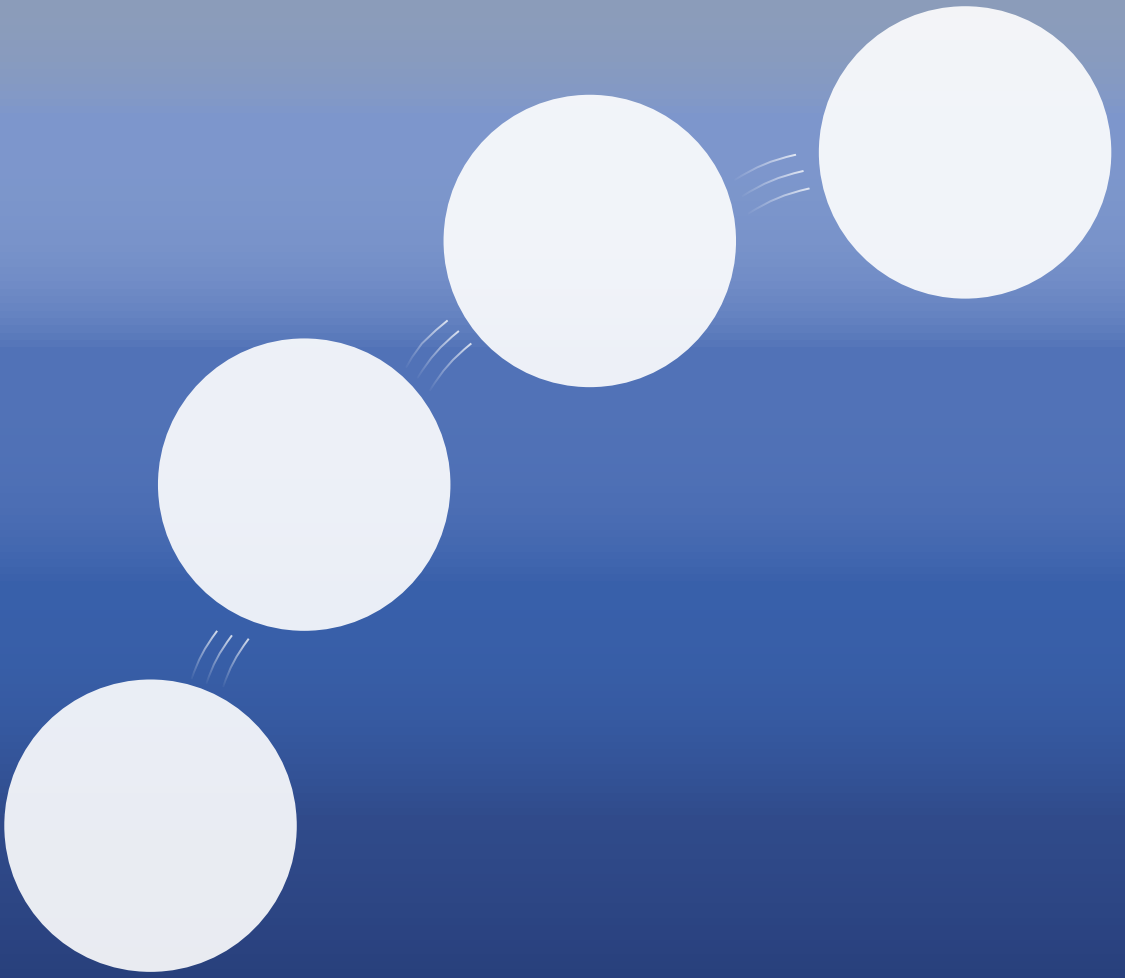
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## **Paranymphs**

Alessandro Grillini

Laura Kracht







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