Curriculum Vitae

Personal Information

Dr. Timo Eckhard
Chromasens GmbH
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Date of birth: October 25th, 1983
Nationality: German

Education

08/2011 - 07/2015	PhD student at the Optics Department of the University of Granada (Spain); Doctoral thesis: "Design considerations of line-scan multi-spectral imaging system"
09/2009 - 09/2011	Erasmus Mundus Master Programme CIMET (Color in Informatics and Media Technology). Semester 1: University of Joensuu (Finland) Semester 2: University of Granada (Spain) Semester 3: University College Gjøvik (Norway) Semester 4: Master Thesis at the Color Imaging Lab, University of Granada (Spain) Graduated 09/2011 with multiple degree as Master of Science with excellent results, grade[1]: 1.8
02/2008 - 07/2008	Theoretical exchange term at Stadia (today: Metropolia, University of Applied Science) Helsinki (Finland) in the programme *IT-Communication* with excellent results, grade[1]: 1.0
09/2000 - 07/2003	Technical Gymnasium Backnang (Germany), Graduated 07/2003 with the general qualification for university entrance (*Abitur*) and excellent results, grade[1]: 1.8

Work experience

Since 08/2015	R&D Engineer and Innovation Manager at Chromasens GmbH - color and 3D metrology group
08/2011 - 07/2015	Research collaboration with Chromasens GmbH (Germany), on the development of a line-scan multispectral imaging system for surface reflectance measurements.
08/2011 - 07/2015	Research collaborations at the Color Imaging Lab, University of

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1 Grading scale GPA: 1 to 5 scale, 1 complies to *excellent*, 5 complies to *failed*

	Granada (Spain): projects related to multispectral image acquisition of effect coatings, creation of a hyper-spectral urban scene image database, development of a low-cost vegetation index camera system.
06/2010 - 08/2010	Summer Research Project at the Color Imaging Lab, University of Granada (Spain): *"Color image processing techniques applied to detection and analysis of gingival inflammatory processes from digital images"*.
02/2009 - 09/2009	Harro Höfliger Verpackungsmaschinen GmbH, Allmersbach im Tal (Germany), application engineer in the electrical department on development of machine vision and robotic applications.
09/2008 - 02/2009	Harro Höfliger Verpackungsmaschinen GmbH, Allmersbach im Tal (Germany), diploma thesis (Development of a robot application for highly precise joining tasks with camera systems) with excellent results, grade[1]: 1.0.
03/2007 - 02/2009	Harro Höfliger Verpackungsmaschinen GmbH, Allmersbach im Tal (Germany), student trainee in the field of control techniques.
09/2004 - 02/2007	Harro Höfliger Verpackungsmaschinen GmbH, Allmersbach im Tal (Germany), Apprenticeship as electrician in industrial automation of the IHK Ulm, alongside the diploma studies at University of Applied Science Ulm.
09/2003 - 06/2004	Civilian service at the gardening center for disabled persons in *Christopherusheim Welzheim.*

Language Skills

German, English, fluent in written and spoken

Spanish, intermediate

Software Experience

Operating Systems:	Unix like systems, Windows, DOS
Programming environments, software tools:	Matlab, Octave, Microsoft Visual Studio.NET, LaTeX, LibreOffice, Microsoft Office, Gimp

Research Interests and Activities

Research Interests:	Stereo and multi-spectral imaging (acquisition and data processing), spectral estimation, image processing (acquisition, analysis, segmentation, classification), machine vision
Review Activities for International Journals:	Colour Research and Applications, since 2015 Journal of Applied Optics, since 2013. Journal of Imaging Science and Technology, since 2013. Journal of Applied Soft Computing, since 2013.

	Journal of the Optical Society of America A, since 2012. European Journal of Physics, since 2011
Teaching assistance:	[CIMET Advanced Color Image Processing](#), University of Granada, spring 2014 [CIMET Image Processing and Analysis](#), University of Granada, autumn 2013
Supervision of master thesis:	Abhinaba Roy, "*Supervised classification of tobacco leaves using 12-channel multispectral image data*", CIMET, University of Granada, 2015
	Imad Benkhaled, "*Classification of tobacco leafs from multi-channel or multi-spectral image data*", University Saint-Etienne, University of Granada, 2014
	Piotr Bartczak, "*Modeling of the full gamut of printer ink reflectances applied to the design of an enhanced training set selection scheme for spectral estimation*", CIMET, Univeristy of Granada, 2012
Hobbies:	Sport climbing, mountaineering, hiking, windsurfing, traveling, playing the guitar

First author publications

T. Eckhard, J. Eckhard, Eva M. Valero, Javier Hernández-Andrés, **Scene-adaptive registration of line-scan multi-spectral image data for non-planar scanning objects.** Society for Imaging Science and Technology , Color and Imaging Conference, Vol. 2015, No. 1, pp. 46-51 (2015)

Timo Eckhard, **Design considerations of line-scan multi-spectral imaging systems - Application in spectral and color measurement,** Dissertation, University of Granada, July 2015

T. Eckhard, J. Eckhard, Eva M. Valero, Juan Luis Nieves, **Nonrigid registration with free-form deformation model of multilevel uniform cubic B-splines: application to image registration and distortion correction of spectral image cubes**, Applied Optics, Vol. 53, Issue 17, pp. 3764-3772 (2014)

T. Eckhard, M. Klammer, Eva M. Valero, Javier Hernández-Andrés, **Improved Spectral Density Measurement from Estimated Reflectance Data with Kernel Ridge Regression**, Image and Signal Processing, Springer, pp. 79-86 (2014)

T. Eckhard, Eva M. Valero, Javier Hernández-Andrés, Ville Heikkinen, **Evaluating logarithmic kernel for spectral reflectance estimation effects on model parametrization, training set size, and number of sensor spectral channels**, JOSA A, Vol. 31, Issue 3, pp. 541-549 (2014)

T. Eckhard, Eva M. Valero, Javier Hernández-Andrés, Markus Schnitzlein, **Adaptive global training set selection for spectral estimation of printed inks using reflectance**

modeling, Applied Optics, Vol. 53, Issue 4, pp. 709-719 (2014)

T. Eckhard, Eva M. Valero, Javier Hernández-Andrés, **In-line print inspection: a comparative analysis of spectral estimation approaches**, German Colour Group meeting 2012, Darmstadt, 2012

T. Eckhard, Eva M. Valero, Juan L. Nieves; **Labial teeth and gingiva color image segmentation for gingival health state assessment**; Proc. of the IS&T *CGIV* Conference 2012 in Amsterdam; 2012

T. Eckhard, et al.; **Multispectral imaging approach for simplified non-invasive in-vivo evaluation fo gingival erythema**; Design and Quality for Biomedical Technologies V, edited by Raghavachari, Ramesh; Liang, Rongguang, Proceedings of the SPIE, Volume 8215, pp. 82150O-82150O-10; 2012.

T. Eckhard, Eva M. Valero, F. Mesa; **Towards an automated method of gingival inflammation assessment on colored digital still images**; Proc. of the AIC midterm meeting 2011; 2011

Timo Eckhard
Konstanz, 13.11.2015