

CURRICULUM VITAE (17.10.2012)

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| Jussi Kinnunen | Researcher |
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Personal info: Born 28.02.1983, married, two children

Work history : University of Eastern Finland, SIB Labs: Researcher 2012-  
 University of Eastern Finland, Dept. of Physics and Mathe-  
 matics: Early Stage Researcher 2010-2012  
 University of Joensuu, Department of computer science and  
 statistics: Research Secretary 2006-2008, Researcher 2008-  
 2009

Education: Master of Science, University of Joensuu 2007  
 Major physics: Very good  
 Minor mathematics: Excellent

Masters Thesis: *Bispektrometrilaitteiston kehittäminen fluoresenssimittauk-*  
*siin (Development of bispectrometer for fluorescence measu-*  
*rements)*, Jussi Kinnunen, 2007  
 Grade: *eximia cum laude approbatur*

PhD Thesis: Reflectance and fluorescence analysis of articular cartilage,  
 Jussi Kinnunen 2012  
 Public examination: 26 October, 2012

Research interests: Biomedical optics, Spectral image analysis, Bispectral fluo-  
 rescence analysis

Language skills: Finnish (native), English (good) ja Swedish (satisfactory)

Supervisions:

- *Fluoresoivien värisekoitusten mallintaminen regressioanalyysillä (Modeling of Fluorescent Color Mixing by Regression Analysis)*, Masters Thesis, Petri Turunen, 2010

- *The Spatial analysis of cartilage optical spectral images*, Masters Thesis, Yevgeniya Kobrina, 2009
- *Toolbox for analysis of cartilage spectral images*, project work, Yevgeniya Kobrina, 2009
- *Filter Measurement*, trainee, Tapani Hirvonen, 2008
- *Spektrikuvien aallonpituusresoluution muuttaminen opetusjoukon avulla (Training set based wavelength resolution changes of spectral images)*, project work, Heikki Jyrkönen, 2008

#### Workshops and teaching:

- *Color Calibration of imaging device & Reflectance Estimation Methods*, practice, IPCV2012 summer school, Koblenz, Germany, 2012.
- *Display Technology*, practice, University of Eastern Finland, Joensuu, Finland, autumn 2010 and autumn 2011
- *Spectral color measurements: Bispectral fluorescence measurements and simulation*, work shop, CGIV2010 -conference, Joensuu, Finland, summer 2010
- *Quantum Physics I & II*, home works, University of Eastern Finland, Joensuu, Finland, spring 2010

#### List of Publications:

##### **Journal:**

1. *Nondestructive fluorescence-based quantification of threose-induced collagen cross-linking in bovine articular cartilage*, J. Kinnunen, H.T Kokkonen, V. Kovanen, M. Hauta-Kasari, P. Vahimaa, M.J. Lammi, J. Töyräs, J.S. Jurvelin, *Journal of Biomedical Optics* **17**, no. 9, 97003, 2012
2. *Heartwood detection for Scotch pine using fluorescence image analysis*, J. Antikainen, T. Hirvonen, J. Kinnunen, M. Hauta-Kasari, *Holzforschung* **66**, no. 7, 877-881, 2012

3. *Optical spectral reflectance of human articular cartilage - relationships with tissue structure, composition and mechanical properties*, J. Kinnunen, S. Saarakkala, M. Hauta-Kasari, P. Vahimaa, J.S. Jurvelin, *Biomedical Optics Express* **2**, no. 5, 1394-1402, 2011
4. *Limitations in the efficiency of fluorescent whitening agents in uncoated paper*, L.G. Coppel, M. Andersson, P. Edström and J. Kinnunen, *Nordic pulp and paper research journal* **26**, no. 3, 319-328, 2011
5. *Optical spectral imaging of degeneration of articular cartilage*, J. Kinnunen, J. Jurvelin, J. Mäkitalo, M. Hauta-Kasari, P. Vahimaa, and S. Saarakkala, *Journal of Biomedical Optics* **15**, no. 4, 046024, 2010

**Proceedings:**

1. *Applying optical reflectance and fluorescence techniques to clinical arthroscopy*, J. Kinnunen, In *Proceedings of 5th Nordic Meeting on Quantitative Imaging of Cartilage*, Malmö, Sweden, 2012
2. *Changes in collagen cross-linking of articular cartilage are revealed by spectral reflectance imaging*, J. Kinnunen, H.T. Kokkonen, V. Kovanen, M. Hauta-Kasari, P. Vahimaa, J. Jurvelin, In *Proceedings of 25th IEEE International symposium on computer-based medical systems*, Rome, Italy, 2012
3. *Collagen cross-link modified fluorescence excitation-emission matrix of articular cartilage*, J. Kinnunen, M. Hauta-Kasari, H. Kokkonen, P. Vahimaa, M. Lammi, J. Töyräs, J. Jurvelin, In *Proceedings of Topical problems of biophotonics*, St. Petersburg - Nizhny Novgorod, Russia, 2011
4. *Spectral reflectance of articular cartilage*, J. Kinnunen, J. Jurvelin, J. Mäkitalo, M. Hauta-Kasari, P. Vahimaa, S. Saarakkala, *Optics days 2011*, Oulu, Finland, 2011
5. *Modeling of Fluorescent Color Mixing by Regression Analysis*, P. Turunen, J. Kinnunen, and J. Mutanen, In *Proceedings of 5th European Conference on Colour in Graphics, Imaging, and Vision, CGIV 2010*, Joensuu, Finland, 2010
6. *Fluorescence: One Phenomenon, Many Applications*, J. Kinnunen, In *Proceedings of the Create 2010 Conference*, Gjøvik, Norway, 2010

7. *Optical Reflection Spectroscopy in Diagnostics of Cartilage Degeneration*, J. Kinnunen, J. Jurvelin, J. Mäkitalo, M. Hauta-Kasari, S. Saarakkala, In Proceedings of Orthopaedic Research Society 55th Annual Meeting, Las Vegas, USA, 2009
8. *New Method for Reproducing Fluorescent Colors*, J. Mutanen, J. Kinnunen, M. Yamauchi, and N. Ohyama, In Proceedings of CGIV 2008/MCS'08, 4th European Conference on Colour in Graphics, Imaging, and Vision, 10th International Symposium on Multispectral Colour Science, Terrassa-Barcelona, España, 2008
9. *Fluorescent Diagnostics of Nail Diseases*, M. Hauta-Kasari, J. Kinnunen, J. Mutanen, J. Parkkinen, T. Jääskeläinen, and T. Lahtinen, In Proceedings of 3rd Russian-Finnish Meeting, Photonics and Laser Symposium, Moscow, Russia, 2007
10. *Spectral Color in Industrial Applications*, M. Hauta-Kasari, D. Wisniewski, J. Kinnunen, J. Mutanen, J. Hiltunen, J. Parkkinen, and T. Jääskeläinen, In Proceedings of the 7th Finnish-Japanese Joint Symposium on Optics in Engineering (OIE'07), Tampere, Finland, 2007

**Inventor in patent applications:**

1. *Process and apparatus for determining the properties of a piece of timber*, EP 2345887, S. Hämäläinen, P. Hyvänen, J. Antikainen, J. Kinnunen, published 20.7.2011 , applicant UPM-Kymmene Corporation.
2. *Menetelmä ja laitteisto sahatavarakappaleen ominaisuuksien määrittämiseksi*, FI 20096322, S. Hämäläinen, P. Hyvänen, J. Antikainen, J. Kinnunen, published 16.6.2011 , applicant UPM-Kymmene Corporation.