Abstract:
The automatic analysis of retina images in both 2D and 3D is a field of research that is fast gaining popularity. Both 2D retinal digital photographs as well as 3D optical coherence tomography scans offer many interesting applications for medical image analysis. In today’s talk I will show examples of the types of algorithms we have employed for the analysis of both modalities. Also the development of a complete CAD system for the detection of diabetic retinopathy (an eye-disease) will be discussed. Finally, I'll talk about my current activities and what is going on at the UI as far as retinal image analysis is concerned.

Bio:
Meindert Niemeijer obtained his MSc. (2002) in medical computer science and his Ph.D. (2006) in medical image analysis from Utrecht University in Utrecht, The Netherlands. During his time at Utrecht University he worked on several novel algorithms for the automatic analysis of retinal color photographs. These algorithms were able to automatically detect the normal anatomy of the retina and certain eye diseases. All algorithms were combined into a comprehensive screening system that was tested on a set of 40,000 images using a sophisticated job distribution system. After finishing his Ph.D. work he was an employee of Philips Research in The Netherlands for 6 months. Finding himself not able to withstand the call of more academic adventures brought him to Iowa City where he now works as a post-doc for Prof. Milan Sonka and Dr. Michael Abramoff.