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### Cell resolved blood flow modeling with the Lattice Boltzmann method

*Cell deformability and transport in diseases*

Czaja, B.E.

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The background image shows a street scene in Amsterdam, featuring a prominent red brick building with white window frames and a canal in the foreground. A green metal railing runs along the canal. A red and white 'no entry' sign is visible on a street lamp. The scene is overlaid with a 3D simulation of red blood cells, which are depicted as red, biconcave discs of various sizes and orientations, scattered throughout the scene as if they are floating in the air or water.

# Cell Resolved Blood Flow Modeling with the Lattice Boltzmann Method

Cell Deformability and Transport in Diseases

Benjamin Czaja

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Cell Deformability and Transport in Diseases



# **Cell Resolved Blood Flow Modeling with the Lattice Boltzmann Method**

Cell Deformability and Transport in Diseases

## **ACADEMISCH PROEFSCHRIFT**

ter verkrijging van de graad van doctor  
aan de Universiteit van Amsterdam  
op gezag van de Rector Magnificus  
prof. dr. ir. K.I.J. Maex

ten overstaan van een door het College voor Promoties ingestelde commissie,  
in het openbaar te verdedigen in de Agnietenkapel  
op vrijdag 11 december 2020, te 16:00 uur

door

**Benjamin Eric Czaja**

geboren te Utah

## **Promotiecommissie**

<b>Promotor</b>	prof. dr. ir. A.G. Hoekstra	Universiteit van Amsterdam
<b>Copromotor</b>	dr. G. Závodszky	Universiteit van Amsterdam

<b>Overige leden</b>	prof. dr. O. Eniola-Adefeso	University of Michigan
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	dr. J.A. Kaandorp	Universiteit van Amsterdam
	dr. S. Jabbari Farouji	Universiteit van Amsterdam

<b>Faculteit</b>	Faculteit der Natuurwetenschappen, Wiskunde en Informatica
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to my family

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