



Christoph Strecha
Ecole Polytechnique Fédérale de Lausanne
Faculté Informatique et Communications - I&C
Computer Vision Laboratory - CVLAB
EPFL-I&C-CVLAB — CH-1015 Lausanne
christoph.strecha@epfl.ch
<http://cvlab.epfl.ch/~strecha/>

Curriculum vitae

August 27th 1970 Born in Radebeul (GER)

1987-1989 Extended Secondary School
Chemnitz (GER)

1990-1994 Teacher for mathematics/ physics
University of Leipzig (GER)

1994-1995 Erasmus exchange in physics
University of Groningen (NED)

1995-1998 Diplom Physics University of Leipzig (GER) Thesis:
"Untersuchungen zum Spektrum im dreidimensionalen
 $SU(2)$ -Higgs-Gittermodell bei grossen Higgsmassen"
<http://www.physik.uni-leipzig.de/12.html>

1998-1999 R&D position in Computer Vision at
Machine Vision Technology (MVT) Ltd. Dublin (IRL)

1999-2004 Scientific staff VISICS ESAT KU-Leuven (BEL)

2004-2007 PhD under supervision of Prof. Luc Van Gool
VISICS ESAT KU-Leuven (BEL)
"Multi-View Stereo as an Inverse Inference Problem"
<http://cvlab.epfl.ch/~strecha/phd/>

2007 Post-doc at VISICS ESAT KU-Leuven, Leuven (BEL)

2007-... Post-doc at CVLAB EPFL, Lausanne (SUI)

Professional activities

- **Co-chair**

- Working Group III / 1 - Pose Estimation and Surface Reconstruction from Image and/or Range Data, ISPRS - International Society for Photogrammetry and Remote Sensing (2008-2012)
http://www.isprs.org/technical/commissions/wgtc_3.aspx

- **Invited talks**

- Institut für Geodäsie und Geoinformation, University of Bonn (GER): *Wide-baseline stereo from multiple views: A probabilistic account*, 2004
- Mathematical Image Analysis Group, University of Saarland (GER): *Generative Models for Image Registration Problems*, 2006
- Forschungsinstitut für Optronik und Mustererkennung (FOM) Ettlingen (GER): *Generative Models for MultiView Stereo*, 2007
- Computer Vision Laboratory, EPFL, Lausanne, Switzerland: *Generative Models for Multi-View Stereo*, 2007
- Center for Machine Perception, CTU Prague (CZE): *Approaches and challenges for image-based 3D modeling techniques*, 2008
<http://cmp.felk.cvut.cz/cmp/events/colloquium-08.11.06/>

- **Program committee / review activities**

- IEEE International Conference on Computer Vision and Pattern Recognition (CVPR): 2005, 2006, 2008, 2009
- IEEE International Conference on Computer Vision (ICCV): 2005, 2007, 2009
- European Conference on Computer Vision (ECCV): 2006, 2008
- Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA), CVPR workshop: 2008
- International Society for Photogrammetry and Remote Sensing (ISPRS): 2008
- Regular reviewer for: Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

- **Project proposals**

- Putting User-Generated Content into Context (EPFL and NRC Tampere Laboratory, 2009, accepted)

- **PhD Committees / Reviewer of PhD Thesis**

- Jan Cech (University of Prague 2009)

- **Thesis supervision**

- Tyagi Hemat (Master, EPFL, 2009)
- Lazar Spremic, Louis-Jo Mayoraz (Bachelor, EPFL, 2009)

– Albrecht Lindner (PhD, CVLAB-EPFL, 2008)

Publications

Articles in International Journals

- [1] C. STRECHA, R. FRANSSENS AND L. VAN GOOL: A probabilistic formulation of image registration, In *Lecture notes in computer science*, vol. 3417, Jähne, B.; Mester, R.; Barth, E.; Scharr, H. (Eds.) 2007 (*Complex Motion, First International Workshop, IWCM 2004, Günzburg, Germany, October 12-14, 2004, revised papers*)
- [2] R. FRANSSENS, C. STRECHA AND L. VAN GOOL: Optical Flow based Super-Resolution: A Probabilistic Approach, In *Computer Vision and Image Understanding, Volume 106, Issue 1, April 2007*, pp. 106-115
- [3] E.M. ILGENFRITZ, A. SCHILLER AND C. STRECHA: Matter Near To The Endpoint Of The Electroweak Phase Transition *Nucl.Phys.Proc.Suppl. vol 73, pp. 662-664, 1999*
- [4] E.M. ILGENFRITZ, A. SCHILLER AND C. STRECHA: Wave Functions And Spectrum In Hot Electroweak Matter For Large Higgs Masses *Eur.Phys.J. C vol 8, pp. 135-150, 1999*
- [5] M. GURTLER, E.M. ILGENFRITZ, A. SCHILLER AND C. STRECHA: Hot Electroweak Matter Near To The Endpoint Of The Phase Transition *Nucl.Phys.Proc.Suppl. vol 63, pp. 563-565, 1998*

Articles in Proceedings of International Conferences

- [6] J.PILET, C. STRECHA AND P. FUA:
Making Background Subtraction Robust to Sudden Illumination Changes,
In *European Conference on Computer Vision, Marseille, France, October 2008*.
- [7] C. STRECHA, L. VAN GOOL AND P. FUA:
A Generative Model for True Orthorectification, In *ISPRS Congress Beijing 2008, Beijing, 2008*
- [8] C. STRECHA, W. VON HANSEN, L. VAN GOOL, P.FUA AND U. THOENNESSEN:
On Benchmarking Camera Calibration and Multi-View Stereo for High Resolution Imagery modelling, In *Proceedings IEEE computer society conference on computer vision and pattern recognition - CVPR, June 24-26, 2008, Anchorage, USA*
ACCEPTANCE RATE FOR POSTER 27.9%

- [9] R. FRANSENS, C. STRECHA, G. CAENEN AND L. VAN GOOL:
A Generic Approach Towards Automatic Image Co-Registration, In *The Second International Workshop: The Future of Remote Sensing, Antwerp, Belgium, 2006*.
- [10] R. FRANSENS, C. STRECHA, G. CAENEN AND L. VAN GOOL:
A generic approach to image coregistration, In *ESA-EUSC 2006: Image Information Mining for Security and Intelligence, EUSC, Torreon air base - Madrid, Spain, November 27-28, 2006*
- [11] C. STRECHA, R. FRANSENS AND L. VAN GOOL: Combined depth and outlier estimation in multi-view stereo, In *Proceedings IEEE computer society conference on computer vision and pattern recognition - CVPR, vol. II, pp. 2394-2401, June 17-22, 2006, New York, NY, USA*
- [12] R. FRANSENS, C. STRECHA AND L. VAN GOOL: A mean field EM-algorithm for coherent occlusion handling in MAP-estimation problems, In *Proceedings IEEE computer society conference on computer vision and pattern recognition - CVPR, vol. I, pp. 300-307, June 17-22, 2006, New York, NY, USA*
- [13] R. FRANSENS, C. STRECHA AND L. VAN GOOL: Robust estimation in the presence of spatially coherent outliers, *25 years of RANSAC workshop (in conjunction with CVPR), 8 pp., June 18, 2006, New York, NY, USA*
- [14] R. FRANSENS, C. STRECHA AND L. VAN GOOL: Parametric stereo for multi-pose face recognition and 3D-face modeling, In *Lecture notes in computer science, vol. 3723, pp. 108-123, 2005 (Proceedings second international workshop on analysis and modelling of faces and gestures, AMFG-2005, October 16, 2005, Beijing, China)*
- [15] C. STRECHA, R. FRANSENS AND L. VAN GOOL: Wide-baseline stereo from multiple views : a probabilistic account, In *Proceedings IEEE computer society conference on computer vision and pattern recognition - CVPR, vol. I, pp. 552-559, June 27 - July 2, 2004, Washington, DC, USA*
- [16] C. STRECHA, R. FRANSENS AND L. VAN GOOL: A probabilistic approach to large displacement optical flow and occlusion detection, In *Lecture notes in computer science, vol. 3247, pp. 71-82, 2004 (Statistical methods in video processing - ECCV 2004 workshop SMVP 2004, revised selected papers, May 16, 2004, Prague, Czech Republic)*
- [17] R. FRANSENS, C. STRECHA AND L. VAN GOOL: Multimodal and Multiband Image Registration using Mutual Information, In *ESA-EUSC 2004: Theory and Applications of Knowledge driven Image Information Mining, with focus on Earth Observation, EUSC, Madrid (Spain) March 17-18, 2004*

- [18] R. FRANSENS, C. STRECHA AND L. VAN GOOL: A Probabilistic Approach to Optical Flow based Super-Resolution, In *CVPRW '04: Proceedings of the 2004 Conference on Computer Vision and Pattern Recognition Workshop (CVPRW'04) Volume 12*
- [19] M. VERGAUWEN, F. VERBIEST, V. FERRARI, C. STRECHA AND L. VAN GOOL: Wide-baseline 3D reconstruction from digital stills, In *International workshop on visualization and animation of reality-based 3D models*, 7 pp., February 24-28, 2003, Tarasp-Vulpera, Engadin, Switzerland
- [20] C. STRECHA, F. VERBIEST, M. VERGAUWEN AND L. VAN GOOL: Shape from video v.s. still images, In *Proceedings Conference on optical 3-D measurement techniques*, vol. 2, pp. 168-175, September 22-25, 2003, Zürich, Switzerland
- [21] C. STRECHA, T. TUYTELAARS AND L. VAN GOOL: Dense matching of multiple wide-baseline views, In *Proceedings 9th IEEE international conference on computer vision, ICCV*, vol. 2, pp. 1194-1201, October 13-16, 2003, Nice, France
- [22] C. STRECHA AND L. VAN GOOL: Motion-stereo integration for depth estimation, In *Lecture notes in computer science*, vol. 2351, pp. 170-185 (*Proceedings 7th European conference on computer vision - ECCV 2002, part II, May 28-31, 2002, Copenhagen, Denmark*)
- [23] C. STRECHA AND L. VAN GOOL: PDE-based multi-view depth estimation, In *Proceedings 1st international symposium on 3D data processing visualization and transmission - 3DPVT*, pp. 416-425, June 19-21, 2002, Padova, Italy
- [24] N. KOGO, C. STRECHA, R. FRANSENS, G. CAENEN, J. WAGEMANS AND L. VAN GOOL: Reconstruction of subjective surfaces from occlusion cues, In *Lecture notes in computer science*, vol. 2525, pp. 311-321, 2002 (*Proceedings 2nd international workshop on biologically motivated computer vision - BMCV, November 22-24, 2002, Tübingen, Germany*)
- [25] L. VAN GOOL, T. TUYTELAARS, V. FERRARI, C. STRECHA, J. VANDEN WYNGAERD AND M. VERGAUWEN: 3D modeling and registration under wide baseline condition, In *Proceedings ISPRS commission III symposium on photogrammetric computer vision*, vol. XXXIV, part 3A, pp. 3-14, September 9-13, 2002, Graz, Austria

International Conference : Abstract or Not Published

- [26] N. KOGO, C. STRECHA, G. CAENEN, R. FRANSENS, G. VAN BELLE, J. WAGEMANS AND L. VAN GOOL: End-stopped cue detection for subjective surface reconstruction, *26th European conference on visual perception - ECVP 2003, September 1-5, 2003, Paris, France*

- [27] M. GURTLER, E.M. ILGENFRITZ, A. SCHILLER AND C. STRECHA: Hot Electroweak Matter Near To The Critical Higgs Mass *Talk given at 31st International Ahrenschoop Symposium on the Theory of Elementary Particles, Buckow, Germany, 2-6 Sep 1997. In Buckow 1997, Theory of elementary particles 253-258*

PhD dissertation

- [28] C.STRECHA: Multi-view stereo as an inverse inference problem, *KU-Leuven, 2007*

Book Contributions

- [29] R. I. HARTLEY AND A. ZISSERMAN: Multiple View Geometry in Computer Vision, *Cambridge University Press, ISBN: 0521623049, 2000*