Frits F.M. de Mul

Publications, Conference contributions, Presentations, Patents.[1]

(Listed under: “Mul, F.F.M. de” ; “De Mul, F.F.M.” ; “DeMul, F.F.M.” etc)

A. Period 1966-1973 (research and development: Radiation Physics / Neutron Physics, IRI, TU Delft, the Netherlands)
(sole author, unless mentioned otherwise)

1. Design of a liquid methane cold neutron source, IRI-reports nr. 132-67-01, 1967.
2. Total cross section measurements of pyrolytic graphite plates for thermal neutrons, IRI reports nr. 132-69-04, 1969.
3. Quasi-elastic incoherent cold neutron scattering in liquid cyclohexanol, Phys.Lett. 33A, 1970, p.87-89. (i.s.m. J. Bregman)
4. Intermediate scattering functions obtained by fast Fourier transformation of cold neutron time-of-flight spectra, Nucl. Instr. Meth. 93, 1971, p.109-120 (i.s.m. J. Bregman).
5. On the analysis of cold neutron time-of-flight spectra using direct fast Fourier transformation, Nucl. Instr. Meth. 98, 1972, p.53.
6. Molecular motions in cyclohexanol and related compounds studied by inelastic cold neutron scattering, Ph.D.-thesis, Delft, 1973.
7. RKSPROG - A computer program for inelastic cold neutron scattering time-of-flight measurements, IRI-reports nr. 132-73--3, 1973.
8. Rotatie- en translatiebewegingen in moleculaire vloeistoffen en vaste stoffen, in: Onderzoek vaste stof en vloeistof met behulp van neutronen, RCN-reports, Petten, 1973.
9. A cold neutron scattering study of dicalcium strontium propionate, Chem.Phys.Lett. 22,1973, p. 476 (i.s.m. J. van Tricht).

B. Period 1973-1976 (VWO-leraar natuurkunde / Physics teacher at secondary school)

10. Over het gebruik van symbolenketens bij de structurering van de oplossing van natuurkunde-vraagstukken en -problemen, Faraday, 45, 1976, p. 191-194.

C. Period 1976-1980 (University of Twente, Department Applied Physics: solely teaching)

11. J.H.P. van Weeren, F.F.M. de Mul, M. Peters, H. Kramers-Pals, T. Roossink, Teaching problem solving in physics - A course in Electromagnetism, Amer. Journ of Physics, 1982, p. 832 vv;
12. Co-author of various publications of the Education Research Center of the University about”Teaching Electricity and Magnetism at university level”.

D. Period 1981-2004 (University of Twente, Fac. Department Applied Physics: teaching and research/development)

Publication period 1980-1992.

13. Florisson O., de Mul F.F.M., de Winter H.G., *Raman anemomete rfor component-selective velocity measurements of particles in aflow,* J. Phys. E: Sci. Instrum., 14 , 1981, pp. 144-1446,
14. De Mul F.F.M., Florisson O. en Greve J., *Raman anemometry. A method for component-selective velocity measurements of particles in a flow, J. Phys. E. .Sci. Instrum.,* 16 , 1983, pp. 797-802,
15. De Mul F.F.M., van Spijker J., van der Plas D., Greve J., Aamoudse J.G. and Smits T.M., *Mini laser-doppler (blood)flow monitor with diode laser source and detection integrated in the probe, Appl. Optics,* 23 , 1984, pp. 2970-2973,
16. De Mul F.F.M. en Greve J., *Raman-(rmicro).spectroscopie en biologische toepassingen, LAB/ABC,* , 1984, pp. 8-12,
17. De Mul F.F.M., Otto C. and Greve J., *Raman microscopy of Intact Chromosomes and Related Compounds, .SPIE 492,* 1984, pp. 482-485,
18. De Mul F.F.M., Reith J.Th.M. and Greve J., *A mini La.ser-Doppler flow monitor, with a solid state laser and the detection integrated in the probe,* II. SPIE proceedings 492, , 1984, pp. 121-125,

[1] Due to a coupling of different filing systems, some entries might be double.

19. De Mul F.F.M., Otto C. and Greve J., *Raman microscopy of intact chromosomes and related compounds, .SPlE-proceedings 492,* 1984, pp. 482-485,
20. Otto C., van Welie A., de Jong E., de Mul F.F.M., Mud J. en Greve J., *Two small-volume electrochemical cells for the measurements of surface enhanced Raman scattering, J. Phys E. .Sci. Instr.,* 17 , 1984, pp. 624-626,
21. De Mul F.F.M. en Greve J., *Raman-(micro)spectroscopie en biologische toepassingen,* LAB/ABC, , 1984, pp. 8-12,
22. De Mul F.F.M., Reith J.Th.M. and Greve J., A *mini Laser-Dopplerflow monitor, with a solid state laser and the detection integrated in the probe,* II. SPE proceedings 492, ,1984, pp. 121-125,
23. De Mul F.F.M., Buiteveld H., Lankester J., Mud J. en Greve J.:, *Raman microscopy in human pathology., Human Pathology,* 15 , 11 1984, pp. 1062-1068,
24. De Grooth B.G., de Mul F.F.M. en Greve 1., Gated Raman Spectroscopy (GRAS): *A new experimental approach for the measurement of Raman signals of particles in suspension, Rev. .Sci. Instrum.,* 55 , 2 1984, pp. 169-171,
25. Buiteveld H., de Mul F.F.M., Mud J. en Greve J., *Identification of inclusions in lung tissue with a Raman microprobe,* Appl. Spectr., 38 , 3 1984, pp. 304-306,
26. De Mul F.F.M., van Welie A., Otto C., Mud J. en Greve J., *Micro-Raman spectroscopy of chromosomes, J.* Raman Spectr., 15 , 4 1984, pp. 268-272,
27. Mud J., Otto C., de Mul F.F.M. en Greve J., *Raman microspectroscopy of LiDNA in Ethanol and tert-Butanol,* Journal of Raman Spectroscopy, 16 , 6 1985, pp. 373-376,
28. Otto C., van den Tweel T.J.J., de Mul F.F.M. and Greve J., S*urface Enhanced Raman .Spectroscopy of DNA-bases,* Journal of Ramanspectroscopy, 17 , 1986, pp. 289-298,
29. De Mul F.F.M., Hottenhuis M.H.J., Bouter P., Greve J., Arends J. en ten Bosch 1.1., *Micro-Raman line broadening in carbonated hydroxyapatite, 1.* Dental Research, 4 , 1986, pp. 437-440,
30. Suichies H.E., Aarnoudse J.G., Smits T.M., Jentink H.W., de Mul F.F.M. and Greve J., *Skin bloodflow in normal neonates during active and quiet sleep measured with a semiconductor laser doppler instrument,* Int. J. Microcirculation, 5 , 2-mrt 1986, pp. 253-,
31. Otto C., de Mul F.F.M. en Greve J., *A raman spectroscopical study of the interaction between nucleotides and the DNA binding protein gp32 of bacteriophage* T4, Biopolymers, 26 , 1987, pp. 1667-1689,
32. Otto C., de Mul F.F.M. and Greve J., *.Surface Enhanced Raman scattering of molecules of biological interest,* Chapter in: Spectroscopic and Structural Shldies of Biomedical Materials,J. Twardowski, ed., Sigma Press, Wilmslow, G.B., , 1987, pp. -
33. Jentink, H.W., van Beurden J.A.J., Helsdingen M.A., de Mul F.F.M., Suichies H.E., Aarnoudse J.G. and Greve J., *A compact differential laser Doppler velocimeter using a semiconductor laser,* J. Phys. E: Sci. Instrum., 20 , 1987, pp. 1281-1283,
34. Otto C., Huizinga A., de Mul F.F.M. and Greve J., *.Surface enhanced scattering of compounds related to DNA-Bases,* Laser scattering spectr. of biol. object. Stud. in Phys. and Theor. Chemistry 45. Eds.: J. Stepanek, P. Anzenbacher and B. Sedlacek, Elsevier, , 1987, pp. 181-189.
35. Gijsbers G., Vrensen G., Willekens B., Maatman D., de Mul F. and Greve J., *Raman microspectroscopic Investigations of Human Eye Lenses,* Laser scattering spectr. of biol. objects. Stud. in Phys. and Theor.Chemistry 45. Eds.: J. Stepanek. P. Anzenbacher and B. Sedlacek, Elsevier, , 1987, pp. 583-594.
36. Otto C., de Mul F.F.M., Greve J., Turpin P.Y. and Chinsky L., *A Raman- and Resonance Raman study of the Interaction of gene product 32 with poly-RA and poly-DA,* Laser scattering spectr. of biol. objects. Stud. in Phys. and Theor. Chemistry 45. Eds.: J. Stepanek, P. Anzenbacher and B. Sedlacek, Elsevier, , 1987, pp. 433-440,
37. Otto C., de Mul F.F.M., Greve J., Turpin P.Y. and Chillsky L., *A Raman- and Resonance Raman study of the Interaction of gene product 32 with poly-RA and poly-DA.,* Laser scattering spectroscopy of biological objects. Studies in Phys. and Theor. Chemistry 45. Eds.: J. Stqpsnek, P. Anzenbacher and B. Sedlscek,, , 1987, pp. 433-440,
38. Otto C., de Mul F.F.M., Harmsen B.J.M. and Greve J., *A Raman scattering study of the helix-destabilizing gene-S-protein with adenine-containing nucleotides,* Nucleic Acids Research, 15 , 18 1987, pp. 76057625,
39. Suichies H.E., Aarnoudse J.G., Okken A., Jentink H.W., de Mul F.F.M. and Greve J., *Forehead skin blood flow in normal neonates during active and quiet sleep, mea.sured with a diode laser doppler instrument,* Acta Peadiatr Scandinavia, 77 , 1988, pp. 220-225,
40. De Mul F.F.M., Otto C., Greve J., Arends J. and ten Bosch J.J., *Calculation of the raman line broadening upon carbonation in synthetic hydroxyapatite, J.* of Raman Spectroscopy, 19 , 1988, pp. 13-21,
41. De Mul F.F.M., Otto C., Greve J., et al., *Raman (AIicro)spectroscopy,* Chemisch Weekblad/Chemisch Magazine, 14 , 1988, pp. 271 -272,
42. De Mul F.F.M., Otto C., Greve J., et al., *Raman (Aficro)spectroscopy,* Chemisch Weekblad/Chemisch Magazine, 18 , 1988, pp. 341 -342,

43. De Mul F.F.M., Otto C., Greve J., et al., *Raman (MicroJspectroscopy,* Chemisch WeekbladlCheMisch Magazine, 22 , 1988, pp. 405-,
44. De Mul F. F.M., Otto C., Greve J., et al., *Raman (Micro)spectroscopy,* Chemisch WeekbladlChemisch Magazine, 32 , 1988, pp. 457-,
45. De Mul F.F.M., Otto C., Greve J., et al., *Raman (Micro)spectroscopy,* Chemisch Weekblad/Chemisch Magazine, 35 , 1988, pp. 517-528,
46. Jentink H.W., Hermsen R.G.A.M., de Mul F.F.M., Suichies H.E., Aarnoudse J.G. and Greve J., *Tissue perfusion measurements using a mini diode /aser Doppler perfusion sensor,* SPIE Microsensors and Catheter-Based Imaging Technology, 904 , 1988, pp. 51 -56,
47. Otto C., Chinsky L., Turpin P.Y., de Mul F.F.M., Hannsen B.J.M. and Greve J., *Resonance Raman spectroscopy of complexes of the helix destabilizing proteins gp32 and gpS with poly(rA) and poly(dA),* J. Biomol. Struct. and Dynamics, 6 , 1988, pp. 35-49,
48. Graaff R., Aarnoudse J.G., de Mul F.F.M. and Jentink H.W., *Improved expressions for anisotropic scattering in absorbing media,* SPIE proceedings 1029, 1988, pp. 103- 110,
49. Bot A.C.C., Vrensen G.F.J.M., de Mul F.F.M. and Willekens B., *Position defined water content of human and rabbit lenses, A Raman microspectroscopic* investigation, Ophthallllic Res., 20 , 1988, pp. 93-,
50. Scholten T.A.H.M., Lucassen G.W., de Mul F.F.M. and Greve J., *Cwompensating pulse-to-pulse fluctuations and increasing spectral reproducibility of phase-matched CARS measurements,* Applied Optics, 27 , 15 1988, pp. 3225-3232,
51. Jentink H.W., de Mul F.F.M., Suichies H.E., Aamoudse J.G. and Greve J., *.Small laser Doppler velocimeter based on the self-mixing effect in a diode laser,* Applied Optics, 27 , 2 1988, pp. 379-385,
52. Otto C., de Mul F.F.M., Huizinga A. and Greve J., *.Surface Enhanced Raman .Scattering of Derivatives of Adenine. The Importance of the External Amino Group in Adenine for Surface Binding,* Journal of Physical Chemistry, 92 , 5 1988, pp. 1239-1244,
53. De Mul F.F.M., *Raman-(micro) Spectroscopie,* Laboratoriumpraktijk, , 1989, pp. 55-57,
54. Huizinga H., Bot A.C.C., de Mul F.F.M., Vrensen G.F.J.M. and Greve J., *Local Variation in Absolute Water Csontent of Human and Rabbit Eye Lenses Measured by Raman Microscopy,* Exp. Eye Res., 48 , 1989, pp. 487-496,
55. Bot A.C.C., Huizinga A., de Mul F.F.M., Vrensen G.F.J.M. and Greve J., *Raman Microspectroscopy of Fixed Rabbit and Human Lenses and Lens .Slices: New Potentialities,* Exp. Eye Rev., 49 , 1989, pp. 161-169,
56. Graaff R., Aarnoudse J.G., de Mul F.F.M., Jentink H.W., *In Scattering and Diffraction,* Proceedings SPIE, Editor H.A. Ferwerda, 1029 , 1989, pp. 103-110,
57. Scholten T.A.H.M., Lucassen G.W., Koelewijn E., de Mul F.F.M. and Greve J., *Non-Resonant Background .Suppression in Preresonance CAR.S spectra of FAD: Demonstration of a Background Suppression Technique using Phase Mismatching and Comparison with the Polarization-Sensitive CAR.S Technique,* Journal of Raman Spectroscopy, 20 , 1989, pp. 503-516,
58. Graaff R., Aarnoudse J.G., de Mul F.F.M., and Jentink H.W., *Light propagation parameters for anisotropically scattering media ba.sed on a rigorious solution of the tran.sport equation,* Applied Optics, 28 , 12 1989, pp. 2273-2279,
59. Suichies H.E., Aarnoudse J.G., Okken A., Jentink H.W., de Mul F.F.M. and Greve J., *.Skin bloodffow changes during apneic spells in preterm infants,* Early Human Development, 20 , 3-apr 1989, pp. 155-163,
60. Scholten T.A.H.M., Lucassen G.W., de Mul F.F.M. and Greve J., *Possibilities and Limitations of offresonance Polarization sensitive CARS of short chain Proteins,* Optics Communications, 72 , 5 1989, pp. 328-334,
61. Jentink H.W., Helsdingen M.A., de Mul F.F.M., Suichies H.E., Aanloudse J.G. and Greve J., *On the construction of small differential laser Doppler velocimeters using diode lasers,* Intemational Journal of Optoelectronics, 4 , 5 1989, pp. 405-414,
62. Scholten T.A.H.M., Lucassen G.W., de Mul F.F.M. and Greve J., *Nonresonant background suppression in CARS spectra of dispersive media using phase mismatching,* Applied Optics, 28 , 7 1989, pp. 13871400,
63. Koelink M.H., de Mul F.F.M., Graaff R., *Laser Doppler bloedfiowmetingen in de huid,* Klinische Fysica, I , 1990, pp. 12-18,
64. Schyns M.W.R.J., Huizinga A., Vrensen G.F.J.M., de Mul F.F.M. and Greve J., *Paraformaldehyde Fixation and .Some Characteristics of Lens Proteins as Measured by Raman Microspectroscopy,* Exp. Eye Res., 50 , 1990, pp. 331-333,
65. Jentink H.W., Hermsen R.G.A.M., de Mul F.F.M., Graaff R. and Greve J., *Monte Carlo simulations of laser Doppler bloodflow measurements in tissue,* Applied Optics, 29 , 1990, pp. 2371-,
66. Suichies H.E., Brouwer C., Aarnoudse J.G., Jentillk H.W., de Mul F.F.M. and Greve J., *.S'kin bloodflow changes, measured by laser Dopplerflowmetry, in the first week after birth,* Early Human Development, 23 , 1990, pp. 1-8,
67. Puppels G.J., de Mul F.F.M., Otto C., Greve J., Robert-Nicoud M., Arndt-Jovin D.J. and Jovin T.M., *.Studying single living cells and chromosomes by C'onfocal Raman Microspectroscopy,* Nature, 347 , 1990, pp. 301-303,

68. Koelink M.H., de Mul F.F.M., Greve J., Graaff R., Dassel A.C.M. and Aarnoudse J.G., *Depth dependent laser Doppler perfusion measurements. Theory and instrumentation,* SPIE 'Laser Applications in Life Sciences', 1403 , 1990, pp. 347-349,
69. Puppels G.J., Huizinga A., Krabbe H.W., de Boer H.A., G0sbers G. and de Mul F.F.M., A *high-throughput Raman notch filterset,* Rev. Sci. lnstnum., 61 , 12 1990, pp. 3709-3712,
70. Puppels G.J., Colier W., Olminkhof J.H.F., Otto C., de Mul F.F.M. and Greve J., *Description and Performance of a Highly .Sensitive Ctonfocal Raman Microspectrometer,* Journal of Raman Spectroscopy, 22 , 1991, pp. 217-225,
71. Puppels G.J., Olminkhof J.H.F., Segers-Nolten G.M.J., Otto C., de Mul F.F.M. and Greve J., *Laser Irradiation and Raman Spectroscopy of .Single Living Cells and Chromosomes: Sample Degradation Occurs with 514.5 nm but not with 660 nm Laser Light,* Experimental Cell Research, 195 , 1991, pp. 361 -367,
72. Dassel A.C.M., Aarnoudse J.G., Bminsllla K., Graaff R., Koelink M.H., de Mul F.F.M. and Greve J., *Forehead versus foot skin bloodflow in normal neonates during active and quiet sleep, measured by laser Doppler flowmetry,* Proceedings: Fetal and Neonatal Physiological measurements (Eds. H.N. Lafeber, J.G.Aarnoudse, H.W. Jongsma), Noordwijkerhout, 967 , 1991, pp. 177-180, ISBN 0-444-81438-8
73. Graaff R., Dassel A.C.M., Aarnoudse J.G., Zijlstra W.G., Heida P., de Mul F.F.M., Koelink M.H. and Greve J., *Biophysical aspects of reflection pulse oximetry,* Proceedings: Fetal and Neonatal Physiological measurements (Eds. H.N. Lafeber, J.G. Aamoudse, H.W. Jongsma), Noordwijkerhout, 967 , 1991, pp. 129-134, ISBN 0444-81438-8
74. Siebinga I., Vrensen G.F.J.M., de Mul F.F.M. and Greve J., *Age-related Changes in Local Water and Protein Content of Human Eye Lenses Measured by Raman Microspectroscopy,* Exp. Eye Res., 53 , 1991, pp. 233-239,
75. Jentink H.W., de Mul F.F.M., Graaff R., Suichies H.E., Aamoudse J.G. and Greve J., *Laser Doppler flowmetry: measurements in a layered perfusion model and Monte C.arlo simulations of measurements,* Applied Optics, 30 , 18 1991, pp. 2592-2597,
76. Puppels G.J., Garritsen H.S.P., Segers-Nolten G.M.J., de Mul F.F.M. and Greve J., *Raman microspectroscopic approach to the study of human granulocytes,* Biophysical Journal, 60 , 5 1991, pp. 1046-1056,
77. Koelink M.H., de Mul F.F.M., Greve J., Gmaff R., Dassel A.C.M. and J.G. Aamoudse, *Monte Carlo simulations and measurements of signals in laser Doppler flowmetry on human skin,* Proceedings: SPIE 'TimeResolved Spectroscopy and Imaging of Tissues', Eds.: B. Chance and A. Katzir, Los Angeles, U.S.A., 1431 , 23-24 jan 1991, pp. 63-72, ISBN 0-8194-0521 -3
78. Koelink M.H., Slot M., de Mul F.F.M., Greve J., Graaff R., Dassel A.C.M. and Aarnoudse J.G., *Glass-fibre self-mixing diode-laser Doppler velocimeter,* Meas. Sci. Technol., 3 , 1992, pp. 33-37,
79. Slot M., Koelink M.H., Scholten F.G., de Mul F.F.M., Weijers A.L., Greve J., Graaff R., Dassel A.C.M., Aarnoudse J.G. and Tuynman F.H.B., *Bloodflow velocity measurements based on the self-mixing effect in a fibre-coupled semiconductor laser: in vivo and in vitro measurements,* Medical & Biological Engineering & Computing, 30 , 1992, pp. 441-446,
80. Kumar K.-N.P., Zaspalis V.T., de Mul F.F.M., Keizer K. and Burggraaf A.J., *Thermal .Stability of Supported Titania Membranes,* Mat. Res. Soc. Symp. Proc., 271 , 1992, pp. 499-504,
81. Koelink M.H., Slot M., de Mul F.F.M., Greve J., Graaff R., Dassel A.C.M. and Aarnoudse J.G., *Glass-fibre self-mixing diode-laser Doppler velocimeter,* Engineerillg Optics, 5 , 1992, pp. 183-187,
82. Graaff R., Aarnoudse J.G., Zijp J.R., Sloot P.M.A., de Mul F.F.M., Greve J. and Koelink M.H., *Reduced light-scattering properties for mixtures of spherical particles: a simple approximation derivedfrom Mie calculations,* Applied Optics, 31 , 10 1992, pp. 1370-1376,
83. Koelink M.H., de Mul F.F.M., Greve I.. Gmaff R., Dassel A.C.M. and Aarnoudse J.G., *Analytical calculations and Monte Carlo simulations of laser Dopplerflowmetry using a cubic lattice model,* Applied Optics, 31 , 16 1992, pp. 3061-3067,
84. Koelink M.H., Slot M., de Mul F.F.M., Greve J., Graaff R., Dassel A.C.M. and Aarnoudse J.G., *Laser Doppler velocimeter based on the self-mixing effect in af ber-coupled semiconductor la.ser: theory,* Applied Optics, 31 , 18 1992, pp. 3401-3408,
85. Suichies H.E., Aarnoudse M.D.J.G., Wouda A.A., Jentink H.W., de Mul F.F.M., Greve J., *Digital Blood Flow in Cooled and C.ontralateral Finger in Patients with Raynaud's Phenomenon. C.omparative Measurements Between Photoelectrical Plethysmography and Laser Doppler Flowmetry,* Angiology-The Journal of Vascular Diseases, 43 , 2 1992, pp. 134-141,
86. Hoeben F.B., de Mul F.F.M., Stokkink H.S.D., Koelink M.H. and Greve J., *A monitoring devicefor pressurised-air-driven diaphragm-based artif cial heart assist devices,* Clin. Phys. Physiol. Meas., 13 , 2 1992, pp. 161-166,
87. de Mul F.F.M., Koelink M.H., Weijers A.L., Greve J., Aarnoudse J.G., Gr~kaff R. and Dassel A.C.M., *.Self-mixing laser-Doppler velocimetry of liquidflow and of blood perfusion in tissue,* Applied Optics, 31 , 27 1992, pp. 5844-5851,

88. Booij, W.E., Jong, A. de, & Mul, F.F.M. de (1995). Flow Profile Study using miniature Laser-Doppler velocimetry. *American journal of physics*, 1028-1033.
89. Booij, W.E., Jongh, A., & Mul, F.F.M. de (1995). Flow profile study using miniature laser-Doppler velocimetry. *American journal of physics*, 1028-1033.
90. Bolt, RA; de Mul, FFM , Goniometric instrument for light scattering measurement of biological tissues and phantoms , REVIEW OF SCIENTIFIC INSTRUMENTS, 73 (5): 2211-2213 MAY 2002
91. Bolt, RA; de Mul, FFM , Goniometric instrument for light scattering measurement of biological tissues and phantoms ,REVIEW OF SCIENTIFIC INSTRUMENTS, 73 (8): 3133-3133 AUG 2002
92. Graaff, R., Koelink, M.H., Mul, F.F.M. de, Zijlstra, W.G., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Condensed Monte Carlo simulation for the description of light transport. *Applied optics 32 (4)*, 426-434.
93. Graaff, R., Dassel, A.C.M., Koelink, M.H., Mul, F.F.M. de, Aarnoudse, J.G., & Zijlstra, W.G. (1993). Optical properties of human dermis in vitro and in vivo. *Applied optics 32 (4)*, 435-447.
94. Graaff, R., Aarnoudse, J.G., Zijp, J.R., Sloot, P.M.A., Mul, F.F.M. de, Greve, J., & Koelink, M.H. (1992). Reduced light-scattering properties for mixtures and spherical particles: a simple approximation derived from Mie calculations. *Applied optics 31 (10)*, 1370-1376.
95. Graaff, R., Aarnoudse, J.G., Mul, F.F.M. de, & Jentink, H.W. (1993). Similarity relations for anisotropic scattering in absorbing media. *Optical engineering 32*, 244-252.
96. Hoeben, F.P., Mul, F.F.M. de, Stokkink, J.S.D., Koelink, M.H., & Greve, J. (1992). A monitoring device for pressurised-air-driven diaphragm-based artificial heart assist devices. *Clinical physics and physiological measurement 13 (2)*, 161-166.
97. Hoelen, C.G.A., & Mul, F.F.M. de (1999). A new theoretical approach to photoacoustic signal generation. *Journal of the Acoustical Society of America 106*, 695-706.
98. Hoelen, C.G.A., Dekker, A., & Mul, F.F.M. de (2001). Detection of Photoacoustic Transients Originating from Microstructures in Optically Diffuse Media such as Biological Tissue. *IEEE transactions on ultrasonics, ferroelectrics and frequency control 48 (1)*, 37-47.
99. Hoelen, C.G.A., & Mul, F.F.M. de (2000). Image reconstruction for photoacoustic scanning of tissue structures. *Applied optics 39 (31)*, 5872-5883.
100. Hoelen, C.G.A., Mul, F.F.M. de, Pongers, R., & Dekker, A. (1998). Three-dimensional photoacoustic imaging of blood vessels in tissue. *Optics letters 23 (8)*, 648-650.
101. Jentink, H.W., Mul, F.F.M. de, Graaff, R., Suichies, H.E., Aarnoudse, J.G., & Greve, J. (1991). Laser Doppler flowmetry: measurements in a layered perfusion model and Monte Carlo simulations of measurements. *Applied optics 30 (18)*, 2592-2597.
102. Jentink, H.W., Hermsen, R.G.A.M., Mul, F.F.M. de, Graaff, R., & Greve, J. (1990). Monte Carlo simulations of laser Doppler blood flow measurements in tissue. *Applied optics 29 ((16))*, 2371-2381.
103. Kharine, A., Manohar, S., Seeton, R., Kolkman, R.G.M., Bolt, R.A., Steenbergen, W., & Mul, F.F.M. de.. Poly(vinyl alcohol) gels for use as tissue phantoms in photoacousttc mammography. *Physics in medicine and biology*. 48, 2003, 357-370.
104. Klaessens, J.H.G.M., Kolkman, R.G.M., Hopman, J.C.W., Hondebrink, E., Liem, K.D., Steenbergen, W., Mul, F.F.M. de, & Thijssen, J.M. (2003). Monitoring Cerebral perfusion using near infrared spectroscopy and laser doppler flowmetry. *Physiological measurement 24*, N35-N40.
105. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1992). Analytical calculations and Monte Carlo simulations of laser Doppler flowmetry using a cubic lattice model. *Applied optics 31 (16)*, 3061-3067.
106. Koelink, M.H., Mul, F.F.M. de, Weijers, A.L., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1994). Fiber-coupled self-mixing diode-laser Doppler velocimeter: technical aspects and flow velocity profile disturbances in water and blood flows. *Applied optics 33 (24)*, 5628-5641.
107. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1992). Glass-fibre self-mixing diode-laser Doppler velocimeter. *Measurement science and technology 3*, 33-37.
108. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1994). Laser Doppler blood flowmetry using two wavelengths: Monte Carlo simulations and measurements. *Applied optics 33 (16)*, 3549-3558.
109. Koelink, M.H., Slot, M., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1992). Laser Doppler velocimeter based on the self-mixing effect in a fiber-coupled semiconductor laser: theory. *Applied optics 31 (18)*, 3401-3408.
110. Koelink, M.H., Mul, F.F.M. de, Leerkotte, B.J.M., Greve, J., Jentink, H.W., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1994). Signal processing for a laser-Doppler blood perfusion meter. *Signal processing 38*, 239-252.
111. Koelink, M.H., Slot, M., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1992). Glass-fibre self-mixing diode-laser Doppler velocimeter. *Engineering optics 5*, 183-187.
112. Koelink, M.H., Mul, F.F.M. de, & Graaff, R. (1990). Laser doppler bloedflowmetingen in de huid. *Klinische*

fysica 1, 12-18.
113. Kolinko, V., Mul, F.F.M. de, Greve, J., & Priezzhev, A.V. (1998). Feasibility of Picosecond Laser-Doppler Flowmetry Provides Basis for Time-Resolved Doppler Tomography of Biological Tissues. *Journal of biomedical optics 3 (2)*, 187-190.
114. Kolinko, V., Mul, F.F.M. de, Greve, J., & Priezzhev, A.V. (1997). On refraction in Monte-Carlo simulations of light transport through biological tissues. *Medical and biological engineering and computing 35 (3)*, 287-288.
115. Kolinko, V., Mul, F.F.M. de, Greve, J., & Priezzhev, A.V. (1996). Probabilistic model of multiple light scattering based on rigorous computation of the first and the second moments of photon coordinates. *Applied optics 35 (22)*, 4541-4550.
116. Kolkman, R.G.M., Hondebrink, E., Steenbergen, W., & Mul, F.F.M. de (2003). In vivo photoacoustic imaging of blood vessels using an extreme-narrow aperture sensor. *IEEE journal of selected topics in quantum electronics 9 (2)*, 343-346.
117. Kolkman, R.G.M., Hondebrink, E., Bolt, R.A., Steenbergen, W., & Mul, F.F.M. de (2001). Pulsed-laser Doppler flowmetry provides basis for deep perfusion probing. *Review of scientific instruments 72 (11)*, 4242-4244.
118. Kolkman, R.G.M., Klaessens, J.H.G.M., Hondebrink, E., Hopman, J.C.W., Mul, F.F.M. de, Steenbergen, W., Thijssen, J.M., & Leeuwen, A.G.J.M. van (2004). Photoacoustic determination of blood vessel diameter. *Physics in medicine and biology, 49*, 4745-4756.
119. Kolkman, R.G.M., Hondebrink, E., Steenbergen, W., Leeuwen, A.G.J.M. van, & Mul, F.F.M. de (2004). Photoacoustic imaging of blood vessels with a double-ring sensor featuring a narrow angular aperture. *Journal of biomedical optics, 9*(6), 1327-1335.
120. Kumar, K.N.P., Zaspalis, V.T., Mul, F.F.M. de, Keizer, K., & Burggraaf, A.J. (1992). Thermal Stability of Supported Titania Membranes. *Materials Research Society symposia proceedings 271*, 499-504.
121. Kumar, K.N.P., Zaspalis, V.T., Mul, F.F.M. de, Keizer, K., & Burggraaf, A.J. (1993). Thermal stability of supported titania membranes. *Materials Research Society symposia proceedings 271*, 499-504.
122. Leahy, M.J., Mul, F.F.M. de, Nilsson, G.E., & Maniewski, R. (1999). Principles and practice of the laser-Doppler perfusion technique. *Technology and health care 7*, 143-162.
123. Liebert, A., Terajewicz, N., Maniewski, R., Nilsson, G.E., & Mul, F.F.M. de (2002). Estimation of scattering volume in short distance reflectance measurements by Monte Carlo Modeling. *Optica applicata 32 (4)*, 709-720.
124. Mul, F.F.M. de, Koelink, M.H., Weijers, A.L., Greve, J., Aarnoudse, J.G., Graaff, R., & Dassel, A.C.M. (1993). A Semiconductor Laser Used for Direct Measurement of the Blood Perfusion of Tissue. *IEEE transactions on biomedical engineering 40 (2)*, 208-210.
125. Mul, F.F.M. de, Steenbergen, W., & Greve, J. (1999). Doppler Monte Carlo simulations of light scattering in tissue to support laser-Doppler perfusion measurements. *Technology and health care 7*, 171-183.
126. Mul, F.F.M. de, Martin Batlle, C, Rinzema, K., & Bruijn, I. de (2003). How to make university students solve physics problems requiring mathematical skills: The "Adventurous Problem Solving" approach. *European journal of physics 25 (1)*, 51-61.
127. Mul, F.F.M. de, Koelink, M.H., Kok, M.L., Harmsma, P., Greve, J., Graaff, R., & Aarnoudse, J.G. (1995). Laser Doppler Velocimetry and Monte Carlo simulations on models for blood perfusion in tissue. *Applied optics*, 6595-6611.
128. Mul, F.F.M. de, Koelink, M.H., Kok, M.L., Harmsma, P., Greve, J., Graaff, R., & Aarnoudse, J.G. (1995). Laser Doppler velocimetry and Monte Carlo simulations on models for blood perfusion in tissue. *Applied optics 34 (28)*, 6595-6611.
129. Mul, F.F.M. de, & Greve, J. (1993). RAMPAC: a Program for Analysis of Complicated Raman Spectra. *Journal of raman spectroscopy 24*, 245-250.
130. Mul, F.F.M. de, Koelink, M.H., Weijers, A.L., Stokkink, J.S.D., Greve, J., Aarnoudse, J.G., Graaff, R., & Dassel, A.C.M. (1992). Self-mixing laser-Doppler velocimetry of liquid flow and blood perfusion of tissue. *Applied optics 31 (27)*, 5844-5851.
131. Mul, F.F.M. de, Have, H.B.G. ten, Otto, C., & Greve, J. (1990). The MCGA (Multiple Cubic Gradient Approximation) Method for the Analysis of Raman Spectra. *Journal of raman spectroscopy 21*, 725-736.
132. Mul , FFM de; Scalise, L; Petoukhova, AL; van Herwijnen, M; Moes, P; Steenbergen, W, Glass-fiber self-mixing intra-arterial laser Doppler velocimetry: signal stability and feedback analysis , APPLIED OPTICS, 41 (4): 658-667 FEB 1 2002
133. Petoukhova, A., Steenbergen, W., Leeuwen, A.G.J.M. van, & Mul, F.F.M. de (2002). Effects of absorption on coherence domain path length resolved dynamic light scattering in the diffuse regime. *Applied physics letters 81 (4)*, 595-597.
134. Petoukhova, A., Steenbergen, W., Morales, F., Graaff, R., Jong, E.D. de, Elstrodt, J.M., Mul, F.F.M. de, & Rakhorst, G. (2003). Instrument-independent flux units for laser Doppler perfusion monitoring assessed in a

multi-device study on the renal cortex. *Microvascular research 66*, 83-90.
135. Petoukhova, A., Steenbergen, W., & Mul, F.F.M. de (2001). Path-length distribution and path-length-resolved Doppler measurements of multiply scattered photons by use of low-coherence interferometry. *Optics letters 26 (19)*, 1492-1494.
136. Petoukhova, A., Leger, P., Freccero, C., Morales, F., Cleven, E., Graaff, R., Svensson, H., Wollmer, P., Boccalon, H., Mul, F.F.M. de, & Steenbergen, W. (2002). In vivo comparisons of different laser doppler flowmetry instruments measuring skin and kidney perfusion. *Journal of vascular research 39*, 99. .
137. Petoukhova, A.L., Cleven, E., Mul, F.F.M. de, & Steenbergen W. (2004). Suppression of dynamic laser speckle signals in multimode fibers of various lenghts. *Applied Optics*, 43 Issue 10, pp. 2059-2065
138. Pilatou, M.H., Voogd, N., Mul, F.F.M. de, Steenbergen, W., & Adrichem, L.N.A. van (2003). Analysis of three-dimensional photoacoustic imaging of a vascular tree in vitro. *Review of scientific instruments 74 (10)*, 4495-4499.
139. Pilatou, M.H., Siphanto, RI, Adrichem, L.N.A. van, & Mul, F.F.M. de (2003). Photoacoustic monitoring of changes in the blood circulation. *Review of scientific instruments 74 (1)*, 384-386.
140. Puppels, G.J., Huizinga, A., Krabbe, H.W., Gijsbers, G., Mul, F.F.M. de, & Boer, A. de (1990). A high-throughput Raman notch filter set. *Review of scientific instruments 61 ((12))*, 3709-3712.
141. Puppels, G.J., Colier, W., Olminkhof, J.H.F., Otto, C., Mul, F.F.M. de, & Greve, J. (1991). Description and Performance of a Highly Sensitive Confocal Raman Microspectrometer. *Journal of raman spectroscopy 22*, 217-225.
142. Puppels, G.J., Olminkhof, J.H.F., Segers-Nolten, G.M.J., Otto, C., Mul, F.F.M. de, & Greve, J. (1991). Laser Irradiation and Raman Spectroscopy of Single Living Cells and Chromosomes: Sample Degradation Occurs with 514.5 nm but not with 660 nm Laser Light. *Experimental cell research 195*, 361-367.
143. Puppels, G.J., Garritsen, H.S.P., Segers-Nolten, G.M.J., Mul, F.F.M. de, & Greve, J. (1991). Raman spectroscopic approach to the study of human granulocytes. *Biophysical journal 60 (5)*, 1046-1056.
144. Puppels, G.J., Mul, F.F.M. de, Otto, C., Robert-Nicoud, M., Arndt-jovin, D.J., & Jovin, T.M. (1990). Studying single living cells and chromosomes by confocal Raman microspectroscopy. *Nature 347 (6290)*, 301-303.
145. Scalise, L., Steenbergen, W., & Mul, F.F.M. de (2001). Self-mixing feedback in a laser diode for intra-arterial optical blood velocimetry. *Applied optics 40 (25)*, 4608-4615.
146. Schyns, M.W.R.J., Huizinga, A., Vrensen, G.F.J.M., Mul, F.F.M. de, & Greve, J. (1990). Paraformaldehyde fixation and some chracteristics of lens proteins as measured by Raman microspectroscopy. *Experimental eye research 50*, 331-333.
147. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2001). Prediction of the photodetector signal generated by Doppler-induced speckle fluctuations: theory and some validations. *Journal of the Optical Society of America A (Optics and image science) 18 (3)*, 622-630.
148. Serov, A; Steenbergen, W; de Mul, FFM,Laser Doppler perfusion imaging with a complimentary metal oxide semiconductor image sensor , OPTICS LETTERS, 27 (5): 300-302 MAR 1 2002
149. Slot, M., Koelink, M.H., Scholten, F.G., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., Aarnoudse, J.G., & Tuynman, F.H.B. (1992). Blood flow velocity measurements based on the self-mixing effect in a fibre-coupled semiconductor laser: in-vivo and in-vitro measurements. *Medical and biological engineering and computing 30*, 441-446.
150. Siphanto, RI, Kolkman, R.G.M., Huisjes, A., Pilatou, M.H., Mul, F.F.M. de, Steenbergen, W., & Adrichem, L.N.A. van (2004). Imaging of Small Vessels Using Photoacoustics: An In Vivo Study. *Lasers in surgery and medicine, 35*, 354-362.
151. Steenbergen, W., Kolkman, R.G.M., & Mul, F.F.M. de (1999). Light-scattering properties of undiluted human blood subjected to simple shear. *Journal of the Optical Society of America A (Optics and image science) 16 (12)*, 2959-2967.
152. Steenbergen, W., Petoukhova, A., & Mul, F.F.M. de (2002). In vitro calibration and comparison of laser doppler flowmetry instruments. *Journal of vascular research 39*, 99.
153. Suichies, H.E., Aarnoudse, J.G., Wouda, A.A., Jentink, H.W., Mul, F.F.M. de, & Greve, J. (1992). Digital blood flow in cooled and contralateral fingers in patients with Raynaud's phenomenon. Comparative measurements between photoelectrical plethysmography and laser doppler flowmetry. *Angiology 43 (2)*, 134-141.
154. Suichies, H.E., Brouwer, C., Aarnoudse, J.G., Jentink, H.W., Mul, F.F.M. de, & Greve, J. (1990). Skin blood flow changes, measured by laser Doppler flowmetry, in the first week after birth. *Early human development 23*, 1-8.
155. Siphanto, RI; Thumma, KK; Kolkman, RGM; van Leeuwen, TG; de Mul, FFM; van Neck, JW; van Adrichem, LNA; Steenbergen, W , Serial noninvasive photoacoustic imaging of neovascularization in tumor angiogenesis, Optics Express, 13 (1): 89-95 JAN 10 2005
156. Serov, A.N., Nieland, J.H., Oosterbaan, S., De Mul, F.F.M. , Van Kranenburg, H., Bekman,H.P.T., Steenbergen, W., Integrated Optoelectronic Probe Including a Vertical Cavity Surface Emitting Laser for

Laser Doppler Perfusion Monitoring, IEEE Trans.Biomed. Engin, 53, 10, 2006, 2067-2075.
157. Dassel, A.C.M., Aarnoudse, J.G., Bruinsma, K.M., Graaff, R., Koelink, M.H., Mul, F.F.M. de, & Greve, J. (1991). Forehead versus foot skin blood flow in normal neonates during active and quiet sleep, measured by laser Doppler measurements. In (Ed.), *In: Fetal and Neonatal Physiological measurements (Eds. H.N. Lafeber, J.G. Aarnoudse, H.W. Jongsma)* (pp. 177-180) Noordwijkerhout:.
158. Graaff, R., Dassel, A.C.M., Aarnoudse, J.G., Zijlstra, W.G., Heida, P., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1991). Biophysical aspects of reflection pulse oximetry. In (Ed.), *In: Fetal and Neonatal Physiological measurements (Eds. H.N. Lafeber, J.G. Aarnoudse, H.W. Jongsma)* (pp. 129-134) Noordwijkerhout:.
159. Graaff, R., Koelink, M.H., Mul, F.F.M. de, Zijlstra, W.G., & Dassel, A.C.M. (1994). Condensed Monte Carlo stimulations for the description of light transport. In (Ed.), *Selected paers on tissue optics - Applications in medical diagnostics and therapy* (pp. 426-434) Bellingham, U.S.A.: SPIE Optical Engineering Press.
160. Graaff, R., Dassel, A.C.M., Zijlstra, W.G., Mul, F.F.M. de, & Aarnoudse, J.G. (1996). How Tissue Optics Influences Reflectance Pulse Oximetry. In (Ed.), *Oxygen transport to Tissue XVII* (pp. 117-132) New York: Plenum Press.
161. Hoelen, C.G.A., Pongers, R., Dekker, A., & Mul, F.F.M. de (1998). 3D-Photoacoustic Imaging of Blood Vessels. In (Ed.), *Trends in Optics and Photonics. Advances in Optical Imaging and Photon Migration* (pp. 386-390) Washington: Tingye Li AT&T labs.
162. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1991). Monte Carlo simulations and measurements of signals in laser Doppler flowmetry on human skin. In (Ed.), *SPIE "Time-Resolved Spectroscopy and Imaging of Tissues"* (pp. 63-72) Washington:.
163. Martin Batlle, C, Bruijn, I. de, & Mul, F.F.M. de (2000). Evaluation of courseware and learning environments in an electromagnetics course enhanced by computer assisted instruction. In (Ed.), *Evaluation of courseware* CBLIS 01 conferentie,Brno,Tsjechie: G.M. Chapman.
164. Bolt, R.A., Kanger, J.S., & Mul, F.F.M. de (1998). Angular dependence of light scattering by biological tissue. In (Ed.), *Proceedings of Biomedical Sensors, Fibers, and Optical Delivery Systems* (pp. 168-173) Stockholm, Sweden.
165. Bolt, R.A., Kanger, J.S., Mul, F.F.M. de, Wu, X., Yeh, S.J., & Khalil, O.S. (2000). Non-invasive determination of concentration of compounds in strongly absorbing biological tissue. In (Ed.), *SPIE proceedings Progress in Biomedical Optics and Imaging* (pp. 168-175) San Jose, USA.
166. Bolt, R.A., Kanger, J.S., Mul, F.F.M. de, Wu, X., Yeh, S.J., & Khalil, O.S. (1999). Non-invasive determination of concentration of compounds in strongly absorbing biological tissue. In (Ed.), *Advances in Optical Imaging, Photon Migration, and Tissue Optics* (pp. 264-266) Munich, Germany.
167. Dergatchev, A.A., Bolt, R.A., & Mul, F.F.M. de (2000). Application of efficient numerical technique in transport theory for inhomogeneous turbid medium: comparison with experiments. In (Ed.), *SPIE Proceedings Optical Diagnostics of Biological Fluids* (pp. 92-98) San Jose.
168. Dergatchev, A.A., Bolt, R.A., & Mul, F.F.M. de (1999). Boundary and parameter effects in tissue phantom studied with frequency-domain experiments and numerical simulations. In (Ed.), *Klinische Fysica* (pp. 40-40) Universiteit Twente.
169. Dergatchev, A.A., Bolt, R.A., Kanger, J.S., & Mul, F.F.M. de (1998). Determination of Optical Parameters of Media by Frequency-Domain Technique. In (Ed.), *Proceedings of Dutch Annual Conference on BioMedical Engineering* (pp. 27-29) Papendal.
170. Dergatchev, A.A., Bolt, R.A., & Mul, F.F.M. de (1999). Determination of concentration of compounds in inhomogeneous turbid media by high-frequency modulated light. In (Ed.), *Advances in Optical Imaging, Photon Migration, and Tissue Optics* (pp. 267-269) Munich, Germany.
171. Dergatchev, A.A., & Mul, F.F.M. de (1999). On numerical solution of the radiative transfer equation in light scattering in turbid media. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 30-32) Papendal.
172. Dergatchev, A.A., Bolt, R.A., & Mul, F.F.M. de (2000). Radiative transfer through multi-layered medium: high-frequency experiments and theory. In (Ed.), *SPIE Proceedings: In Optical Techniques and Instrumentation for the Measurement of Blood Composition, Structure and Dynamics* (pp. 71-79).
173. Dergatchev, A.A., Bolt, R.A., & Mul, F.F.M. de (2000). Sensitivity of ultra-low noise frequency-domain setup in applications for non-invasive diagnosis. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 29-32) Papendal.
174. Graaff, R., Dassel, A.C.M., Koelink, M.H., Aarnoudse, J.G., Mul, F.F.M. de, Zijlstra, W.G., & Greve, J. (1993). Condensed Monte Carlo simulations applied to reflectance pulse oximetry. In (Ed.), *Biomedical Optics 93: Photon Migration and Imaging in Random Media and Tissues, SPIE vol. 1888* (pp. 201-212) Los Angeles, U.S.A..
175. Graaff, R., Dassel, A.C.M., Zijlstra, W.G., Mul, F.F.M. de, & Aarnoudse, J.G. (1995). Phase delays in reflectance pulse oximetry: a Monte Carlo study. In (Ed.), *SPIE, vol.2628, no.49* (pp. 361-368) Proc. Bios

'95, Barcelona.
176. Graaff, R., Aarnoudse, J.G., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1993). Similarity relations for absorbing and anisotropically scattering media. In (Ed.), *Optics in Medicine, Biology, and Environmental Research, Proc. First International Conference on Optics within Life Sciences* (pp. 140-142) Partenkirchen, Germany.
177. Hoelen, C.G.A., & Mul, F.F.M. de (1998). Imaging of cutaneous blood vessels using photoacoustic tissue scanning (PATS). In (Ed.), *SPIE: Proceedings of Photon Propagation in Tissue IV* (pp. 134-142) Stockholm, Sweden.
178. Hoelen, C.G.A., Mul, F.F.M. de, & Greve, J. (1995). Non-destructive photoacoustic subsurface tissue imaging: a feasibility study. In (Ed.), *SPIE, vol.2628, no.45* (pp. 308-318) Proc. Bios '95, Barcelona.
179. Hoelen, C.G.A., Kolkman, R.G.M., Letteboer, M., Berendsen, R., & Mul, F.F.M. de (1999). Photoacoustic Tissue Scanning (PATS). In (Ed.), *Optical Tomography and Spectroscopy of Tissue III (SPIE)* (pp. 336-343) San Jose, USA.
180. Hoelen, C.G.A., Pongers, R., Hamhuis, G., Mul, F.F.M. de, & Greve, J. (1997). Photoacoustic blood cell detection and imaging of blood vessels in phantom tissue. In (Ed.), *Bios Europe '97. SPIE* (pp. 142-153) San Remo, Italy.
181. Hoelen, C.G.A., Hamhuis, G., Pagoulatos, N., Ham, I. van den, Mul, F.F.M. de, & Greve, J. (1996). Photoacoustic location of optical absorbers in phantom tissue. In (Ed.), *SPIE Bios Europe 96* (pp. 142-153) Wenen.
182. Kanger, J.S., Mul, F.F.M. de, & Otto, C. (1998). Non-invasive detection of glucose using Raman spectroscopy. In (Ed.), *Proceedings of Biomedical Sensors, Fibers, and Optical Delivery Systems* (pp. 123-129) Stockholm, Sweden.
183. Khalil, OS; Yeh, S; Lowery, MG; Wu, X; Hanna, CF; Kantor, S; Jeng, TW; Kanger, JS; Bolt, RA; de Mul, FFM, Temperature modulation of the visible and near infrared absorption and scattering coefficients of human skin , JOURNAL OF BIOMEDICAL OPTICS, 8 (2): 191-205 APR 2003
184. Kharine, A., Manohar, S., Steenbergen, W., & Mul, F.F.M. de (2002). Photoacoustic technique for breast tumor detection. In W.M.G.F. Pontenagel & J. Feijen (Eds.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 61-63) Enschede: Grafisch Centrum Twente.
185. Kharine, A., Manohar, S., Steenbergen, W., & Mul, F.F.M. de (2001). Photoacoustic technique for breast cancer tumor detection. In W.M.G.F. Pontenagel & J. Feijen (Eds.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 75-76) Enschede: Grafisch Centrum Twente.
186. Kolinko, V., Mul, F.F.M. de, Greve, J., & Priezzhev, A.V. (1996). Acceleration of Monte-Carlo simulations of laser Doppler blood flowmetry by repeated use of photon trajectories. In (Ed.), *SPIE The International Society for Optical Engineering* (pp. 389-400) San Jose, California.
187. Kolinko, V., Priezzhev, A.V., & Mul, F.F.M. de (1996). Monte-Carlo simulation of transit time dependence of Doppler spectra in dynamic time-resolved tomography. In (Ed.), *SPIE BIOS'96* (pp. 160-168) Vienna, Wenen.
188. Kolinko, V., Priezzhev, A.V., & Mul, F.F.M. de (1996). Transient time dependence of Doppler spectra in dynamic time-resolved laser medical tomography: Monte-Carlo simulations. In (Ed.), *SPIE-Bios Europe'96; Proceedings is nog niet uit. Komt binnenkort.* Wenen.
189. Kolkman, R.G.M., Mul, F.F.M. de, & Greve, J. (1999). Design of a photo-acoustic detector to monitor the blood content in tissue. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 64-65) Papendal.
190. Kolkman, R.G.M., Hondebrink, E., & Mul, F.F.M. de (2000). Photo-acoustic sensor for a-scanning and monitoring of blood content in tissue. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 65-67) Papendal.
191. Kolkman, R.G.M., Pilatou, M.H., Hondebrink, E., & Mul, F.F.M. de (2000). Photoacoustic A-scanning and monitoring of blood content in tissue. In (Ed.), *SPIE proceedings Biomedical Optoacoustics* (pp. 76-83) San Jose.
192. Kolkman, R.G.M., Pilatou, M.H., Hoelen, C.G.A., Hondebrink, E., Letteboer, M., Berendsen, R., & Mul, F.F.M. de (1999). Photoacoustic Detection of Tissue Structures. In (Ed.), *Klinische Fysica* (pp. 39-39) Universiteit Twente.
193. Kolkman, R.G.M., Hoelen, C.G.A., Letteboer, M., Berendsen, R., & Mul, F.F.M. de (1999). Photoacoustic Mapping of Hidden Tissue Structures. In (Ed.), *Advances in Optical Imaging, Photon Migration, and Tissue Optics* (pp. 239-241) Munich, Germany.
194. Kolkman, R.G.M., Pilatou, M.H., Steenbergen, W., & Mul, F.F.M. de (2002). Photoacoustic Monitoring and Imaging of Blood Vessels in Tissue. In A.A. Oraevsky (Ed.), *SPIE Biomedical Optoacoustics III* (pp. 76-80) San Jose, USA: SPIE.
195. Kolkman, R.G.M., Klaessens, J.H.G.M., Hondebrink, E., Hopman, J., Steenbergen, W., Leeuwen, A.G.J.M. van, Thijssen, J.M., & Mul, F.F.M. de (2003). Photoacoustic monitoring and imaging of blood vessel size in

vivo. In A.A. Oraevsky (Ed.), *SPIE Biomedical Optoacoustics IV* (pp. 1-6) San Jose, USA: SPIE.

196. Kolkman, R.G.M., Hondebrink, E., Steenbergen, W., & Mul, F.F.M. de (2001). Photo-acoustic monitoring of blood content in tissue. In W.M.G.F. Pontenagel & J. Feijen (Eds.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 78-79) Enschede: Grafisch Centrum Twente.
197. Kumar, K.N.P., Zaspalis, V.T., Mul, F.F.M. de, Keizer, K., & Burggraaf, A.J. (1992). Thermal stability of supported titania membranes. In (Ed.), *Materials Research Society Symposium* (pp. 499-504) San Francisco, USA.
198. Manohar, S., Kharine, A., Hespen, J.C.G. van, Steenbergen, W., Mul, F.F.M. de, & Leeuwen, A.G.J.M. van (2003). Photoacoustic imaging of inhomogeneities embedded in breast tissue phantoms. In A.A. Oraevsky (Ed.), *SPIE Biomedical Optoacoustics IV* (pp. 64-75) San Jose, USA: SPIE.
199. Martin Batlle, C, Mul, F.F.M. de, & Bruijn, I. de (). Evaluation of courseware and learning environments in an electromagnetism course enhanced by computer assisted instruction. In (Ed.), *proceedings of the CBLIS-conference, 7 july - 12 july, Brno Czech Republic computer based learning in science* Leicester, UK: Montfort University.
200. De Mul F.F.M. , Martin i Batlle, C., De Bruijn, I, Rinzema, K.; "How to encourage university students to solve physics problems requiring mathematical skills: the 'adventurous problem solving' approach" ; *Eur. J. Phys.* 25 51-61
201. Mul, F.F.M. de, Koelink, M.H., Tel, B.M., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Blood velocity measurements using a fiber-coupled self-mixing diode-laser Doppler velocimeter. In (Ed.), *1992 SPIE Proceedings "Fiber Optic Sensors in Medical Diagnostics", vol. 1886* (pp. 151-158) Bellingham, U.S.A..
202. Mul, F.F.M. de, Steenbergen, W., Vonck, T.R., & Greve, J. (1996). Coherence effects in modeling laser-Doppler perfusion flowmetry. In (Ed.), *SPIE* (pp. 123-133) Bellingham: SPIE.
203. Mul, F.F.M. de, Steenbergen, W., Vonck, T.R., & Greve, J. (1995). Coherence effects in modeling laser-Doppler perfusion flowmetry. In (Ed.), *SPIE, vol.2626, no.4* (pp. 25-35) Proc. Bios '95, Barcelona.
204. Mul, F.F.M. de, Koelink, M.H., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Glass fiber self-mixing laser-Doppler velocimetry: technical aspects and biomedical applications. In (Ed.), *1993 Proceedings "Fifth International Conference on Laser Anemometry - Advances and Applications", vol. 2052* (pp. 179-186) Veldhoven.
205. Mul, F.F.M. de, Greve, J., Koelink, M.H., Graaff, R., & Aarnoudse, J.G. (1995). Measurements and simulations of dynamic light scattering in an upscaled tissue blood flow model. In (Ed.), *Photon Transport in Highly Scattering Tissue* (pp. 258-266) Bellingham.
206. Mul, F.F.M. de, Hoelen, C.G.A., Dekker, A., & Pongers, R. (1998). Photo-Acoustic Imaging of Blood Vessels. In (Ed.), *Advances in Optical Imaging and Photon Migration* (pp. 282-284) Orlando, Florida.
207. Mul, F.F.M. de, & Hoelen, C.G.A. (1999). Photoacoustic Tissue Scanning (PATS). In (Ed.), *BIOS 99* San Jose Californie, USA.
208. Mul, F.F.M. de, Koelink, M.H., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Photon migration in an upscaled tissue model: measurements and Monte-Carlo simulations. In (Ed.), *Biomedical Optics 93: Photon Migration and Imaging in Ramanom Media and Tissues, SPIE vol. 1888* (pp. 129-140) Los Angeles, U.S.A..
209. Mul, F.F.M. de, Herwijnen, M. van, Moes, P., & Greve, J. (1996). Signal optimization in glass-fiber self-mixing intra-arterial laser Doppler velocimetry. In (Ed.), *SPIE The International Society for Optical Engineering* (pp. 372-381) San Jose, USA: SPIE.
210. Mul, F.F.M. de, & Hoelen, C.G.A. (1998). Threedimensional imaging of blood vessels in tissue using photoacoustics. In (Ed.), *20th European Conference on Microcirculation* (pp. 195-199) Paris, France.
211. Nieland, J., Kranenburg, H. van, Wallinga, H., Serov, A., Mul, F.F.M. de, & Steenbergen, W. (1998). Design of an Integrated Photo Detector Circuit for Laser Doppler Blood Flow Monitoring. In (Ed.), *Proceedings of the CSSP'98* (pp. 421-426) Mierlo, the Netherlands.
212. Nieland, J., Kranenburg, H. van, Wallinga, H., Serov, A., Steenbergen, W., & Mul, F.F.M. de (1999). Design of an integrated photo detector circuit for laser doppler blood flow monitoring. In (Ed.), *ESSCIRC'99* (pp. 262-265) Duisburg, Germany.
213. Petoukhova, A., Steenbergen, W., & Mul, F.F.M. de (1998). A Perfusion Simulator for Testing and Calibrating Laser Doppler Blood Flow Meters. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 69-71) Papendal.
214. Petoukhova, A., Steenbergen, W., Morales, F., Graaff, R., Zijp, J.R., Mul, F.F.M. de, & Rakhorst, G. (2000). In Vitro and In Vivo Comparison of Laser Doppler Perfusion Monitors. In (Ed.), *Journal of Vascular Research* (pp. 25-25) Stockholm, Zweden.
215. Petoukhova, A., Steenbergen, W., Morales, F., Graaff, R., Zijp, J.R., Mul, F.F.M. de, & Rakhorst, G. (2000). In vitro and in vivo comparison of laser Doppler perfusion monitors. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 102-105) Papendal.

216. Petoukhova, A., Steenbergen, W., & Mul, F.F.M. de (2000). Low-coherence Doppler interferometry to determine pathlength distribution of multiple-scattered photons. In (Ed.), *Coherence Domain Optical Methods in Biomedical Science and Clinical Applications IV* (pp. 121-128) San Jose, USA.
217. Petoukhova, A., Steenbergen, W., & Mul, F.F.M. de (1999). Low-coherence Doppler interferometry to determine pathlength distribution of multiple-scattered photons. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 99-101) Papendal.
218. Petoukhova, A., Steenbergen, W., & Mul, F.F.M. de (2002). Path length distribution of multiple-scattered photons by low coherence Doppler interferometry. In V.V. Tuchin, J.A. Izatt & J.G. Fujimoto (Eds.), *SPIE: Coherence Domain Optical Methods in Biomedical Science and Clinical Applications VI* (pp. 71-77) San Jose, USA: SPIE.
219. Pilatou, M.H., Kolkman, R.G.M., Hondebrink, E., & Mul, F.F.M. de (2000). Photo-acoustic imaging of microvascular structure in tissue. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 106-109) Papendal.
220. Pilatou, M.H., Kolkman, R.G.M., Hondebrink, E., Berendsen, R., & Mul, F.F.M. de (2000). Photoacoustic imaging of microvascular structure in tissue. In (Ed.), *SPIE proceedings Biomedical Optoacoustics* (pp. 48-54) San Jose.
221. Pilatou, M.H., & Mul, F.F.M. de (1999). The design of a photoacoustic detector for imaging of microvascular structure in tissue. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 102-102) Papendal.
222. Scalise, L., Mul, F.F.M. de, Steenbergen, W., & Petoukhova, A. (2000). Recent advances in self-mixing laser-doppler velocimetry: use as an in-vivo blood flow meter. In (Ed.), *SPIE proceedings: Biomedical Diagnostic, Guidance, and Surgical-Assist Systems II* (pp. 95-104) San Jose.
223. Scalise, L., Mul, F.F.M. de, Steenbergen, W., & Petoukhova, A. (2001). Self-Mixing Laser Doppler Velocimetry for Blood Flowmetry. In (Ed.), *IX Mediterranean Conference on Medical and Biological Engineering and Computing MEDICON 2001* (pp. 285-288) Pula, Croatia.
224. Serov, A., Nieland, J., Steenbergen, W., Wallinga, H., Mul, F.F.M. de, & Kranenburg, H. van (1998). A Fully Integrated Optoelectronic Chip Probe For direct contact Laser Doppler Blood Perfusion Flowmetry. In (Ed.), *Proceedings of the Dutch Annual conference on BioMedical Engineering* (pp. 75-76) Papendal.
225. Serov, A., Nieland, J., Steenbergen, W., Wallinga, H., Mul, F.F.M. de, & Kranenburg, H. van (2000). A fully integrated optoelectronic chip probe for direct contact laser Doppler blood perfusion flowmetry. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 125-127) Papendal.
226. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2000). A method for estimation of the fraction of Doppler-shifted photons in light scattered by mixture of moving and stationary scatterers. In (Ed.), *SPIE proceedings Optical Technologies in Biophysics and Medicine* (pp. 178-189) Saratov, Russia.
227. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2001). Dynamic light scattering: a quantitative approach to determination of the fraction of Doppler-shifted photons. In V.V. Tuchin, Q. Luo & S.S. Ulyanov (Eds.), *Spie Proceedings: Imaging of Tissue Structure and Function* (pp. 93-98) Washington: SPIE - The International Society for Optical Engineering.
228. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2000). Dynamic speckle patterns formed by a mixture of moving and stationary scatterers: theory and experiment. In (Ed.), *SPIE Proceedings Coherence Domain Optical Methods in Biomedical Science and Clinical Applications* (pp. 158-169) San Jose.
229. Serov, A., Steenbergen, W., & Mul, F.F.M. de (1999). Fraction of Doppler-Shifted Photons in Light Backscattered from Human Skin. In (Ed.), *Advances in Optical Imaging, Photon Migration, and Tissue Optics* (pp. 273-275) Munich, Germany.
230. Serov, A., Steenbergen, W., & Mul, F.F.M. de (1999). Fraction of doppler-shifted photons in light backscattered from human skin. In (Ed.), *Klinische Fysica* (pp. 39-40) Universiteit Twente.
231. Serov, A., Oosterbaan, S.L.T., Nieland, J., Kranenburg, H. van, Mul, F.F.M. de, & Steenbergen, W. (2001). Integrated probes containing a VCSEL and a multidetector chip, for laser Doppler tissue perfusion monitoring. In (Ed.), *SPIE Biomedical Diagnostic, Guidance, and Surgical-Assist Systems III* (pp. 119-127) San Jose, USA.
232. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2000). Laser Doppler and Speckle Phenomena: To an Integrated Approach. In (Ed.), *Interferometry in Speckle Light. Theory and Applications. Proceedings of the International Conference* (pp. 33-40) Lausanne, Switzerland.
233. Serov, A., Oosterbaan, S.J., Nieland, J., Kranenburg, H. van, Verboom, R., Bekman, H.H.P.T., Mul, F.F.M. de, & Steenbergen, W. (2002). New generation of integrated probes for laser Doppler perfusion monitoring: construction and in vivo results. In T. Vo-Dinh, D.A. Benaron & W.S. Grundfest (Eds.), *SPIE: Biomedical Diagnostic, Guidance, and Surgical-Assist Systems IV* (pp. 165-172) San Jose, USA: SPIE.
234. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2000). Novel Integrated Laser Doppler Probe containing a miniature Laser and Multidetector Chip. In (Ed.), *Journal of Vascular Research* (pp. 23-23) Stockholm, Zweden.

235. Serov, A., Steenbergen, W., & Mul, F.F.M. de (1999). Prediction of the photodetector signal generated by Doppler-induced speckle fluctuations. In (Ed.), *Proceedings of the Dutch Annual Conference on BioMedical Engineering* (pp. 116-118) Papendal.
236. Serov, A., Steenbergen, W., Mul, F.F.M. de, & Lasser, T. (2002). Quasi-parallel laser Doppler perfusion imaging using a CMOS image sensor. In D.A. Zimnyakov, V.L. Derbov, L.A. Melnikov & L.M. Babkov (Eds.), *SPIE Laser Physics and Photonics, Spectroscopy, and Molecular Modeling III; Coherent Optics of Ordered and Random Media III* (pp. 73-84) Saratov, Russia: SPIE.
237. Serov, A., Steenbergen, W., & Mul, F.F.M. de (2000). Speckles in laser Doppler blood flowmetry. In (Ed.), *SPIE Coherent Optics of Ordered and Random Media* (pp. 306-318) Saratov, Russia.
238. Steenbergen, W., & Mul, F.F.M. de (1998). A Perfusion simulator for testing and calibrating laser Doppler blood flow meters. In (Ed.), *Journal of Vascular Research* (pp. 83) Parijs.
239. Steenbergen, W., & Mul, F.F.M. de (1998). Application of a novel laser Doppler tester including a sustainable tissue phantom. In (Ed.), *Optical Diagnostics of Biological Fluids III, SPIE proceedings* (pp. 14-25) San Jose, USA.
240. Steenbergen, W., Stratum, M.R. van, Mul, F.F.M. de, & Greve, J. (1997). Coherence effects in laser Doppler blood flowmetry. In (Ed.), *SPIE Bios'97* (pp. 6-17) San Jose, USA.
241. Steenbergen, W., & Mul, F.F.M. de (1999). Description of an improved laser Doppler calibrator. In (Ed.), *Optical Diagnostics of Biological Fluids IV, SPIE proceedings* (pp. 68-75) San Jose, USA.
242. Steenbergen, W., & Mul, F.F.M. de (1997). New optical tissue phantom, and its use for studying laser Doppler blood flowmetry. In (Ed.), *Bios Europe '97. SPIE Proceedings* (pp. 12-23) San Remo, Italy.
243. Steenbergen, W., Kolkman, R.G.M., Woldberg, S., & Mul, F.F.M. de (2003). Pulsed laser Doppler flowmetry for increased signal-to-noise ratio and probed depth. In A.V. Priezzhev & G.L. Cote (Eds.), *SPIE Optical Diagnostics and Sensing in Biomedicine III* (pp. 49-54) San Jose, USA: SPIE.
244. Steenbergen, W., & Mul, F.F.M. de (1998). Role of speckles in laser Doppler flowmetry. In (Ed.), *Optical Diagnostics of Biological Fluids III, SPIE proceedings* (pp. 2-13) San Jose, USA.
245. Steenbergen, W., Kolkman, R.G.M., Faber, D.J., & Mul, F.F.M. de (2000). Scattering properties of human whole blood under simple shear. In (Ed.), *SPIE Proceedings Optical Diagnostics of Biological Fluids* (pp. 99-109) San Jose.
246. Talsma, G.R., Graaff, R., Mul, F.F.M. de, Ament, W., & Greve, J. (1995). A tissue-optical model to determine changes in saturation and blood volume during ischemia. In (Ed.), *SPIE, vol.2627, no.33* (pp. 186-195) Proc. Bios '95, Barcelona.
247. Wierda, K., Graaff, R., Someren, R.R. van, Mul, F.F.M. de, Leerkotte, B.J.M., & Greve, J. (1995). Noise suppression and correction of laser Doppler blood flow spectra after high-pass filtering. In (Ed.), *SPIE, vol.2629, no.44* Proc. Bios '95, Barcelona.
248. Mul, F.F.M. de, Hoelen, C.G.A., Kolkman, R.G.M., & Pilatou, M.H. (1999, May). *Imaging Tissue Structures by Photoacoustic Tomography.* Warsaw, Polen, ICB Seminars Optoelectronics in Medical Diagnosis.
249. Mul, F.F.M. de (2000, October). *New Developments in Biomedical Optics.* Florence, Italie, Voordracht Lasers in Medicine Conference.
250. Mul, F.F.M. de (1998, February). *Photo Akoustic Imaging in Tissue.* Eindhoven, Voordracht: Philips Natlab.
251. Mul, F.F.M. de (1999, December). *Photoacoustic Imaging of structures in tissue.* Amsterdam, Voordracht World Biomechanics Symposium.
252. Mul, F.F.M. de (2001, August). *Photoacoustic Monitoring and Imaging of Structures in Tissue.* Queen's College, Oxford, UK, Invited Overview Lecture Gordon Conference for Photothermal and Photoacoustic Phenomena.
253. Mul, F.F.M. de (1998, October). *Tissue Optics: Laser Doppler and Photoacoustic Imaging.* Cambridge, Boston, USA, Voordracht: MIT.
254. Petoukhova, A., Steenbergen, W., & Mul, F.F.M. de (1999, May). *Influence of the Probe Parameters on Laser Doppler Response.* Warsaw, Polen, ICB Seminars Optoelectronics in Medical Diagnosis.
255. Steenbergen, W., & Mul, F.F.M. de (1999, May). *Calibration and Standardisation of Laser Doppler Perfusion Monitoring and Imaging.* Warsaw, Polen, ICB Seminars Optoelectronics in Medical Diagnosis.
256. Khalil, O.S., Wu, X., Kanger, J.S., Bolt, R.A., Yeh, S.J., Hanna, C.F., & Mul, F.F.M. de (07-10-2003). Non-Invasive Sensor Capable of Determining Optical Parameters in a Sample having Multiple Layers. no US 6,630,673 B2.
257. Khalil, O.S., Mul, F.F.M. de, Hanna, C.F., Stalder, A.F., Yeh, S.J., Wu, X., Lowery, M.G., Kanger, J.S., & Bolt, R.A. (09-12-2003). Non-Invasive Sensor having Controllable Temperature Feature. no US 6,662,030 B2.
258. Steenbergen, W., Mul, F.F.M. de, & Greve, J. (25-08-1998). Optical phantom suitable for stimulating the optical properties of biological material and a method of producing said phantom. no EP0906936.
259. Steenbergen, W., Mul, F.F.M. de, & Greve, J. (01-05-2001). Optical phantom suitable for stimulating the optical properties of biological material and a method of producing said phantom. no US 6,224,969.

260. Steenbergen, W., Mul, F.F.M. de, & Greve, J. (02-03-1999). Optisch fantoom geschikt voor het simuleren van de optische eigenschappen van biologisch materiaal en werkwijze voor het vervaardigen ervan. no NL 1006902.
261. Dassel, A.C.M., Aarnoudse, J.G., Bruinsma, K.M., Graaff, R., Koelink, M.H., Mul, F.F.M. de, & Greve, J. (1991). Forehead versus foot skin blood flow in normal neonates during active and quiet sleep, measured by laser Doppler flowmetry. Poster: 4th Int. Conference on Fetal & Neonatal Physiol. Measurements: Noordwijkerhout (12-05-1991 -). .
262. Dassel, A.C.M., Graaff, R., Aarnoudse, J.G., Elstrodt, J.M., Heida, P., Koelink, M.H., Mul, F.F.M. de, & Greve, J. (1991). Reflectance pulse oximetry versus arterial oxygen saturation in fetal lambs. Voordracht: 4th Int. Conference on Fetal & Neonatal Physiol. Measurements: Noordwijkerhout (12-05-1991 -). .
263. Dassel, A.C.M., Graaff, R., Aarnoudse, J.G., Elstrodt, J.M., Heida, P., Koelink, M.H., Mul, F.F.M. de, & Greve, J. (1990). Reflection pulse oximetry for fetal monitoring. Part II: Measurements at the Scalp of Fetal Lambs. Voordracht: Nederlandse Vereniging voor Perinatala Biologie: Utrecht (09-11-1990 -). .
264. Graaff, R., Dassel, A.C.M., Aarnoudse, J.G., Zijlstra, W.G., Heida, P., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1991). Biophysical aspects of reflection pulse oximetry. Voordracht: 4th Int. Conference on Fetal & Neonatal Physiol Measurements: Noordwijkerhout (12-05-1991 -). .
265. Graaff, R., Dassel, A.C.M., Koelink, M.H., Aarnoudse, J.G., Mul, F.F.M. de, Zijlstra, W.G., & Greve, J. (1993). Condensed Monte Carlo simulations applied to reflectance pulse oximetry. Voordracht & proceedings: SPIE-Proc. 1888, "Photon Imigration and Imaging in random media and tissues", paper # 22: Los Angeles, U.S.A. (18-01-1993 -). .
266. Graaff, R., Dassel, A.C.M., Zijlstra, W.G., Mul, F.F.M. de, & Aarnoudse, J.G. (1994). How tissue optics influences reflectance pulse oximetry. Poster & proceedings: XXIInd Annual Conference of the International Society on Oxygen Transport to Tissue: Istanbul, Turkey (22-08-1994 -). .
267. Graaff, R., Aarnoudse, J.G., Zijlstra, W.G., Heida, P., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1990). Reflection pulse oximetry depends on source detector distance. Voordracht: 5th European Congress on Intensive Care Medicine 1990: Amsterdam (05-06-1990 -). .
268. Graaff, R., Dassel, A.C.M., Aarnoudse, J.G., Zijlstra, W.G., Heida, P., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1990). Reflection pulse oximetry for fetal monitoring. Part I: Fundamental & Technical Aspects. Voordracht: Nederlandse Vereniging voor Perinatale Biologie: Utrecht (09-11-1990 -). .
269. Graaff, R., Aarnoudse, J.G., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1990). Similarity relations for absorbing and anisotropically scattering media. Poster: International Conference on Optics in Life Sciences: Garmisch-Partenkirchen, Germany (12-08-1990 -). .
270. Graaff, R., Dassel, A.C.M., Aarnoudse, J.G., Zijlstra, W.G., Mul, F.F.M. de, Koelink, M.H., & Greve, J. (1991). The role of ligh scattering in pulse oximetry and near infrared spectroscopy. Voordracht: 4th Int. Conf. on Fetal & Neonatal Physiol. Measurements: Noordwijkerhout (12-05-1991 -). .
271. Greve, J., Puppels, G.J., Otto, C., & Mul, F.F.M. de (1990). Raman spectroscopy of chromosomes and single living cells. Voordracht: Symposium BIORAMAN 90, Applications of Raman Spectrometry to Life Sciences: Reims, France (09-05-1990 -). .
272. Hoelen, C.G.A., Mul, F.F.M. de, & Greve, J. (1994). Non-destructive Photoacoustic Subsurface Tissue Imaging. Voordracht: Onderzoekschooldagen Biomedical Science and Engineering, BMTI: Garderen (18-05-1994 -). .
273. Koelink, M.H., Slot, M., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1991). A fiber-coupled laser Doppler velocimeter using the self-mixing effect in a diode laser. Voordracht & proceedings: Sensor 91: Nuremberg, Germany (14-05-1991 -). .
274. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., & Aarnoudse, J.G. (1990). Depth dependent laser Doppler perfusion measurements. Theory and Instrumentation. Poster: International Conference Laser Applications in Life Sciences: Moskou, U.S.S.R. (27-08-1990 -). .
275. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1990). Depth dependent laser Doppler perfusion measurements. Theory and instrumentation. Poster: LALS '90 conferentie: Moskou, USSR (27-08-1990 -). .
276. Koelink, M.H., Slot, M., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1991). In vivo blood flow velocity measurements using the self-mixing effect in a fiber coupled semiconductor laser. Voordracht & proceedings: ELO Optical Science and Engineering Optical Measuring Sensors: Den Haag (11-03-1991 -). .
277. Koelink, M.H., Mul, F.F.M. de, Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1991). Monte Carlo simulations and measurements of signals in laser Doppler flowmetry on human skin. Voordracht & proceedings: Biomedical Optics
278. Lucassen, G.W., Scholten, T.A.H.M., Mul, F.F.M. de, & Greve, J. (1990). Nonresonant background suppression in CARS spectra of liquids using the phase mismatching technique. Abstract: LALS '90 conferentie: Moskou, USSR (26-08-1990 -). .

279. Lucassen, G.W., Mul, F.F.M. de, Vrensen, G.F.J.M., & Greve, J. (1990). Polarization sensitive CARS of a thin slice of human eye lens. Voordracht: International Conference on Ramanspectroscopy: South Carolina, Columbia, U.S.A. (13-08-1990 -). .
280. Mul, F.F.M. de (1992). A monitoring device for pressurized-air-driven diaphragm-based artificial heart assist devices. Poster: Symposium Biofysica, "de Blije Wereld": Lunteren (28-09-1992 -). .
281. Mul, F.F.M. de (1992). Analytical calculations & Monte Carlo simulations of laser Doppler flowmetry using a cubic lattice model. Poster: Symposium Biofysica, "de Blije Wereld": Lunteren (28-09-1992 -). .
282. Mul, F.F.M. de (1992). Blood flow velocity measurements based on the self-mixing effect in a fiber-coupled semiconductor laser. Poster: Symposium Biofysica, "de Blije Wereld": Lunteren (28-09-1992 -). .
283. Mul, F.F.M. de, Koelink, M.H., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Blood velocity measurements using a fiber-coupled self-mixing diode-laser-Doppler velocimeter. Voordracht: Biomedical Optics 93; Fiber-Optic Sensors in Medical Diagnosis, SPIE: Los Angeles, U.S.A. (18-01-1993 -). .
284. Mul, F.F.M. de (1992). Depth-dependent laser Doppler perfusion measurements: Theory & Instrumentation. Poster: Symposium Biofysica, "de Blije Wereld": Lunteren (28-09-1992 -). .
285. Mul, F.F.M. de, Koelink, M.H., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Glass-fiber self-mixing laser Doppler velocimetry: Technical aspects and biomedical applications. Voordracht: Fifth International Conference on Laser Anemometry, Advances and Applications: Veldhoven (23-08-1993 -).
286. Mul, F.F.M. de, & Greve, J. (1992). Halfgeleiders-lasers: biomedische toepassingen. Voordracht & invited paper: Seminarium "Halfgeleider lichtbronnen", Wetenschappelijk Centrum, Watergraafsmeer: Amsterdam (19-11-1992 -). .
287. Mul, F.F.M. de (1995). Laser Doppler Perfusion Monitoring: Experiments and Monte Carlo Simulations. Voordracht: Laser-Doppler & Photo-Acoustics Day, Heinrich Heine Universitat Dusseldorf: Dusseldorf (07-12-1995 -). ..
288. Mul, F.F.M. de (1992). Laser Doppler Velocimetry. Voordracht: Katholieke Universiteit Nijmegen, Med. Fysica & Biofysica: Nijmegen (25-05-1992 -). .
289. Mul, F.F.M. de, Koelink, M.H., Greve, J., Graaff, R., & Aarnoudse, J.G. (1990). Laser-Doppler velocimetry of blood flow with diode lasers. Voordracht: North Sea conference on Biomedical Engineering: Antwerpen, Belgium (19-11-1990 -). .
290. Mul, F.F.M. de, Greve, J., Koelink, M.H., Graaff, R., & Aarnoudse, J.G. (1994). Measurements and simulations of dynamic light scattering in an upscaled tissue blood flow model. Voordracht: International Symposium on Biomedical Optics, BIOS Europe'94, Universite de Lille: Lille, France (06-09-1994 -). .
291. Mul, F.F.M. de, & Steenbergen, W. (1995). Modelling and simulation of Laser Doppler Flowmetry. Voordracht: Invited lecture at Conference on "Opto Electronics and Medical Diagnosis", a World Health Organisation Conference: Warsaw (16-10-1995 -). ..
292. Mul, F.F.M. de (1992). Photo Acoustic Tissue Scanning: a Feasibility Study. Poster: Symposium Biofysica, "de Blije Wereld": Lunteren (28-09-1992 -). .
293. Mul, F.F.M. de, Bicanic, D., & Greve, J. (1992). Photo-Acoustic Tissue Scanning (PATS) - A Feasibility Study. Poster: Gordon-Conferentie on Photo-acoustic & Photothermal Phenomena: New London, NH, U.S.A. (08-06-1992 -). .
294. Mul, F.F.M. de, Koelink, M.H., Greve, J., Graaff, R., Dassel, A.C.M., & Aarnoudse, J.G. (1993). Photon migration in an upscaled tissue model: measurements and Monte-Carlo simulations. Voordracht: Biomedical Optics 93: Photon Migration and Imaging in Random Media and Tissues, SPIE: Los Angeles, U.S.A. (18-01-1993 -). .
295. Mul, F.F.M. de, Moes, P., Herwijnen, M. van, Greve, J., & Graaff, R. (1996). Signal Optimization in Glass-fiber Self-mixing Intra-Arterial Laser Doppler Velocimetry. Voordracht:BIOS'96 Conference: San Diego (01-02-1996 -). ..
296. Puppels, G.J., Otto, C., Mul, F.F.M. de, & Greve, J. (1990). Confocal Raman microspectroscopy of single cells and chromosomes. Poster: 10th International Biophysics Congress: Vancouver, Canada (29-07-1990 -). .
297. Puppels, G.J., Otto, C., Mul, F.F.M. de, & Greve, J. (1990). Direct and nondestructive analysis of single metaphase chromosomes using a highly sensitive confocal Raman microscope. Abstract: International Conference on Ramanspectroscopy: South Carolina, Columbia, U.S.A. (13-08-1990 -). .
298. Puppels, G.J., Otto, C., Mul, F.F.M. de, & Greve, J. (1990). Investigation of single biological cells and chromosomes by confocal Raman microspectroscopy. Voordracht: LALS'90 conferentie: Moskou, USSR (27-08-1990 -). .
299. Siebinga, I., Mul, F.F.M. de, Vrensen, G.F.J.M., & Greve, J. (1990). Age related changes in the local water content of human eye lenses measured by Raman microspectroscopy. Abstract: International Conference on Ramanspectroscopy: South Carolina, Columbia, U.S.A. (13-08-1990 -). .
300. Siebinga, I., Mul, F.F.M. de, Vrensen, G.F.J.M., & Greve, J. (1990). Measurement of lens protein conformation in situ by Raman Scattering. Voordracht: Eurage meeting: Nijmegen (07-06-1990 -). .

301. Siebinga, I., Mul, F.F.M. de, Vrensen, G.F.J.M., & Greve, J. (1990). Spatially resolved water concentration determination in human eye lenses using Raman microspectroscopy. Abstract: LALS'90 Conferentie: Moskou, USSR (26-08-1990 -). .
302. Steenbergen, W., Faber, D.J., Kolkman, R.G.M., & Mul, F.F.M. de (2000). Scattered properties of human blood subjected to simple shear. Poster: Gordonconferentie "Lasers in Medicine and Biology": New London, Connecticut, USA (11-06-2000 -). ..
303. Talsma, G.R., Graaff, R., Mul, F.F.M. de, Ament, W., & Greve, J. (1995). Changes in saturation and blood volume in muscles can be detected optically. Voordracht: Tweede Studenten Congres Geneeskunde: Academisch Ziekenhuis Groningen (21-06-1995 -). ..
304. Vrensen, G.F.J.M., Siebinga, I., Mul, F.F.M. de, & Greve, J. (1990). Raman-microspectroscopic analysis of local water and protein content in human eye lenses. Abstract: ISER conferentie: Helsinki, Finland (01-07-1990 -). .
305. Wierda, K., Graaff, R., Someren, R.R. van, Smit, A.J., Mul, F.F.M. de, & Greve, J. (1995). Changes in microcirculation during rest measured by laser Doppler flowmetry. Voordracht: Tweede Studenten Congres Geneeskunde: Academisch Ziekenhuis Groningen (21-06-1995 -). ..
306. **De Mul, F.F.M.; "Monte-Carlo simulation of Light transport in Turbid Media",**
Chapter 12 in: Handbook of Coherent Domain Optical Methods, Biomedical Diagnostics, Environment and Material Science", Tuchin, Valery V. (Ed.), 2004, XLII, 1004 p. (2-volume-set)., Hardcover. ISBN: 1-4020-7576-6

E. Period 2003-… Publications at University of Groningen UMCG and Ziekenhuisgroep Twente ZGT and later.

307. De Mul, F.F.M., Morales, F., Smit, A.J., Graaff, R., "A model for Post-Occlusive Reactive Hyperemia as measured with Laser-Doppler Perfusion Monitoring", IEEE Trans.Biom.Eng. (2005) 55, 2, 184-190.
308. De Mul, F.F.M., "A model for Post-Occlusive Reactive Hyperemia as measured with Laser-Doppler Perfusion Monitoring", voordracht Universiteit Lausanne, Biomedical optics, 7 maart 2005.
309. Frits F.M. de Mul. Judith Blaauw, Jan G. Aarnoudse, Andries Smit, Gerhard Rakhorst: Modelling Laser-Doppler Perfusion Flowmetry of Iontophoresis Diffusion, applied to Preeclampsia: 24th European Conference on Microcirculation, Amsterdam, August 2006, Abstract in J. Vascular Research 43 suppl. 1 (2006) 47.
310. Frits F.M. de Mul, Fernando Morales, Andries J. Smit, Reindert Graaff, Gerhard Rakhorst: Modelling Laser-Doppler Perfusion Monitoring of Poist-Occlusive Reactive Hyperemia, 24th European Conference on Microcirculation, Amsterdam, August 2006, Abstract in J. Vascular Research, 43, suppl 1 (2006) 48
311. Fernando Morales, A.J. Smit, F.F.M. de Mul, G. Rakhorst, R. Graaff, ; Clinical value of heart beat pulse amplitudes in laser-Doppler flux signals, 24th European Conference on Microcirculation, Amsterdam, August 2006, Abstract in J. Vascular Research, 43 suppl 1 (2006) 48.
312. Frits F.M. de Mul, Judith Blaauw, Jan G. Aarnoudse, Gerhard Rakhorst, A Diffusion Model for Iontophoresis measured by Laser-Doppler Perfusion Flowmetry, applied to normal and preeclamptic Pregnancies, J. Biomed Optics, 12, 1 (2007) 014032.
313. Graaff R, Morales F, Smit AJ, de Jong ED, de Mul FF, Rakhorst G., Normalization of vasomotion in laser Doppler perfusion monitoring. Conf. Proc. IEEE Eng. Med. Biol. Soc. 2007;2007:4076-9.
314. Nibu A George, Frits F M de Mul, Qingjun Qiu, Gerhard Rakhorst and Harm K Schutte, "Depth-Kymography: High-speed calibrated 3D imaging of human vocal fold vibration dynamics", Phys. Med. Biol. 53, May 2008, 2667-77.
315. Nibu A George, Frits F M de Mul, Harm K Schutte and Gerhard Rakhorst, "A novel laryngoscope for quantitative high-speed 3D imaging of the vibration dynamics of human vocal folds", Journ. Biomed. Optics 13 (6), 064024,p. 1-5, Nov./Dec. 2008, with movie on-line available.
316. Frits F.M. de Mul, Judith Blaauw, Andries J. Smit, Gerhard Rakhorst and Jan G. Aarnoudse, Time development models for perfusion provocations studied with lasere-Doppler flowmetry, applied to Ionotphoresis and PORH, Microcirculation, 16 (7), 2009, 559-571.
317. Frits F.M. de Mul, Nibu A. George, Qingjun Qiu, Gerhard Rakhorst and Harm K. Schutte "Depth-kymography of vocal fold vibrations, part II: Simulations and direct comparisons with 3D-measurements", Phys.Med.Biol. 54 (2009), 3955-3977, with movie on-line available.
318. Geraldine Clough, Andrew Chipperfield, Christopher Byrne, Frits de Mul, Rodney Gush, "Evaluation of a new high power, wide separation laser Doppler probe: Potential measurement of deeper tissue blood flow", Microvascular Research, 78 (2), 2009, 155-161.
319. Frits F.M. de Mul, Marjolein Hilgerink, Sanne Vaartjes, Ron Vaartjes, "Veiligheidsaspecten bij klinisch gebruik van lasers", in Nederlands Tijdschrift voor Stralingsbescherming (NVS-nieuws), vol 1, 3, 2010.
320. Frits F.M. de Mul, `HYGIRAD-software: Rekenhulp voor de Klinisch Fysicus", in: Nederlands Tijdschrift voor Stralingsbescherming (NVS-nieuws), vol. 1, 2, 2010, pp. 11-15.
321. Figueiras Edite, Requicha Ferreira Luis F., De Mul Frits F.M., Humeau Anne, "Monte Carlo methods to numerically simulate signals reflecting the microvascular perfusion", chapter 7 in: "Numerical Simulations, Applications, Examples and Theory", Lutz Angermann (Ed.), ISBN 978-953-7619-X-X publ. INTECH.
322. E Figueiras, R Campos, R Oliveira, LF Requicha Ferreira, F de Mul, A Humeau-Heurtier, "Laser doppler flowmeters prototypes validation using Monte Carlo simulations" Bioinformatics 2012 - Proceedings of the

International Conference on Bioinformatics Models, Methods and Algorithms; edited by Jan Schier, Carlos Correia, Ana Fred and Hugo Gamboa; ISBN 978-989-8425-90-4, pp. 24-33, 1st-4th February 2012, Vilamoura (Portugal). Bioinformatics 2012 best student paper award..

323. E Figueiras, R Oliveira, CF Lourenço, R campos, RM Barbosa, J Laranjinha, LF Requicha Ferreira, FFM de Mul, A Humeau-Heurtier, "Self-mixing microprobe to monitor microvascular perfusion in rat brain", Medical & Biological Engineering & Computing, 51(1-2):103-12, 2012.
324. Maj Haverkate, Marjolein Hilgerink,Sanne Vaartjes, Frits de Mul, Ron Vaartjes, "De keuze van een laserveiligheidsbril", in Nederlands Tijdschrift voor Stralingsbescherming (NVS-nieuws), vol 2, 3, 2011.
325. Harm K. Schutte & Frits F.M. de Mul . : "Videokymography – The next step: Investigations between 2003-2008 at the Voice Research Laboratory in Groningen, Netherlands", Chapter 11 in "Normal and Abnormal Voice Kinematics", K. Izdebski, Y.Yan, R.R.Ward, B.J.F.Wong, R.M.Cruz, eds., PVSF e-Q&A-b via Amazon, 2015, ISBN-13: 978-1511401852.
326. Michel M. Teussink[1], Stanley Lambertus[1], Frits F. de Mul[2], Malgorzata B. Rozanowska[3], Carel B. Hoyng[1], B. Jeroen Klevering[1], Thomas Theelen[1]*, "Lipofuscin-Associated Photo-Oxidative Stress During Fundus Autofluorescence Imaging", 2017, http://dx.doi.org/10.1371/journal.pone.0172635 ; (Public Library of Science, one).

Patents
(USA patent no, year, title)

1. 7,496,395 , 2009 Laser doppler perfusion imaging with a plurality of beams
2. 2005/0187,477, 2005 Laser doppler perfusion imaging with a plurality of beams
3. 6,635,491, 2003 Method for non-invasively determining the concentration of an analyte by compensating for the effect of tissue hydration
4. 6,630,673, 2003 Non-invasive sensor capable of determining optical parameters in a sample having multiple layers
5. 6,353,226, 2002 Non-invasive sensor capable of determining optical parameters in a sample having multiple layers
6. 6,224,969, 2001 Optical phantom suitable for stimulating the optical properties of biological material and a method of producing said phantom

==========