# Efficient morphological tools for astronomical image processing

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**Ugo Moschini**


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Cover background: VISTA gigapixel mosaic of the central parts of the Milky Way. Id: eso1242. Credit: ESO/VVV Survey/D. Minniti. Acknowledgement: Ignacio Toledo, Martin Kornmesser.
Front cover detail: photo of a tea plantation taken by the author in Darjeeling, India. The whole plantation is made of small tea shrubs: likewise, the parallel construction of a max-tree occurs by merging together the small sub-trees computed by the threads.

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**PhD thesis**

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on the authority of the
Rector Magnificus Prof. E. Sterken
and in accordance with
the decision by the College of Deans.

This thesis will be defended in public on

Friday 13 May 2016 at 12.45 hours

by

**Ugo Moschini**

born on 14 February 1983
in Pisa, Italy

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Prof. J.B.T.M. Roerdink
Prof. P. Salembier

to my grandma Nonna Vera,
and her beloved Firenze.

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# Acknowledgements

At the beginning of January 2012, I drove from Darmstadt to my new place in Groningen. It was indeed quite a long and lonely driving, but also the start of a longer four-year journey in which I worked on many interesting topics and in which I met just as many interesting and awesome new friends and colleagues.

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