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## Computer-aided detection of wall motion abnormalities in cardiac MRI

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## PUBLICATIONS

### International journal

**A. Suinesiaputra**, A. F. Frangi, T. A. M. Kaandorp, H. J. Lamb, J. J. Bax, J. H. C. Reiber, and B. P. F. Lelieveldt, “Automated detection of regional wall motion abnormalities based on a statistical model applied to multi-slice short-axis cardiac MR images,” *IEEE Transactions on Medical Imaging*, vol. 4, no. 28, pp. 595–607, Apr 2009.

**A. Suinesiaputra**, A. F. Frangi, T. A. M. Kaandorp, H. J. Lamb, J. J. Bax, J. H. C. Reiber, and B. P. F. Lelieveldt, “An automated regional wall motion abnormality detection by combining rest and stress cardiac MRI: Correlation with infarct transmuralty from contrast-enhanced MRI,” *submitted*.

### Book chapter

B. M. ter Haar Romeny, L. M. J. Florack, and **A. Suinesiaputra**, *Front-End Vision and Multi-Scale Image Analysis*. Springer, 2003, ch. Multi-scale optic flow, pp. 285–310.

### Peer-reviewed conference proceedings

**A. Suinesiaputra**, L. M. J. Florack, J. J. M. Westenberg, B. M. ter Haar Romeny, J. H. C. Reiber, and B. P. F. Lelieveldt, “Optic SSow computation from cardiac MR tagging using a multiscale differential method: A comparative study with velocity-encoded MRI,” in *Medical Image Computing and Computer-Assisted Intervention — MICCAI 2003*, Lecture Notes in Computer Science Series vol. 2878, R. E. Ellis and T. M. Peters, Eds., Springer, Nov 2003, pp. 483–490.

**A. Suinesiaputra**, A. F. Frangi, M. Üzümcü, J. H. C. Reiber, and B. P. F. Lelieveldt, “Extraction of myocardial contractility patterns from short-axis MR images using independent component analysis,” in *Computer Vision and Mathematical Methods in Medical and Biomedical Image Analysis*, Lecture Notes in Computer Science Series vol. 3117, M. Sonka, I. A. Kakadiaris, and J. Kybic, Eds., Springer, 2004, pp. 75–86.

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L. Florack, H. van Assen, and **A. Suinesiaputra**, “Dense multiscale motion extraction from cardiac cine MR tagging using HARP technology,” in *IEEE 11th International Conference on Computer Vision (ICCV)*, 2007, pp. 1–8.

## Conference proceedings

H. C. van Assen, L. M. Florack, **A. Suinesiaputra**, J. J. Westenberg, and B. M. ter Haar Romeny, “Purely evidence based multiscale cardiac tracking using optic flow,” in *Proc. Computational Biomechanics for Medicine II. A MICCAI 2007 Workshop*, 2007.

N. Baka, J. Milles, E. A. Hendriks, **A. Suinesiaputra**, M. Jerosch-Herold, J. H. C. Reiber, and B. P. F. Lelieveldt, “Segmentation of myocardial perfusion MR sequences with multi-band active appearance models driven by spatial and temporal features,” in *SPIE Medical Imaging*, vol. 6914, San Diego, USA, Apr. 2008, p. 15.

## Published abstract

**A. Suinesiaputra**, L. M. J. Florack, and B. M. ter Haar Romeny, “Multiscale optic flow analysis of MR tagging heart image sequences,” *European Journal of Medical Physics*, pp. 19–48, 2003.

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## CURRICULUM VITAE

Avan Suinesiaputra was born in Jakarta, Indonesia on 7 April 1974. After completing his pre-university education (SMA) at SMA Negeri 3 Bandung, he studied computer science at the Department of Informatics Engineering, Institut Teknologi Bandung, Indonesia, in 1992. In 1998, he completed his final bachelor project on texture segmentation with Gabor wavelet transform. After two years working as an assistant lecturer in the same institute, he arrived in the Netherlands to continue his study at the Section of Computational Science group, University of Amsterdam, in 2000. He finished his master of science in the computational science program *cum laude* in 2002. In his master studies, he finalized his thesis entitled “Multiscale optic flow analysis for magnetic resonance imaging” at the Department of Biomedical Engineering, Technische Universiteit Eindhoven. Starting in September 2002, he joined the Laboratory for Clinical and Experimental Image Processing (LKEB) at Leiden University Medical Center to work as a PhD student. His main topic of research was developing a novel method to integrate information in different cardiac MR protocols towards a one-stop shop cardiac MRI analysis. The results of his research are manifested in this thesis with the focus on building a computer-aided diagnosis method for cardiac MRI. Currently, he is still working at LKEB as a post-doctoral researcher. He is developing a 3D semi-automated vessel segmentation method from MR angiographic data. His main research interests include statistical shape modeling of medical data, morphometric analysis, probabilistic methods for computer-aided diagnosis, and model-based image analysis.



*Words are so inapt  
to express my gratitude  
for your sincere benevolence,  
for your deep understanding,  
and for your affectionate solicitude.*

*Only to God  
that I always be grateful to,  
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