

# Curriculum Vitae

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## Contact Information

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## Personal Information

Date of birth · 14th October 1971  
Place of birth · Bergen, Norway  
Nationality · Norwegian  
Languages · Norwegian (native), English (fluent), German (moderate), Italian (basic)

## Work Experience

2016– · Professor, Dept. of Computer Science, NTNU – Norwegian University of Science and Technology  
2012–2015 · Professor, Dept. of Computer Science and Media Technology, Gjøvik University College  
2000–2012 · Associate Professor, Dept. of Computer Science and Media Technology, Gjøvik University College  
1999 · Research Scientist, SINTEF Materials Technology, Oslo  
1996–1999 · PhD student, SINTEF Materials Technology, Oslo  
1996 · Research Scientist, FFI, Kjeller

## Education

2008 · University pedagogics (15 ECTS credits), Gjøvik University College  
1997–2000 · Dr. Scient. (PhD), University of Oslo, Department of Mathematics  
1990–1994 · Siv.ing. (MSc), NTH, Department of Physics  
1987–1990 · High school, Tranberg videregående skole, Gjøvik

### **Administrative Roles**

- 2014– · Study programme leader for Bachelor of Engineering – Computer Science
- 2012– · Member of the PhD admission board
- 2017 · Member of the board of the IE faculty at NTNU
- 2016 · Member of the board of NTNU in Gjøvik
- 2012–2015 · Elected member of the board of Gjøvik University College
- 2012–2013 · Vice Dean for Education, IMT, Gjøvik University College

### **PhD Students**

- Aditya Sole · *Soft-metrology for non-diffuse materials* (co-supervisor)
- Arne M. Bakke · *Colour gamuts and their applications* (principal supervisor)

### **Mobility**

- 2005 · Four months as a visiting researcher at Università degli studi di Milano, Italy
- 1999 · Four months as a visiting researcher at EPFL – Ecole Polytechnique Federale de Lausanne, Switzerland

### **Awards**

- 2015 · Best paper award at IEEE SITIS with Steven Le Moan
- 2012 · Charles E. Ives award from IS&T together with Øyvind Kolås and Alessandro Rizzi
- 2012 · Best paper award at IS&T CGIV with Gabriele Simone.
- 2012 · The regional R&D prize with the Norwegian Colour and Visual Computing Laboratory

### **Peer Reviewing**

#### *PhD Theses*

- 2017 · Reviewer, member of the jury, and opponent for Syed Waqas Zamir, Universitat Pompeu Fabra, Barcelona, Spain
- 2011 · Reviewer, member of the jury, and first opponent for Shaohua Chen, Université Paris 13, France

- 2006 · Reviewer for Davide Gadia, Università degli Studi di Milano, Italy

### *Journals*

- 2016– · Signal Processing: Image Communication
- 2016– · Robotics and Autonomous Systems
- 2016– · Communications of the ACM
- 2016– · Sensors
- 2016– · IET Image Processing
- 2016– · Journal of Mathematics and Music
- 2012– · IEEE Transactions on Control Systems Technology
- 2011– · Signal, Image and Video Processing
- 2011– · EURASIP Journal on Advances in Signal Processing
- 2011– · Optical Engineering
- 2010– · Journal of the Optical Society of America A
- 2008– · Journal of Imaging Science and Technology
- 2007– · IEEE Transactions on Image Processing
- 2007– · Color Research and Application
- 2005– · Journal of Electronic Imaging
- 2000–2002 · Materials Science & Engineering

### *Conferences*

- 2013– · Publication chair and member of the programme committee, CVCS (IEEE)
- 2011– · Reviewer, ICIP (IEEE)
- 2009– · Reviewer, session chair (2010) and member of the programme committee, SCIA (LNCS)
- 2013 · Member of the technical programme committee, AIC
- 2010–2013 · Reviewer and member of the technical committee, EUVIP
- 2012 · Member of the programme committee, VISAPP
- 2012 · Session chair and member of the programme committee, CGIV (IS&T)
- 2011 · Reviewer and member of the technical programme committee, IMAGAPP
- 2007–2010 · Session chair and general chair (2010) for the CREATE workshops and conference
- 2010 · Reviewer, IWACI
- 2007 · Interactive Session Chair, CIC (IS&T/SID)
- 2007 · Session Chair, GCIS

### *Books*

- 2016 · Reviewer for Ronny Kjelsberg, *Teknologi og vitenskap – Historie, metode, etikk og miljø*, Universitetsforlaget, Oslo, Norway
- 2010 · Reviewer for Rangaraj M. Rangayyan, Begoña Acha, and Carmen Serrano, *Color Image Processing – with Biomedical Applications*, SPIE Press, Bellingham, Washington, USA

### **Externally Funded Projects**

- 2010– · Member of CIE's Technical Committee TC 1-82/1-97, 'The Calculation of Colour Matching Functions as a Function of Age and Field Size'
- 2016–2019 · Participating (also to the application) in the project IQ-MED funded by the Research Council of Norway (RCN) over the IKTPLUSS programme
- 2016–2019 · Participating (also to the application) in the project MUVAPP funded by RCN over the FRINATEK/Toppforsk programme
- 2013–2017 · Sub-programme leader for the project *HyPerCept – Colour and Quality in Higher Dimensions*, funded by RCN over the SHP programme.
- 2007–2010 · Member of the board of the CREATE (Marie Curie) network and also contributed to the application. With University of the West of England (UK), University of Milan (Italy), University of Veszprém (Hungary), Université de Reims Champagne-Ardenne (France), Universitat Autònoma de Barcelona (Spain), University of Leeds (UK), University of Ulster at Belfast (UK)
- 2007–2013 · Member of the Quality Assurance, Evaluation and Supervision Board of the CIMET (Erasmus Mundus) International Master. With University of Saint-Etienne (France), University of Joensuu (Finland), University of Granada (Spain).
- 2007–2011 · Participating (also to the application) in the project *Perceptual image difference metrics – a unifying approach to image representation and reproduction* funded by RCN over the SHP programme
- 2007–2009 · Project leader and participant (also to the application) for the project *Measuring colour with a colour acquisition system* for Tomra ASA

- 2004–2007 · Participating (also to the application) in the project *Multispectral colour imaging* funded by RCN over the SHP programme
- 2004–2005 · Project leader and participant (also to the application) for the industry project *Colour Calibration of an Electronic Camera System for Object Recognition* for Tomra ASA
- 2003–2004 · Participating (also to the application) in the project *ICC3D: Interaktiv fargeomfangstilpasning, metrikker for fargeomfang og tilretteleggelse for kommersialisering* funded by Prokom
- 2002–2003 · Participating (also to the application) in the project *Fargestyring i produksjon og presentasjon av digital video* funded by Prokom
- 2001 · Participating (also to the application) in the project *Bare Illusjon? Fargestyring i produksjon og presentasjon av levende bilder* funded by Prokom

### **Teaching**

- 2016– · *Scientific Computing* (bachelor level, twice), NTNU, lecturing, course responsible, supervision, examination, grading
- 2016– · *Introduction to Engineering – Computer Science* (bachelor level, twice), NTNU, lecturing, course responsible, supervision, examination, grading
- 2014– · *Computational Image Processing* (PhD level, twice), NTNU/Gjøvik University College, lecturing and course responsible, supervising seminars and grading final papers.
- 2014–2015 · *Introduction to Engineering* (bachelor level, twice), Gjøvik University College, lecturing and supervision, examination.
- 2013–2014 · *Image Processing and Analysis* (master level, twice), Gjøvik University College, responsible for the course, lecturing, supervising student exercise classes, making and grading exams.
- 2010–2012 · *Mathematics for Signal and Image Processing* (master level, 3 times), Gjøvik University College, responsible for the course, and since 2011 lecturing, supervising student exercise classes, making and grading exams.
- 2009 · *Variational Image Processing* (PhD level, once), Gjøvik University College, lecturing and course responsible, supervising seminars and grading final papers.

- 2004–2009 · *Mathematics 40: Discrete Transforms* (master level, 4 times), Gjøvik University College, lecturing and responsible for the course, supervising student exercise classes, making and grading exams.
- 2008 · *Design and Analysis of Algorithms* (master level, once), Gjøvik University College, lecturing and responsible for the course, supervising student exercise classes, making and grading exams. Part of the CIMET programme.
- 2002–2005 · *Compilers* (bachelor level, 5 times), Gjøvik University College, lecturing and responsible for the course, supervising student exercise classes, making and grading exams.
- 2004 · *Fundamental Programming* (bachelor level, once), Gjøvik University College, supervising student exercise classes.
- 2000–2002 · *Algorithms II* (bachelor level, 3 times), Gjøvik University College, lecturing and responsible for the course, supervising student exercise classes, making and grading exams.
- 2001 · *Distributed Operating Systems* (bachelor level, once), Gjøvik University College, lecturing and responsible for the course, supervising student exercise classes, making and grading exams.
- 2000 · *Object Oriented Programming* (bachelor level, once), Gjøvik University College, supervising student exercise classes.
- 1992–1994 · *Fundamental Physics* (bachelor level, 2 times), NTH, supervising student exercise classes.
- 2000– · Various short courses, tutorials and workshops on theoretical computer science, mathematics,  $\text{\LaTeX}$ , Python, GNU/linux, ICC3D, Emacs, Git, Matlab etc., as well as guest lectures in various courses, Gjøvik University College

# Publications

## Journal Papers

Ahmed Mohammed, Ivar Farup, Marius Pedersen, Øistein Hovde, and Sule Yildirim. Stochastic capsule endoscopy image enhancement. *Journal of Imaging*, 2018. (Accepted).

Emmanuel Chevallier and Ivar Farup. Interpolation of the MacAdam ellipses. *SIAM Journal on Imaging Sciences*, 2018. (Accepted).

Steven Le Moan, Ivar Farup, and Jana Blahová. Towards exploiting change blindness for natural image processing. *Journal of Visual Communication and Image Representation*, 54:31–38, 2018.

Ahmed Mohammed, Ivar Farup, Sule Yildirim, Marius Pedersen, and Øistein Hovde. Variational approach for capsule video frame interpolation. *EURASIP Journal on Image and Video Processing*, 2018(30):1–13, 2018.

Aditya Sole, Ivar Farup, Peter Nussbaum, and Shoji Tominaga. Evaluating an image-based bidirectional reflectance distribution function measurement setup. *Applied Optics*, 57(8):1918–1928, 2018.

Simen Bræck, Øyvind Grøn, and Ivar Farup. The cosmic causal mass. *Universe*, 3(2):38, 2017.

Joschua Thomas Simon-Liedtke and Ivar Farup. Using a behavioral match-to-sample method to evaluate color vision deficiency simulation methods. *J. Imaging Sci. Techn.*, 60(5):50409–1–50409–9, 2016.

Ivar Farup. A computational framework for colour metrics and colour space transforms. *PeerJ Comp. Sci.*, 2:e48, 2016.

Joschua Thomas Simon-Liedtke and Ivar Farup. Evaluating color vision deficiency daltonization methods using a behavioral visual-search method. *J. Vis. Commun. Image R.*, 35:236–247, 2016.

Ivar Farup. Hyperbolic geometry for colour metrics. *Optics Express*, 22(10):12369–12378, 2014.

Ivar Farup. Constructing an optimal circulating temperament based on a set of musical requirements. *J. Math. Music*, 8(1):25–39, 2014.

Gabriele Simone, Giuseppe Audino, Ivar Farup, Fritz Albregtsen, and Alessandro Rizzi. Termite Retinex: A new implementation based on a colony of intelligent agents. *J. Electron. Imaging*, 23(1):013006, 2014. doi: 10.1117/1.JEI.23.1.013006.

Gabriele Simone, Marius Pedersen, Ivar Farup, and Claudio Oleari. Multi-level contrast filtering in image difference metrics. *EURASIP J. Image Video Process.*, 2013(39), 2013. doi:10.1186/1687-5281-2013-39.

Dibakar R. Pant and Ivar Farup. Geodesic calculation of color difference formulas and comparison with the Munsell color order system. *Color Res. Appl.*, 38(4):259–266, 2013.

Dibakar R. Pant and Ivar Farup. Riemannian formulation and comparison of color difference formulas. *Color Res. Appl.*, 37(6):429–440, December 2012.

Øyvind Kolås, Ivar Farup, and Alessandro Rizzi. STRESS: A framework for spatial color algorithms. *J. Imaging Sci. Tech.*, 55(4):040503, 2011.

Arne M. Bakke, Ivar Farup, and Jon Y. Hardeberg. Evaluation of algorithms for the determination of color gamut boundaries. *J. Imaging Sci. Tech.*, 54(5):050502–11, 2010.

Fabienne Dugay, Ivar Farup, and Jon Y. Hardeberg. Perceptual evaluation of color gamut mapping algorithms. *Color Res. Appl.*, 33(6):470–476, 2008.

Ivar Farup, Carlo Gatta, and Alessandro Rizzi. A multiscale framework for spatial gamut mapping. *IEEE T. Image Process.*, 16(10), 2007. doi: 10.1109/TIP.2007.904946.

Ivar Farup, Jan H. Wold, Thorstein Seim, and Torkjel Søndrol. Generating lights with specified spectral power distributions. *Appl. Optics*, 46(13):2411–2422, 2007.

Ivar Farup. Bøker på bøker – en bokorms øvelse i stabling. *Normat*, 55(1):3–7, 2007.

Hans P. Hornæs, Jan H. Wold, and Ivar Farup. Colorimetry and prime colours – a theorem. *J. Math. Biol.*, 51(2):144–156, 2005.

Jon Y. Hardeberg, Ivar Farup, and Gudmund Stjernvang. Color quality analysis of a system for digital distribution and projection of cinema commercials. *SMPTE Motion Imag. J.*, 114(4):146–151, April 2005.

Ivar Farup, Jean-Marie Drezet, and Michel Rappaz. In situ observation of hot tearing formation in succinonitrile–acetone. *Acta Mater.*, 49(7):1261–1269, 2001.

Ivar Farup and Asbjørn Mo. Two-phase modelling of mushy zone parameters associated with hot tearing. *Metall. Mater. Trans. A*, 31(5):1461–1472, 2000.

Ivar Farup and Asbjørn Mo. The effect of work hardening on thermally induced deformations in aluminium DC casting. *J. Therm. Stresses*, 23(1):47–58, 2000.



Ivar Farup, Jean-Marie Drezet, Asbjørn Mo, and Terje Iveland. Gleeble machine determination of creep law parameters for thermally induced deformations in aluminium DC casting. *J. Therm. Stresses*, 23(1):47–58, 2000.

Ivar Farup and Øyvind Grøn. Vacuum energy and inertial dragging. *Gen. Relat. Gravit.*, 28:441–449, 1996.

### Conference Papers

Ivar Farup, Marius Pedersen, and Ali Alsam. Colour-to-greyscale image conversion by linear anisotropic diffusion of perceptual colour metrics. In *Colour and Visual Computing Symposium*. IEEE, 2018. (Accepted).

Carlo Gatta and Ivar Farup. Gamut mapping in RGB colour spaces with the iterative ratios diffusion algorithm. In *Electronic Imaging*, volume 2017, pages 12–20. Society for Imaging Science and Technology, 2017.

Joschua Simon-Liedtke, Ivar Farup, and Reiner Eschbach. On the edge: A scalable daltonization method focusing chromatic edges and contrast. In *Electronic Imaging*, volume 2017, pages 28–35. Society for Imaging Science and Technology, 2017.

Aditya Sole, Ivar Farup, and Peter Nussbaum. Evaluating an image based multi-angle measurement setup using different reflection models. In *Electronic Imaging*, volume 2017, pages 101–107. Society for Imaging Science and Technology, 2017.

Steven Le Moan, Marius Pedersen, Ivar Farup, and Jana Blahová. The influence of short-term memory in subjective image quality assessment. In *IEEE International Conference on Image Processing*, pages 91–95. IEEE, 2016.

Marius Pedersen and Ivar Farup. Improving the robustness to image scale of the total variation of difference metric. In *Proceedings of the 3rd International Conference on Signal Processing & Integrated Networks (SPIN)*, pages 116–121. IEEE, 2016.

Aditya Sole, Ivar Farup, and Shoji Tominaga. Image based reflectance measurement based on camera spectral sensitivities. In *IS&T International Symposium on Electronic Imaging*, pages 360.1–360.8, 2016.

Steven Le Moan and Ivar Farup. Exploiting change blindness for image compression. In *Proceedings of the 11th International Conference on Signal-Image Technology & Internet-Based Systems*, pages 89–95. IEEE, 2015.

Joschua Simon-Liedtke and Ivar Farup. Empirical disadvantages for color-deficient people. In *Proceedings of the AIC2015 Tokyo Color and Image Conference*, pages 391–394, 2015.

- Phil Green, Srikrishna Nuduramati, and Ivar Farup. Variability in colour matches between displays. In *Proceedings of the AIC2015 Tokyo Color and Image Conference*, pages 137–142. International Colour Association (AIC), 2015.
- Emmanuel Chevallier, Ivar Farup, and Jesus Angulo. Histograms of images valued in the manifold of colours endowed with perceptual metrics. In *Geometric Science of Information*, pages 762–769. Springer International Publishing, 2015.
- Ali Alsam, Ivar Farup, and Hans Jakob Rivertz. Iterative sharpening for image contrast enhancement. In Marius Pedersen and Jean-Baptiste Thomas, editors, *Proceedings of 2015 Colour and Visual Computing Symposium (CVCS)*, pages 1–4, Gjøvik, Norway, 2015. IEEE.
- Aditya Sole, Ivar Farup, and Shoji Tominaga. An image-based multi-directional reflectance measurement setup for flexible objects. In *IS&T/SPIE Electronic Imaging*, pages 93980J–93980J. International Society for Optics and Photonics, 2015.
- Khai Van Ngo, Jehans J Storvik, Christopher A Dokkeberg, Ivar Farup, and Marius Pedersen. QuickEval: a web application for psychometric scaling experiments. In *IS&T/SPIE Electronic Imaging*, pages 93960O–93960O. International Society for Optics and Photonics, 2015.
- Joschua T Simon-Liedtke, Ivar Farup, and Bruno Laeng. Evaluating color deficiency simulation and daltonization methods through visual search and sample-to-match: SaMSEM and ViSDem. In *IS&T/SPIE Electronic Imaging*, pages 939513–939513. International Society for Optics and Photonics, 2015.
- Joschua T Simon-Liedtke and Ivar Farup. Spatial intensity channel replacement daltonization (SiChARdA). In *IS&T/SPIE Electronic Imaging*, pages 939516–939516. International Society for Optics and Photonics, 2015.
- Aditya Sole, Ivar Farup, and Shoji Tominaga. An image based multi-angle method for estimating reflection geometries of flexible objects. In *IS&T 22nd Color Imaging Conference*, pages 91–96. IS&T, 2014.
- Marius Pedersen, Xinwei Liu, and Ivar Farup. Improved simulation of image detail visibility using the non-subsampled contourlet transform. In *IS&T 21st Color Imaging Conference*, pages 191–196. IS&T, 2013.
- Dibakar R. Pant, Ivar Farup, and Manuel Melgosa. Analysis of three Euclidean color-difference formulas for predicting the average RIT-DuPont color-difference ellipsoids. In *Proceedings of AIC2013 – 12th International AIC Congress*, pages 537–540, 2013.

Marius Pedersen and Ivar Farup. Simulation of image detail visibility using contrast sensitivity functions and wavelets. In *IS&T/SID 20th Color Imaging Conference*, pages 70–75, Los Angeles, California, USA, November 2012. IS&T.

Ali Alsam and Ivar Farup. Spatial colour gamut mapping by orthogonal projection of gradients onto constant hue lines. In *8th International Symposium on Visual Computing*, pages 556–565, Rethymnon, Crete, Greece, July 2012.

Gabriele Simone, Giuseppe Audino, Ivar Farup, and Alessandro Rizzi. Termite retinex: A novel implementation based on a colony of agents. In *Proc. of the Italian Workshop on Artificial Life and Evolutionary Computation*, pages 1–11, 2012. Published on CD, isbn 978-88-903581-2-8.

Gabriele Simone and Ivar Farup. Spatio-temporal Retinex-like envelope with total variation. In *6th European Conference on Colour in Graphics, Imaging, and Vision (CGIV)*, pages 176–181, Amsterdam, The Netherlands, 2012.

Gabriele Simone, Giuseppe Audino, Ivar Farup, and Alessandro Rizzi. Termites: A Retinex implementation based on a colony of agents. In *Color Imaging XVII: Displaying, Processing, Harcopy, and Applications*, pages 82920N–82920N, 2012.

Erik Hjelmås and Ivar Farup. A common framework for scripting tutorials. In *Norsk Informatikkonferanse, NIK*, pages 219–229. Tapir Akademisk Forlag, 2011.

Marius Pedersen, Gabriele Simone, Mingming Gong, and Ivar Farup. A total variation based color image quality metric with perceptual contrast filtering. In *International conference on Pervasive Computing, Signal Processing and Applications*, Gjøvik, Norway, September 2011.

Dibakar R. Pant and Ivar Farup. CIE uniform chromaticity scale diagram for measuring performance of OSA-UCS  $\Delta E_E$  and CIEDE00 formulas. In *Proceedings of EUVIP*, pages 18–23, Paris, France, July 2011.

Ali Alsam and Ivar Farup. Spatial colour gamut mapping by means of anisotropic diffusion. In *Computational Colour Imaging Workshop (CCIW)*, volume 6626 of *Lecture Notes in Computer Science*, pages 113–124, Berlin, 2011. Springer.

ABM Tariqul Islam and Ivar Farup. Spatio-temporal colour correction of strongly degraded movies. In Reiner Eschbach, Gabriel G. Marcu, and Alessandro Rizzi, editors, *Color Imaging XVI: Displaying, Processing, Harcopy, and Applications; Electronic Imaging Symposium*, volume 7866 of *Proc. SPIE*, page 78660Z, San Fransisco, CA, 2011.

Dibakar R. Pant and Ivar Farup. Riemannian formulation of the CIEDE2000 color difference formula. In *Proceedings of the 18th Color and Imaging Conference*, pages 103–108, 2010.

ABM Tariqul Islam and Ivar Farup. Enhancing the output of spatial color algorithms. In *Proceedings of EUVIP*, pages 7–12, Paris, France, July 2010.

Arne Magnus Bakke and Ivar Farup. Simplified gamut boundary representation using mesh decimation. In *5th European Conference on Colour in Graphics, Imaging, and Vision (CGIV)*, pages 459–465, Joensuu, Finland, June 2010.

Dibakar R. Pant and Ivar Farup. Evaluating color difference formulae by Riemannian metric. In *5th European Conference on Colour in Graphics, Imaging, and Vision (CGIV)*, pages 497–503, Joensuu, Finland, June 2010.

Gabriele Simone, Claudio Oleari, and Ivar Farup. Performance of the Euclidean color-difference formula in log-compressed OSA-UCS space applied to modified-image-difference metrics. In *11th Congress of the International Colour Association (AIC)*, Sydney, Australia, Sep 2009.

Gabriele Simone, Marius Pedersen, Jon Yngve Hardeberg, and Ivar Farup. On the use of gaze information and saliency maps for measuring perceptual contrast. In Arnt-Børre Salberg, Jon Yngve Hardeberg, and Robert Jenssen, editors, *Image Analysis, 16th Scandinavian Conference, SCIA 2009*, volume 5575 of *Lecture Notes in Computer Science*, pages 597–606, Oslo, Norway, June 15-18 2009.

Gabriele Simone, Claudio Oleari, and Ivar Farup. An alternative color difference formula for computing image difference. In *Proceedings from Gjøvik Color Imaging Symposium 2009*, number 4 in Høgskolen i Gjøviks rapportserie, pages 8–11, Gjøvik, Norway, Jun 2009.

Ali Alsam and Ivar Farup. Colour gamut mapping as a constrained variational problem. In Arnt-Børre Salberg, Jon Yngve Hardeberg, and Robert Jenssen, editors, *Image Analysis, 16th Scandinavian Conference, SCIA 2009*, volume 5575 of *Lecture Notes in Computer Science*, pages 109–117, Oslo, Norway, June 15-18 2009.

Arne M. Bakke, Ivar Farup, and Jon Y. Hardeberg. Predicting the performance of a spatial gamut mapping algorithm. In *Color Imaging XIV: Displaying, Hardcopy, Processing, and Applications; Proceedings of SPIE Volume 7241*, San Jose, CA, Jan 2009.

Arne M. Bakke, Ivar Farup, and Jon Y. Hardeberg. Improved gamut boundary determination for color gamut mapping. In *Proceedings of the 35th International Research Conference on Advances in Printing and Media (iarigai)*, pages 365–372, 2008.

Øyvind Kolås and Ivar Farup. Efficient hue-preserving and edge-preserving spatial color gamut mapping. In *15th Color Imaging Conference*, pages 207–212, 2007.

- Arne M. Bakke, Jon Y. Hardeberg, and Ivar Farup. Evaluation of gamut boundary descriptors. In *Proceedings of IS&T and SID's 14th Color Imaging Conference: Color Science and Engineering: Systems, Technologies, Applications*, pages 50–55, Scottsdale, Arizona, 2006.
- Arne M. Bakke, Ivar Farup, and Jon Y. Hardeberg. Multispectral gamut mapping and visualization – a first attempt. In *Color Imaging X: Processing, Hardcopy, and Applications; Electronic Imaging Symposium*, pages 193–200, San Jose, CA, USA, January 2005.
- Eriko Bando, Jon Y. Hardeberg, David Connah, and Ivar Farup. Predicting visible image degradation by colour image difference formulae. In *The 5th International Conference on Imaging Science and Hardcopy*, volume 25 of *Chinese Journal of Scientific Instrument*, pages 121–124, Xi'an, China, September 2004.
- Ivar Farup, Jon Y. Hardeberg, and Morten Amsrud. Enhancing the SGCK colour gamut mapping algorithm. In *Color in Graphics, Imaging and Vision (CGIV)*, Aachen, 2004.
- Ivar Farup, Thorstein Seim, Jan H. Wold, and Jon Y. Hardeberg. Generating stimuli of arbitrary spectral power distributions for vision and imaging research. In *Human Vision and Electronic Imaging IX*, volume 5292 of *SPIE Proceedings*, pages 69–79, Bellingham WA, January 2004. SPIE.
- Jon Y. Hardeberg, Ivar Farup, and Gudmund Stjernvang. Digital cinema commercials in Norway – is the quality good enough? In *The SMPTE'03 International Conference, D-Cinema and Beyond*, Milano, Italy, November 2003.
- Øyvind Kolås and Ivar Farup. Increasing assignment motivation using a game AI tournament. In *The 8th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE'03)*, page 269, Thessaloniki, Greece, July 2003.
- Jon Y. Hardeberg, Ivar Farup, Øyvind Kolås, and Gudmund Stjernvang. Color management for digital video: Color correction in the editing phase. In *29th International iarigai Research Conference. Proceedings: Advances in Graphic Arts & Media Technology*, Lucerne, Switzerland, September 2002.
- Ivar Farup, Jon Y. Hardeberg, Arne M. Bakke, Ståle Kopperud, and Anders Rindal. Visualization and interactive manipulation of color gamuts. In *Proceedings of IS&T and SID's 10th Color Imaging Conference: Color Science and Engineering: Systems, Technologies, Applications*, pages 250–255, Scottsdale, Arizona, 2002.
- Ivar Farup and Jon Y. Hardeberg. Interactive color gamut mapping. In *The 11th International Printing and Graphics Arts Conference*, Bordeaux, France, October 2002.

Erik Hjelmås and Ivar Farup. A comparison of face/non-face classifiers. In *Proceedings of the 3rd International Conference on Audio- and Video-based Biometric Person Authentication*, 2001. (Lecture Notes in Computer Science vol. 2091, pp. 65-70, 2001).

Pierre-Daniel Grasso, Jean-Marie Drezet, Ivar Farup, and Michel Rappaz. Direct observation of hot tear formation in organic alloys. In *EUROMAT*, 2001.

Asbjørn Mo and Ivar Farup. Hot tearing and thermally induced deformation in the mushy zone. In I P. R. Sahm, P. N. Hansen, and J. G. Conley, editors, *Modelling of Casting, Welding and Advanced Solidification Processes IX (SIM 2000)*, pages 56–62. Shaker Verlag, 2000.

Michel Rappaz, Ivar Farup, and Jean-Marie Drezet. Study and modeling of hot tearing formation. In R. Abbaschian, H. D. Brody, and A. Mortensen, editors, *The Merton Flemings Symposium on Solidification and Materials Processing*, page 213, MIT, Cambridge, Massachusetts, June 2000. TMS Public, Warrendale, PA.

Ivar Farup and Asbjørn Mo. Two-phase modelling of mushy zone parameters associated with hot tearing. In A. Roósz, M. Rettenmayr, and D. Watring, editors, *Third international conference on solidification and gravity*, pages 377–382, Miskolc, Hungary, April 1999. (Materials Science Forum, vol. 329-3, pp. 377-382, 2000).

Asbjørn Mo, Ivar Farup, and Jean-Marie Drezet. Inhomogeneities in the stress and strain rate fields during Gleeble testing. In J. L. Chenot, J. F. Agassant, P. Montmitonnet, B. Vergnes, and N. Billon, editors, *First ESAFORM Conference on Material Forming*, pages 29–32, Sophia Antipolis, France, March 1998. ESAFORM.

### **Book Chapters**

Gabriele Simone, Davide Gadia, Ivar Farup, and Alessandro Rizzi. Ant colony for locality foraging in image enhancement. In Mrutyunjaya Panda Satchidananda Dehuri, Alok Kumar Jagadev, editor, *Multi-objective Swarm Intelligence: Theoretical Advances and Applications*, volume 592 of *Studies in Computational Intelligence*, pages 123–142. Springer, Berlin, Heidelberg, 2015.

### **Theses**

Ivar Farup. *Thermally induced deformations and hot tearing during direct chill casting of aluminium*. PhD thesis, University of Oslo, Oslo, Norway, 2000.

Ivar Farup. Vacuum energy and inertial dragging. Master's thesis, Norwegian University of Science and Technology, Trondheim, Norway, 1994.

## Supervised Theses

### *PhD*

Jouschua Thomas Simon-Liedtke. *Assessment and Design of Color Vision Deficiency Simulation and Daltonization Methods*. PhD thesis, NTNU – Norwegian University of Science and Technology, Gjøvik, Norway, 2017.

Gabriele Simone. *Measuring and Enhancing the Contrast and Quality of Digital Images*. PhD thesis, University of Oslo, Oslo, Norway, 2016.

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