

Curriculum Vitae **Stefan Andersson-Engels** (June 2005)

Stefan Andersson-Engels, b. Feb 21, 1960 in Ängelholm, Sweden. Swedish Citizen

A. Professional preparation

Lund University/LTH Engineering physics	M. Sc	1985
Lund University/LTH Medical Laser Physics	PhD	1990
McMasters University Medical Physics	postdoc.	1990-1991
Lund University/LTH Medical Laser Physics	postdoc	1991-1993
Lund University/LTH Medical Laser Physics	Docent/Habilitation	1994

B. Appointments

Lund University/LTH	Research associate	1993-1997
Lund University/LTH	Ass. Prof.	1997-1999
Lund University/LTH	Professor	1999-

C. Commissions of trust

(2000-present) Chair of board, Lund University Medical Laser Centre, (1991-present) Board member, Lund University Medical Laser Centre, (1995-2001) Deputy board member, Lund Laser Centre, (2005) Program co-chair European Conference on Biomedical Optics, Munich, (2003 + 2005) Co-organiser of graduate summer school "Biophotonics'03" , and Biophotonics'05 on Ven, Sweden, (2000) European chair for Gordon Conference on Lasers in Medicine and Biology, (2002-present) Chair of Docent committee at FIME, LTH, Participated in numerous conference programme and organizing committees, Served as a Faculty Opponent at 10 PhD dissertations in Sweden, Denmark, Norway, Holland and Italy

D. Networks in academia and industry

Member of Optical Society of America (OSA), The International Society for Optical Engineering (SPIE) and American Society for Photobiology (ASP)
Coordinated one EC research programme and participated as project partner in another 5 programmes.

E. Entrepreneurial achievements

Co-founder of two spin-off companies: *Spectraphos AB* and *SpectraCure AB*. Co-author of about 10 patent applications resulting in many granted patents. Received SKAPA innovation prize 2004. Grant holder of several research contract from industrial collaborators. Several of the PhD students advised have/have had industrial connections during their studies (Industrial PhD student programmes).

F. Theses of graduate students with SAE as principal advisor

10 students have been guided to a PhD degree. Presently supervising 6 PhD students.

G. Other relevant qualifications

Co-author of more than 110 peer-reviewed scientific publications
Received Erna Ebelings prize, Swedish Society for Medical Engineering and Medical Physics in 2003
Selected as the first-choice candidate in the appointment of the professorship in Biomedical Physics at the Royal Institute of Technology, Stockholm in 1996

PhD students advised

Christoffer Abrahamsson – time and wavelength resolved remission spectroscopy

Jenny Svensson – fluorescence spectroscopy and imaging

Ann Johansson – interstitial photodynamic therapy and absorption spectroscopy

Tomas Svensson – time-resolved spectroscopy and Gas in Scattering Media

Absorption Spectroscopy

Johan Axelsson – Fluorescence spectroscopy and interstitial photodynamic therapy

Jesper Holm – diode lasers and fluorescence spectroscopy

#	Year	Name	Title	Main supervisor	Assistant supervisor
1	1995	Rober Berg	Laser-Based Cancer Diagnostics and Therapy - Tissue Optics Considerations	Sune Svanberg	Stefan Andersson-Engels
2	1997	Annika Enejder	Light Scattering and Absorption in Tissue - Models and Measurements	Stefan Andersson-Engels	Sune Svanberg, Katarina Svanberg
3	1998	Christian Stuesson	Medical Laser-Induced Thermotherapy – Models and Applications	Stefan Andersson-Engels	Karl-Göran Tranberg, Sune Svanberg
4	1999	Claes af Klinteberg	On the use of light for the characterization and treatment of malignant tumours	Stefan Andersson-Engels	Sune Svanberg, Katarina Svanberg
5	1999	Ingrid Wang	Photodynamic Therapy and Laser-Based Diagnostic Studies of Malignant Tumours	Katarina Svanberg	Sune Svanberg, Stefan Andersson-Engels
6	1999	Charlotta Eker	Optical Characterization of tissue for medical diagnostics	Stefan Andersson-Engels	Sune Svanberg, Katarina Svanberg
7	2000	Jan Sørensen Dam	Optical analysis of biological media - continuous wave diffuse spectroscopy	Stefan Andersson-Engels	Sune Svanberg, Paul Erik Fabricius
8	2002	Thomas Johansson	Application of Laser Spectroscopy to Analytical Chemistry, Environmental Monitoring and Medicine	Sune Svanberg	Stefan Andersson-Engels, Staffan Nilsson
9	2002	Johannes Swartling	Biomedical and atmospheric applications of optical spectroscopy in scattering media	Stefan Andersson-Engels	Sune Svanberg
10	2003	Sara Pålsson	Methods, Instrumentation and Mechanisms for Optical Characterization of Tissue and Treatment of Malignant Tumours	Stefan Andersson-Engels	Sune Svanberg, Katarina Svanberg

11	2003	Peter Snoer Jensen	Measurements of trace components in aqueous solutions with near and mid infrared Fourier transform spectroscopy	Stefan Andersson-Engels	Jimmy Bak, Peter Andersen
12	2004	Marcelo Soto Thompson	Photodynamic Therapy utilizing Interstitial Light delivery Combined with Spectroscopic Methods	Stefan Andersson-Engels	Katarina Svanberg, Sune Svanberg
13	2004	Eva Samsøe	Laser diode systems for photodynamic therapy and medical diagnostics	Stefan Andersson-Engels	Peter Andersen, Paul-Michael Petersen, Katarina Svanberg
14	2004	Lotta Gustafsson	HAMLET – In vivo effect and mechanisms of tumor-cell death	Catharina Svanborg	Katarina Svanberg, Stefan Andersson-Engels

MSc students advised

Maja Trojer
Ulrika Malmberg
David Carlström

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|--------------------------------|------------------------------|-------------------------------|
| 1. Charlotte Arfwidsson | 23. Emma Johansson | 45. Martin Rupinski |
| 2. Petra Hansson | 24. Richard Larne | 46. Per Malm |
| 3. Carina Palmqvist | 25. Henrik Enquist | 47. Mårten Pålsson |
| 4. Roger Berg | 26. Sara Pålsson | 48. Magnus Andersson |
| 5. Ulf Gustafsson | 27. Nicklas Ohlsson | 49. Anders Nilsson |
| 6. Claes af Klinteberg | 28. Ola Rylow | 50. Karin Kolmert |
| 7. Christian Sturesson | 29. Markus Andreasson | 51. Linus Grönlund |
| 8. Charlotta Lindquist | 30. Ola Sandström | 52. Pär Hjalmarsson |
| 9. Heléne Tagesson | 31. Per Axelsson | 53. Maura Fuertes Vega |
| 10. Mårten Öbrink | 32. Hedda Malm | 54. Tobias Wiesel |
| 11. Joakim Bood | 33. Bethlehem Araya | 55. Birgitta Strömdahl |
| 12. Hugo Carlsson | 34. Anders Becker | 56. Alexandra Löwgren |
| 13. Carina Ekelius | 35. Daniel Karlsson | 57. Johan Axelsson |
| 14. Jan Svensson | 36. Henrik Nilsson | 58. Johan Stensson |
| 15. Mats Fagerström | 37. Magnus Johnsson | 59. Andreas Eriksson |
| 16. Anders Åkesson | 38. Jenny Pettersson | 60. Jonas Hjelm |
| 17. Åsa Persson | 39. Mikael Sebesta | 61. Khaled Therike |
| 18. Daniela Heinrich | 40. Kristina Nilsson | 62. Daniel Bengtsson |
| 19. Peter Alsholm | 41. Mikael Otendal | 63. Erik Jansson |
| 20. Marcus Gustavsson | 42. Anna Ralsgård | 64. Rebecca Roos |
| 21. Per Petersson | 43. Jenny Svensson | |
| 22. Johannes Swartling | 44. Henry Lehtiniemi | |

Peer review papers

1. C.Abrahamsson, J.Johansson, S.Andersson-Engels, S.Svanberg and S.Folestad, Time-resolved NIR spectroscopy for quantitative analysis of intact pharmaceutical tablets, *Anal. Chem.* **77**, 1055-1059 (2005).
2. C.af Klinteberg, M.Andreasson, O.Sandström, S.Andersson-Engels and S.Svanberg, Compact medical fluorosensor for minimally invasive tissue characterisation, *Rev. Sci. Instrum.* **76**, 034303-034306 (2005).
3. C.af Klinteberg, A.Pifferi, S.Andersson-Engels, R.Cubeddu and S.Svanberg, In vivo absorption spectrum of tumor sensitizers with femtosecond white light, *Appl. Opt.* **44**, 2213-2220 (2005).
4. J.S.Dam, N.Yavari and S.Andersson-Engels, Real-time absorption and scattering characterization of slab-shaped turbid samples using a combination of angular and spatially resolved measurements., *Appl. Opt.* **44**, 4281-4290 (2005).
5. A.Karlsson, J.He, J.Swartling and S.Andersson-Engels, Numerical simulations of light scattering by red blood cells, *IEEE Trans Biomed Eng* **52**, 13-18 (2005).
6. E.Samsoe, P.Petersen, S.Andersson-Engels and P.E.Andersen, Second-harmonic generation of 405-nm light using periodically poled KTiOPO4 pumped by external-cavity laser diode with double grating feedback, *Applied Physics B-Lasers and Optics* **80**, 861-864 (2005).
7. M.Soto Thompson, A.Johansson, T.Johansson, S.Andersson-Engels, N.Bendsoe, K.Svanberg and S.Svanberg, Clinical system for interstitial photodynamic therapy with combined on-line dosimetry measurements, *Appl. Opt.* **44**, 4023-4031 (2005).
8. J.Svensson and S.Andersson-Engels, Modeling of spectral changes for depth localization of fluorescent inclusion, *Opt. Express* **13**, 4263-4274 (2005).
9. T.Svensson, J.Swartling, P.Taroni, A.Torricelli, P.Lindblom, C.Ingvar and S.Andersson-Engels, Characterization of normal breast tissue heterogeneity using time-resolved near-infrared spectroscopy, *Phys. Med. Biol.* **50**, 2559-2571 (2005).
10. J.Swartling, J.Svensson, D.Bengtsson, K.Terike and S.Andersson-Engels, Fluorescence spectra provide information on the depth of fluorescent lesions in tissue, *Appl. Opt.* **44**, 1934-1941 (2005).
11. C.Abrahamsson, T.Svensson, S.Svanberg, S.Andersson-Engels, J.Johansson and S.Folestad, Time and wavelength resolved spectroscopy of turbid media using light continuum generated in a crystal fiber, *Opt. Express* **12**, 4103-4112 (2004).
12. J.He, A.Karlsson, J.Swartling and S.Andersson-Engels, Light Scattering By Multiple Red Blood Cells, *J. Opt. Soc. Am. A* **21**, 1953-1961 (2004).
13. D.Levitz, L.Thrane, M.H.Frosz, P.E.Andersen, C.B.Andersen, P.R.Hansen, J.Valanciunaite, J.Swartling and S.Andersson-Engels, Determination of optical scattering properties of highly-scattering media in optical coherence tomography images, *Opt. Express* **12**, 249-259 (2004).
14. A.Pifferi, J.Swartling, E.Chikoidze, A.Torricelli, P.Taroni, A.Bassi, S.Andersson-Engels and R.Cubeddu, Spectroscopic time-resolved diffuse reflectance and transmittance measurements of the female breast at different interfiber distances, *J. Biomedical Optics* **9**, 1143-1151 (2004).
15. A.Pifferi, A.Torricelli, A.Bassi, P.Taroni, R.Cubeddu, H.Wabnitz, D.Grosenick, M.Möller, R.Macdonald, J.Swartling, T.Svensson, S.Andersson-Engels, R.van Veen, H.J.C.M.Sterenborg, J.-M.Tualle, H.L.Nghiem, S.Avrillier, M.Whelan and H.Stamm, Performance assessment of photon migration instruments: the MedPhot protocol, *Appl. Opt.* **44**, 2104-2114 (2004).

16. E.Samsøe, P.E.Andersen, S.Andersson-Engels and P.M.Petersen, Improvement of spatial and temporal coherence of a broad area laser diode using an external-cavity design with double grating feedback, *Opt. Express* **12**, 609-616 (2004).
17. P.Snoer Jensen, J.Bak, S.Ladefoged, L.Friis-Hansen and S.Andersson-Engels, On-line monitoring of urea concentration in dialysate with dual-beam Fourier transform near infrared spectroscopy, *J. Biomedical Optics* **9**, 553-557 (2004).
18. P.Snoer Jensen, J.Bak, S.Ladefoged and S.Andersson-Engels, Determination of urea, glucose, and phosphate in dialysate with Fourier transform infrared spectroscopy, *Spectrochim. Acta* **A60**, 899-905 (2004).
19. A.M.K.Enejder, J.Swartling, P.Aruna and S.Andersson-Engels, Influence of cell shape and aggregate formation on the optical properties of flowing whole blood, *Appl. Opt.* **42**, 1384-1394 (2003).
20. S.Pålsson, L.Gustafsson, N.Bendsoe, M.Soto Thompson, S.Andersson-Engels and K.Svanberg, Kinetics of the superficial perfusion and temperature in connection with photodynamic therapy of basal cell carcinomas using esterified and non-esterified 5-aminolevulinic acid, *Br. J. Dermatol.* **148**, 1179-1188 (2003).
21. E.Samsøe, P.Malm, P.E.Andersen, P.M.Petersen and S.Andersson-Engels, Improvement of brightness and output power of high-power laser diodes in the visible spectral region for efficient coupling to small-core diameter fibers, *Opt. Comm.* **219**, 369-375 (2003).
22. P.Snoer Jensen, J.Bak and S.Andersson-Engels, Influence of temperature on water and aqueous glucose absorption spectra in the near- and mid-infrared regions at physiologically relevant temperatures, *Appl. Spectrosc.* **57**, 28-36 (2003).
23. J.Swartling, A.Pifferi, A.M.K.Enejder and S.Andersson-Engels, Accelerated Monte Carlo model to simulate fluorescence spectra from layered tissues, *J. Opt. Soc. Am. A* **20**, 714-727 (2003).
24. J.Swartling, S.Pålsson, P.Platonov, S.B.Olsson and S.Andersson-Engels, Changes in tissue optical properties due to radio frequency ablation of myocardium, *Med. Biol. Eng. Comput.* **41**, 403-409 (2003).
25. J.Swartling, J.S.Dam and S.Andersson-Engels, Comparison of spatially and temporally resolved diffuse-reflectance measurement systems for determination of biomedical optical properties, *Appl. Opt.* **42**, 4612-4620 (2003).
26. J.Johansson, S.Folestad, M.Josefson, A.Sparen, C.Abrahamsson, S.Andersson-Engels and S.Svanberg, Time-resolved NIR/Vis spectroscopy for analysis of solids: Pharmaceutical tablets, *Appl. Spectrosc.* **56**, 725-731 (2002).
27. T.Johansson, M.Soto Thompson, M.Stenberg, C.af Klinteberg, S.Andersson-Engels, S.Svanberg and K.Svanberg, Feasibility study of a novel system for combined light dosimetry and interstitial photodynamic treatment of massive tumors, *Appl. Opt.* **41**, 1462-1468 (2002).
28. M.Ozolinsh, I.Lacis, R.Paeglis, A.Sternberg, S.Svanberg, S.Andersson-Engels and J.Swartling, Electrooptic PLZT ceramics devices for vision science applications, *Ferroelectrics* **273**, 131-136 (2002).
29. G.Somesfalean, M.Sjöholm, J.Alnis, C.af Klinteberg, S.Andersson-Engels and S.Svanberg, Concentration measurement of gas embedded in scattering media by employing absorption and time-resolved laser spectroscopy, *Appl. Opt.* **41**, 3538-3544 (2002).
30. J.S.Dam, C.B.Pedersen, T.Dalgaard, P.E.Fabricius, P.Aruna and S.Andersson-Engels, Fiber optic probe for non-invasive real-time determination of tissue optical properties at multiple wavelengths, *Appl. Opt.* **40**, 1155-1164 (2001).

31. C.Eker, R.Rydell, K.Svanberg and S.Andersson-Engels, Multivariate analysis of laryngeal fluorescence spectra recorded *in vivo*, *Lasers Surg. Med.* **28**, 259-266 (2001).
32. T.H.Pham, C.Eker, A.Durkin, B.J.Tromberg and S.Andersson-Engels, Quantifying the optical properties and chromophore concentrations of turbid media by chemometric analysis of hyperspectral, diffuse reflectance data collected using a Fourier interferometric imaging system, *Appl. Spectrosc.* **55**, 1035-1045 (2001).
33. M.Sjöholm, G.Somesfalean, J.Alnis, S.Andersson-Engels and S.Svanberg, Analysis of gas dispersed in scattering media, *Opt. Lett.* **26**, 16-18 (2001).
34. M.Soto Thompson, L.Gustafsson, S.Pålsson, N.Bendsoe, M.Stenberg, C.af Klinteberg, S.Andersson-Engels and K.Svanberg, Photodynamic therapy and diagnostic measurements of basal cell carcinomas using esterified and non-esterified δ -aminolevulinic acid, *J. Porphyrins Phthalocyanines* **5**, 147-153 (2001).
35. I.Wang, N.Bendsoe, C.af Klinteberg, A.M.K.Enejder, S.Andersson-Engels, S.Svanberg and K.Svanberg, Photodynamic therapy versus cryosurgery of basal cell carcinomas; results of a phase III randomized clinical trial, *Br. J. Dermatol.* **144**, 832-840 (2001).
36. S.Andersson-Engels, G.Canti, R.Cubeddu, C.Eker, C.af Klinteberg, A.Pifferi, K.Svanberg, S.Svanberg, P.Taroni, G.Valentini and I.Wang, Preliminary evaluation of two fluorescence imaging methods for detection of basal cell carcinomas of the skin, *Lasers Surg. Med.* **26**, 76-82 (2000).
37. J.S.Dam, T.Dalgaard, P.E.Fabricius and S.Andersson-Engels, Multiple polynomial regression method for determination of biomedical optical properties from integrating sphere measurements, *Appl. Opt.* **39**, 1202-1209 (2000).
38. A.M.K.Enejder, C.af Klinteberg, I.Wang, S.Andersson-Engels, N.Bendsoe, S.Svanberg and K.Svanberg, Blood perfusion studies on basal cell carcinomas in conjunction with photodynamic therapy and cryotherapy employing laser Doppler perfusion imaging, *Acta Derm. Venereol.* **80**, 19-23 (2000).
39. T.H.Pham, F.Bevilacqua, T.Spott, J.S.Dam, B.J.Tromberg and S.Andersson-Engels, Quantifying the absorption and reduced scattering coefficients of tissue-like turbid media over a broad spectral range using a non-contact Fourier interferometric, hyperspectral imaging system, *Appl. Opt.* **39**, 6487-6497 (2000).
40. S.Svanberg, S.Andersson-Engels, R.Cubeddu, E.Förster, M.Grätz, K.Herrlin, G.Hölzer, L.Kiernan, C.af Klinteberg, A.Persson, A.Pifferi, A.Sjögren and C.-G.Wahlström, Generation, characterization and medical utilization of laser-produced emission continua, *Laser and Particle Beams* **18**, 563-570 (2000).
41. C.af Klinteberg, A.M.K.Enejder, I.Wang, S.Andersson-Engels, S.Svanberg and K.Svanberg, Kinetic fluorescence studies of 5-aminolevulinic acid-induced protoporphyrin IX accumulation in basal cell carcinomas, *J. Photochem. Photobiol. B.* **49**, 120-128 (1999).
42. C.Eker, S.Montán, E.Jaramillo, K.Koizumi, C.Rubio, S.Andersson-Engels, K.Svanberg, S.Svanberg and P.Slezak, Clinical spectral characterisation of colonic mucosal lesions using autofluorescence and δ aminolevulinic acid sensitisation, *Gut* **44**, 511-518 (1999).
43. C.Sturesson, K.Ivarsson, S.Andersson-Engels and K.-G.Tranberg, Changes in local hepatic blood perfusion during interstitial laser-induced thermotherapy of normal rat liver measured by interstitial laser Doppler flowmetry, *Lasers Med. Sci.* **14**, 143-149 (1999).
44. I.Wang, B.Bauer, S.Andersson-Engels, S.Svanberg and K.Svanberg, Photodynamic therapy utilising topical δ -aminolevulinic acid in non-melanoma skin malignancies of the eyelid and the periocular skin, *Acta Ophthalmol. Scand.* **77**, 182-188 (1999).

45. M.Bolmsjö, C.Sturesson, L.Wagrell, S.Andersson-Engels and A.Mattiasson, Optimizing transurethral microwave thermotherapy: a model for studying power, blood flow, temperature variations and tissue destruction, *Br. J. Urol.* **81**, 811-816 (1998).
46. R.Cubeddu, A.Pifferi, P.Taroni, G.Valentini, G.Canti, C.Lindquist, S.Andersson-Engels, S.Svanberg, I.Wang and K.Svanberg, Multispectral and lifetime imaging for the detection of skin tumors, in *Biomedical Optical Spectroscopy and Diagnostics / Therapeutic Laser Applications*, eds. E.M.Sevick-Muraca, J.A.Izatt and M.N.Ediger, Proc. OSA Trends in Optics and Photonics vol. **22**, 106-109 (1998).
47. A.M.K.Nilsson, P.Alsholm, A.Karlsson and S.Andersson-Engels, T-matrix computations of light scattering by red blood cells, *Appl. Opt.* **37**, 2735-2748 (1998).
48. A.M.K.Nilsson, C.Sturesson, D.L.Liu and S.Andersson-Engels, Changes in spectral shape of tissue optical properties in conjunction with laser-induced thermotherapy, *Appl. Opt.* **37**, 1256-1267 (1998).
49. A.Pifferi, P.Taroni, G.Valentini and S.Andersson-Engels, Real-time method for fitting time-resolved reflectance and transmittance measurements with a Monte Carlo model, *Appl. Opt.* **37**, 2774-2780 (1998).
50. K.Svanberg, I.Wang, S.Colleen, I.Idvall, C.Ingvar, R.Rydell, D.Jocham, H.Diddens, S.Bown, G.Gregory, S.Montán, S.Andersson-Engels and S.Svanberg, Clinical multi-colour fluorescence imaging of malignant tumours - initial experience, *Acta Radiol.* **39**, 2-9 (1998).
51. K.Svanberg, C.af Klinteberg, A.Nilsson, I.Wang, S.Andersson-Engels and S.Svanberg, Laser-based spectroscopic methods in tissue characterization, in *Advances in Optical Biopsy and Optical Mammography*, ed. R.R.Alfano, pp. 123-129 (The New York Academy of Sciences, New York, NY, 1998).
52. S.Andersson-Engels, C.af Klinteberg, K.Svanberg and S.Svanberg, In vivo fluorescence imaging for tissue diagnostics, *Phys. Med. Biol.* **42**, 815-824 (1997).
53. H.Heyerdahl, I.Wang, D.L.Liu, R.Berg, S.Andersson-Engels, Q.Peng, J.Moan, S.Svanberg and K.Svanberg, Pharmacokinetic studies on 5-aminolevulinic acid-induced protoporphyrin IX accumulation in tumours and normal tissues, *Cancer Lett.* **112**, 225-231 (1997).
54. O.Jarlman, R.Berg, S.Andersson-Engels, S.Svanberg and H.Pettersson, Time-resolved white light transillumination for optical imaging, *Acta Radiol.* **38**, 185-189 (1997).
55. D.L.Liu, K.Svanberg, I.Wang, S.Andersson-Engels and S.Svanberg, Laser Doppler perfusion imaging: New technique for determination of perfusion and reperfusion of splanchnic organs and tumor tissue, *Lasers Surg. Med.* **20**, 473-479 (1997).
56. D.L.Liu, S.Andersson-Engels, C.Sturesson, K.Svanberg, C.H.Håkansson and S.Svanberg, Tumour vessel damage resulting from laser-induced hyperthermia alone and in combination with photodynamic therapy, *Cancer Lett.* **111**, 1-9 (1997).
57. A.M.K.Nilsson, D.Heinrich, J.Olajos and S.Andersson-Engels, Near infrared diffuse reflection and laser-induced fluorescence spectroscopy for myocardial tissue characterisation, *Spectrochim. Acta* **53**, 1901-1912 (1997).
58. A.M.K.Nilsson, G.W.Lucassen, W.Verkruijsse, S.Andersson-Engels and M.J.C.van Gemert, Changes in optical properties of human whole blood in vitro due to slow heating, *Photochem. Photobiol.* **65**, 366-373 (1997).
59. C.Sturesson and S.Andersson-Engels, Tissue temperature control using a water-cooled applicator: implications for transurethral laser-induced thermotherapy of benign prostatic hyperplasia., *Med. Phys.* **24**, 461-470 (1997).

60. C.Sturesson, D.L.Liu, U.Stenram and S.Andersson-Engels, Hepatic inflow occlusion increases the efficacy of interstitial laser-induced thermotherapy in rat, *J. Surg. Res.* **71**, 67-72 (1997).
61. I.Wang, S.Andersson-Engels, G.E.Nilsson, K.Wårdell and K.Svanberg, Superficial blood flow following photodynamic therapy of malignant skin tumours measured by laser Doppler perfusion imaging, *Br. J. Dermatol.* **136**, 184-189 (1997).
62. C.af Klinteberg, C.Lindquist, A.Pifferi, R.Berg, S.Andersson-Engels and S.Svanberg, Diffusely scattered femtosecond white light examination of breast tissue, in *Medical and Biological Applications*, ed. R.Cubeddu, Proc. OSA Trends in Optics and Photonics vol. **6**, 30-35 (1996). Invited paper.
63. R.Berg, S.Andersson-Engels, O.Jarlman and S.Svanberg, Time-gated viewing studies on tissuelike phantoms, *Appl. Opt.* **35**, 3432-3440 (1996).
64. O.Jarlman, R.Berg, S.Andersson-Engels, S.Svanberg and H.Pettersson, Laser transillumination of breast tissue phantoms using time-resolved techniques, *Eur. Radiol.* **6**, 387-392 (1996).
65. C.Lindquist, A.Pifferi, R.Berg, S.Andersson-Engels and S.Svanberg, Reconstruction of diffuse photon-density wave interference in turbid media from time-resolved transmittance measurements, *Appl. Phys. Lett.* **69**, 1674-1676 (1996).
66. C.Lindquist, A.Pifferi, S.Andersson-Engels and S.Svanberg, Reconstruction of diffuse photon density wave interference for detection of small inhomogeneities in turbid media, in *Advances in Optical Imaging and Photon Migration*, eds. R.R.Alfano and J.G.Fujimoto, Proc. OSA Trends in Optics and Photonics vol. **2**, 148-151 (1996).
67. A.M.K.Nilsson, R.Berg and S.Andersson-Engels, Measurements of the optical properties of tissue in conjunction with photodynamic therapy, in *TOPS Biomedical optical spectroscopy and diagnostics*, eds. E.Sevick-Muraca and D.Benaron, Proc. Optical Society of America vol. **3**, 234-244 (1996).
68. A.Pifferi, R.Berg, P.Taroni and S.Andersson-Engels, Fitting of time-resolved reflectance curves with a Monte Carlo model, in *Advances in optical imaging and photon migration*, eds. R.R.Alfano and J.G.Fujimoto, Proc. Optical Society of America vol. **2**, 311-314 (1996).
69. C.Staël von Holstein, A.M.K.Nilsson, S.Andersson-Engels, R.Willén, B.Walther and K.Svanberg, Detection of adenocarcinoma in Barrett's oesophagus by means of laser-induced fluorescence, *Gut* **39**, 711-716 (1996).
70. C.Sturesson and S.Andersson-Engels, Theoretical analysis of transurethral laser-induced thermo therapy for treatment of benign prostatic hyperplasia. Evaluation of a water-cooled applicator, *Phys. Med. Biol.* **41**, 445-463 (1996).
71. C.Sturesson and S.Andersson-Engels, Mathematical modelling of dynamic cooling and pre-heating, used to increase the depth of selective damage to blood vessels in laser treatment of port wine stains, *Phys. Med. Biol.* **41**, 413-428 (1996).
72. K.Svanberg, D.L.Liu, I.Wang, S.Andersson-Engels, U.Stenram and S.Svanberg, Photodynamic therapy using intravenous δ -aminolaevulinic acid-induced protoporphyrin IX sensitisation in experimental hepatic tumours in rats, *Br. J. Cancer* **74**, 1526-1533 (1996).
73. S.Andersson-Engels, R.Berg, K.Svanberg and S.Svanberg, Multi-colour fluorescence imaging in combination with photodynamic therapy of δ -amino levulinic acid (ALA) sensitised skin malignancies, *Bioimaging* **3**, 134-143 (1995).
74. D.L.Liu, I.Wang, S.Andersson-Engels, C.H.Håkansson, U.Stenram and K.Svanberg, Intra-operative laser-induced photodynamic therapy in the treatment of experimental hepatic tumours, *Eur. J. Gastroenterol. Hepatol.* **7**, 1073-1080 (1995).

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