
Publications

Publications in International Journals:

- E. Meijering, **I. Smal**, G. Danuser, “Tracking in Molecular Bioimaging”, *IEEE Signal Processing Magazine*, vol. 23, no. 3, pp. 46–53, May 2006
- **I. Smal**, K. Draegestein, N. Galjart, W. Niessen, E. Meijering, “Particle Filtering for Multiple Object Tracking in Dynamic Fluorescence Microscopy Images: Application to Microtubule Growth Analysis”, *IEEE Transactions on Medical Imaging*, vol. 27, no. 6, pp. 789–804, June 2008
- **I. Smal**, E. Meijering, K. Draegestein, N. Galjart, I. Grigoriev, A. Akhmanova, M. E. van Royen, A. B. Houtsmuller, W. Niessen, “Multiple Object Tracking in Molecular Bioimaging by Rao-Blackwellized Marginal Particle Filtering”, *Medical Image Analysis*, vol. 12, no. 6, pp. 764–777, December 2008
- **I. Smal**, M. Loog, W. J. Niessen, E. Meijering, “Quantitative Comparison of Spot Detection Methods in Fluorescence Microscopy”, *IEEE Transactions on Medical Imaging*, *in press*
- **I. Smal**, I. Grigoriev, A. Akhmanova, W. J. Niessen, E. Meijering, “Microtubule Dynamics Analysis using Kymographs and Variable-Rate Particle Filters”, *submitted*

Book Chapters:

- E. Meijering, **I. Smal**, O. Dzyubachyk, J.-C. Olivo-Marin, “Time-Lapse Imaging” in *Microscope Image Processing*, Q. Wu, F. A. Merchant, K. R. Castleman (eds.), Elsevier Academic Press, Burlington, MA, Chapter 15, pp. 401–440, 2008

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- **I. Smal**, W. Niessen, E. Meijering, “Bayesian Tracking for Fluorescence Microscopic Imaging”, in *IEEE International Symposium on Biomedical Imaging: From Nano to Macro — ISBI 2006* (3rd international conference, held in Arlington, VA, USA, April 6–9, 2006), J. Kovačević and E. Meijering (eds.), IEEE, Piscataway, NJ, pp. 550–553, 2006

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- **I. Smal**, W. Niessen, E. Meijering, “Advanced Particle Filtering for Multiple Object Tracking in Dynamic Fluorescence Microscopy Images”, in *IEEE International Symposium on Biomedical Imaging: From Nano to Macro — ISBI 2007* (4th international conference, held in Arlington, VA, USA, April 12–15, 2007), J. Fessler and T. Denney (eds.), IEEE, Piscataway, NJ, pp. 1048–1051, 2007
- **I. Smal**, K. Draegestein, N. Galjart, W. Niessen, E. Meijering, “Rao-Blackwellized Marginal Particle Filtering for Multiple Object Tracking in Molecular Bioimaging”, in *Information Processing in Medical Imaging — IPMI 2007* (20th international conference, held in Kerkrade, the Netherlands, July 2-6, 2007), N. Karssemeijer and B. Lelieveldt (eds.), vol. 4584 of *Lecture Notes in Computer Science*, Springer Berlin/Heidelberg, pp. 110–121, 2007
- M. Schaap, **I. Smal**, C. T. Metz, T. van Walsum and W. J. Niessen, “Bayesian tracking of elongated structures in 3D images”, in *Information Processing in Medical Imaging — IPMI 2007* (20th international conference, held in Kerkrade, the Netherlands, July 2-6, 2007), N. Karssemeijer and B. Lelieveldt (eds.), vol. 4584 of *Lecture Notes in Computer Science*, Springer Berlin/Heidelberg, pp. 74–85, 2007
- M. Schaap, R. Manniesing, **I. Smal**, T. van Walsum, A. van der Lugt and W. J. Niessen, “Bayesian Tracking of Tubular Structures and Its Application to Carotid Arteries in CTA”, in *Medical Image Computing and Computer Assisted Intervention — MICCAI 2007* (10th international conference, held in Brisbane, Australia, October 29 – November 2, 2007), vol. 4791 of *Lecture Notes in Computer Science*, Springer Berlin/Heidelberg, pp. 562–570, 2007
- **I. Smal**, W. Niessen, E. Meijering, “A New Detection Scheme for Multiple Object Tracking in Fluorescence Microscopy by Joint Probabilistic Data Association Filtering”, in *IEEE International Symposium on Biomedical Imaging: From Nano to Macro — ISBI 2008* (5th international conference, held in Paris, France, May 14–17, 2008), J.-C. Olivo-Marin, I. Bloch and A. Laine (eds.), IEEE, Piscataway, NJ, pp. 264–267, 2008
- **I. Smal**, M. Loog, W. Niessen, E. Meijering, “Quantitative Comparison of Spot Detection Methods in Live-Cell Fluorescence Microscopy Imaging”, in *IEEE International Symposium on Biomedical Imaging: From Nano to Macro — ISBI 2009* (6th international conference, to be held in Boston, MA, USA, June 28–July 1, 2009)