

PUBLICATIONS

Dr. Benno M. Nigg

Symbols used in the list of references

R	=	refereed journals
C	=	refereed conference proceedings
K	=	keynote in refereed conference proceedings
B	=	books
E	=	editor of a book
P	=	chapters in books
N	=	non-refereed publications
D	=	dissertation (Ph.D. Thesis)

The translations of the French and German titles is attempting to represent the meaning of the title.

1971

- (1) R Nigg, B.M. Über die Wirkung der Eigenrotation (Effet) bei fliegenden Bällen (On the effect of spin in flying balls). *Jugend und Sport*, 6: 284-285, 1971.
- (2) R Nigg, B.M. Reflexions sur l'angle opimal du depart au lancer du poid (On the angle of release in shot put). *Kinanthropologie*, 3/4: 257-264, 1971.

1972

- (3) R Nigg, B.M. and Waser, J. Überlegungen und Experimente zu verschiedenen Hochsprungtests (Theoretical considerations and experiments with various high jump tests). *Jugend und Sport*, 11: 383-386, 1972.

1973

- (4) R Nigg, B.M., Neukomm, P.A. and Waser, J. Messungen im Weitsprung an Weltklasespringern (Measurements with world class athletes in long jump). *Leistungssport*, 4: 265-271, 1973.
- (5) R Nigg, B.M., Neukomm, P.A., and Waser, J. Messungen im Weitsprung an Weltklasespringern (Experimental results on high performance athletes in long jump). *Jugend und Sport*, 2: 62-66, 1973. (Similar publication as (4) derived from same experiments).
- (6) R Hoerler, E. and Nigg, B.M. Überlegungen zum Aufsatzsprung beim Wasserspringen (On the take-off bounce in diving). *Leistungssport*, 4: 272-279, 1973.
- (7) R Nigg, B.M., Hegner, J. and Wartenweiler, J. Experimentelle biomechanische Untersuchungen über den Aufsatzsprung beim Wasserspringen (Experimental biomechanical study on the take-off bounce in diving). *Jugend und Sport*, 11: 385-386, 1973. (Similar publication as (6) derived from same experiments).
- (8) R Nigg, B.M. and Neukomm, P.A. Erschütterungsmessungen beim Skifahren

- (Impact acceleration measurements in alpine skiing). *Med. Welt*, 11: 1883-1885, 1973.
- (9) B Nigg, B.M. Biomechanik, ausgewählte Kapitel (Selected topics in biomechanics). ETH Zürich, 1973.
- (10) N Nigg, B.M., Neukomm, P.A. and Waser, J. Messungen im Weitsprung an Weltklassenspringern (Experimental assessment of high performance long jumpers). *Die Körpererziehung*, 9: 1973. (Similar publication as (4) derived from same experiments).
- (11) N Nigg, B.M. and Neukomm, P.A. Erschütterungsmessungen im Skifahren (Load analysis in alpine skiing). Proceedings of the Int. Conference "Skifahren und Sicherheit, Davos, Switzerland, 1973.
- 1974**
- (12) R Nigg, B.M., Neukomm, P.A. and Unold, E. Biomechanik und Sport (Biomechanics and sport). *Orthopäde*, 3: 140-147, 1974.
- (13) R Waser, J., Neeser, K., Nigg, B.M. and Wartenweiler, J. Test zur Klassifizierung der Schwimmer (Test for classification of swimmers). *Jugend und Sport*, 6: 215-217, 1974.
- (14) R Nigg, B.M., Röthlin, K. and Wartenweiler, J. Biomechanische Messungen beim Speerwerfen (Biomechanical measurements in javelin throwing). *Jugend und Sport*, 6: 218-220, 1974.
- (15) R Waser, J. and Nigg, B.M. Hochsprung-Filmanalyse (Film analysis in high jumping). *Leistungssport*, 4: 259-267, 1974.
- (16) C Nigg, B.M. Analysis of twisting and turning movements. In: *Biomechanics IV*. R.C. Nelson and C.A. Morehouse (eds). University Park Press, Baltimore: 279-283, 1974.
- (17) C Neukomm, P.A. and Nigg, B.M. Instrumentation in Ski Research. In: *Biomechanics IV*. R.C. Nelson and C.A. Morehouse (eds). University Park Press, Baltimore: 231-235, 1974.
- (18) B Nigg, B.M. Sprung - Springen - Sprünge (Jump - jumping - jumps). *Juris Verlag, Zürich*, 1974.
- (19) N Nigg, B.M., Neukomm, P.A., Spirig, J. and Unold, E. Die Belastung des menschlichen Bewegungsapparates bei sportlicher Betätigung (Load on the musculo-skeletal system in various sport activities). *NZZ, Forschung und Technik*, 466: 79-82, 1974.
- 1975**
- (20) D Nigg, B.M. Untersuchung über das menschliche Gleichgewichtsverhalten (Analysis of the human behaviour in the quasi-static equilibrium). Diss. ETH Zürich. Nr. 5630, 1975.
- (21) R Nigg, B.M., Neukomm, P.A. and Unold, E. Erschütterungsmessungen beim Skifahren, Kunstturnen, Gehen und Laufen (Impact accelerations in alpine skiing, gymnastics, walking and running). *Medizinische Welt* 16: 765-770, 1975.
- (22) R Nigg, B.M., Neukomm, P.A., and Luethi, S. La charge d'appareil loco-moteur humain lors de la pratique du ski (Load of the musculo-skeletal system in skiing). *Med. et Hyg.*, 6: 978-981, 1975.
- (23) C Neukomm, P.A., Dux, A., Nigg, B.M. and Wartenweiler, J. Biomechanische Messmethoden für Ganganalysen (Biomechanical methods for gait analysis). In: *Ergometrie und Ergotherapie bei arteriellen Durchblutungsstörungen*. A. Bolliger and A. Grüntzig (eds). Huber Verlag, Bern: 39-46, 1975.
- (24) N Nigg, B.M. Quantifizierte Messungen des quasistatischen Gleichgewichtsverhaltens (Quantification of the ground reaction force in a quasi-static standing position). *Hospitalis*, 45: 733, 1975.
- 1976**
- (25) R Nigg, B.M. and Spirig, J. Erschütterungsmessungen beim Kunstturnen (Impact acceleration measurements in gymnastics). *Leistungssport* 2: 91-96, 1976.
- (26) N Nigg, B.M. Biomechanik und Schulturnen (Biomechanics in school sport).

- Schweiz. Turnlehrer Bulletin, 3: 39-44, 1976.
- (27) C Nigg, B.M. and Neukomm, P.A. Behaviour in quasi-static balance. In: Biomechanics V-B. P. Komi (ed). University Park Press, Baltimore: 476-484, 1976.
- (28) N Nigg, B.M. Biomechanische Messungen an Bodenbelägen für Leichtathletik und Spiele. (Biomechanical analysis of sport surfaces for track and field and games). Sportstättenbau und Bäderanlagen 4: 81, 1976.
- (29) C Nigg, B.M. Menschliche Mikrovibrationen (Human Microvibrations). Proceedings of Int. Biomechanics Symposium, Zürich: 19-31, 1976.
- (30) C Nigg, B.M., Eberle, G., Frei, D. and Segesser, B. Schuheinlagen (Shoe inserts). Proceedings of Int. Biomechanics Symposium, Zürich: 85-98, 1976.
- 1977**
- (31) R Nigg, B.M., Eberle, G., Frei, D., Segesser, B. and Weber, B. Bewegungsanalyse für Schuhkorrekturen (Movement analysis for shoe corrections). Medita, 9a: 160-163, 1977.
- (32) R Nigg, B.M., Eberle, G., Frei, D. and Segesser, B. Biomechanische Analyse von Fussinsuffizienzen (Biomechanical analysis of foot insufficiencies). Med. Orth. Technik, 6: 178-180, 1977.
- (33) C Nigg, B.M., Neukomm, P.A. and Luethi, S. Die Belastung des menschlichen Bewegungsapparates beim Skifahren (Load on the musculo-skeletal system in alpine skiing). In: Zur Biomechanik des Schilaufts. F. Fetz (ed). Inn Verlag, Innsbruck: 80-89, 1977.
- (34) C Gisler, E., Nigg, B.M. and Waser, J. Biomechanische Untersuchungen im Skispringen (Biom.l analysis of ski jumping). In: Zur Biomechanik des Schilaufts. F. Fetz (ed.) Inn Verlag, Innsbruck: 98-107, 1977.
- (35) B Nigg, B.M. Menschliche Mikrovibrationen (Human microvibrations). Birkhäuser Verlag, Basel, 1977.
- (36) B Nigg, B.M. Biomechanik (Biomechanics). Juris Verlag, Zurich, 1977.
- (37) P Nigg, B.M. Elektronische Methoden der Biomechanik (Electronic measuring methods in biomechanics). In: Grundkurs Datenerhebung I. K. Willimczik (ed). Limpert Verlag, Bad Homburg: 39-67, 1977.
- (38) N Nigg, B.M. Some clinical applications for force platforms in the ETH Biomechanics Laboratory of Zurich. ISB force platform group newsletter 3: 21-25, 1977.
- (39) N Nigg, B.M. and Denoth, J. Belastung des Körpers durch moderne Sportplatzbeläge (Load on the human body on new playing surfaces). NZZ, Forschung und Technik, October: 61, 1977.
- 1978**
- (40) R Nigg, B.M., Unold, E., Bachmann, E. and Schöni, B. Motorische Faktoren (Motor factors). Jugend und Sport, 2: 53-57, 1978.
- (41) C Nigg, B.M., Eberle, G., Frey, D., Luethi, S., Segesser, B., and Weber, B. Gait analysis and sport shoe construction. In: Biomechanics VI-A. E. Asmussen and K. Jörgensen (eds). University Park Press, Baltimore: 303-309, 1978.
- (42) R Bircher, M., Kohl, J., Nigg, B.M. and Killer, E.A. The microvibrations of the body, an index for examination stress. Eur. J. Appl. Physiol., 39: 99-109, 1978.
- (43) R Nigg, B.M. and Segesser, B. Biomechanische Aspekte zu Sportschuhkorrekturen (Biomechanical aspects on sport shoe corrections). Orthop. Praxis, 11: 831-833, 1978.
- (44) R Segesser, B., Ruepp, R., and Nigg, B.M. Indikation, Technik und Fehlermöglichkeiten einer Sportschuhkorrektur (Indication, technique and error possibilities in sport shoe correction). Orthop. Praxis, 11: 834-837, 1978.
- (45) N Keller, H. and Nigg, B.M. Die Ausbildung von Turn-und Sportlehrern an den Hochschulen im deutschen Sprachraum (Curriculum of phys. ed. teachers in German speaking areas). Juris Verlag, Zürich, 1978.
- (46) B Nigg, B.M. Biomechanique (Biomechanics). Magglingen, 1978.
- (47) P Nigg, B.M. Biomechanische Grundlagen (Introduction to Biomechanics). In:

- Turnen und Sport in der Schule, Band 1, Theorie. K. Egger (ed). Magglingen: 62-72, 1978.
- (48) E Nigg, B.M. Biomechanische Aspekte zu Sportplatzbelägen (Biomechanical aspects on playing surfaces). Juris Verlag, Zürich, 1978.
- (49) N Nigg, B.M. Sportboden - Sportschuh (Sport surface - sport shoe). Schweiz Sportmode, 3: 13-14, 1978.
- (50) N Denoth, J. and Nigg, B.M. Sportböden (Sport surfaces). Sportbäder und Freizeitbauten, 2: 95-99, 1978.
- 1979**
- (51) B Nigg, B.M. Biomechanik (Biomechanics). Second edition. Juris Verlag, Zürich, 1979.
- (52) E Nigg, B.M. Biomechanische Aspekte zu Sportplatzbelägen (Biomechanical aspects on playing surfaces). Second edition. Juris Verlag, Zurich, 1979.
- (53) N Nigg, B.M. and Denoth, J. Bodenbeläge für Sportanlagen (Surfaces for sport grounds). Gartenamt, 28: 730-710, 1979.
- (54) N Nigg, B.M. and Segesser, B. Biomechanische Aspekte zu Sportschuhen (Biomechanical aspects on sport shoes). Media Report, Sportwissenschaft, 6: 33-34, 1979.
- 1980**
- (55) R Segesser, B., Nigg, B.M., and Morell, F. Achillodynie und tibiale Insertionstendinosen (Achillodynia and tibial insertion tendinosis). Med. u. Sport, 29: 79-83, 1980.
- (56) R Segesser, B. and Nigg, B.M. Insertionstendinosen am Schienbein, Achillodynie und Überlastungsfolgen am Fuss - Aetiologie, Biomechanik, therapeutische Möglichkeiten (Tibial insertion tendinosis, Achillodynia and damage due to overuse of the foot - etiology, biomechanical therapy). Orthopäde, 9: 207-214, 1980.
- (57) R Stürm, R., Nigg, B.M. and Killer, E.A. The impact of cardiac activity on tri-axially recorded endogenous microvibrations of the body. Eur. J. Appl. Physiol. 44: 83-96, 1980.
- (58) N Nigg, B.M. Quantifying load on the human body. Biomechanics, 12: 636, 1980.
- (59) K Nigg, B.M. Biomechanische Überlegungen zur Belastung des Bewegungsapparates. (Biom. considerations on the loading of the musculo-skeletal system). In: Die Belastungstoleranz des Bewegungsapparates. H. Cotta, H. Krahl and K. Steinbrück (eds). Thieme Verlag, Stuttgart: 44-54, 1980.
- (60) R Nigg, B.M. and Luethi, S. Bewegungsanalysen beim Laufschuh (Movement analysis for running shoes). Sportwissenschaft, 3: 309-320, 1980.
- (61) N Nigg, B.M. Der Laufschuh - wichtiger denn je. (Running shoes - more important than ever). Schweizer Sport + Mode, 6: 29-30, 1980.
- (62) N Nigg, B.M. La chaussure de course - plus importante que jamais (Running shoes - more important than ever). Sport + Mode Suisse, 6: 30-31, 1980.
- (63) E Nigg, B.M. and Denoth, J. Sportplatzbeläge (Playing surfaces). First Edition, Juris Verlag, Zurich, 1980.
- 1981**
- (64) R Nigg, B.M. Belastung des menschlichen Bewegungsapparates bei ausgewählten Bewegungen im Kunstturnen. (Loading of the human body in selected movements in gymnastics). Leistungssport, 11: 93-100, 1981.
- (65) K Nigg, B.M., Denoth, J., and Neukomm, P.A. Quantifying the load on the human body: problems and some possible solutions. In: Biomechanics VII. A. Morecki, K. Fidelus, K. Kedzior and A. Wit (eds). University Park Press, Baltimore: 88-99, 1981.
- (66) C Nigg, B.M., Denoth, J. and Neukomm, P.A. The load on the lower extremities in selected sports activities. Proceedings of the International CISM Symposium, Udine, Italy, April 3-6, 1979. G. Bianchi, K.V. Frolov, and A. Oledzki (eds). Elsevier Scientific Publishing Company: 190-199, 1981.
- (67) C Denoth, J. and Nigg, B.M. The influence of various sport floors on the load on the

- lower extremities. In: Biomechanics VII. A. Morecki, K. Fidelus, K. Kedzior and A. Wit (eds). University Park Press, Baltimore: 100-105, 1981.
- (68) C Sägesser, B., Neukomm, P.A., Nigg, B.M., Ruegg, P. and Troxler, G. Force measuring system for the take-off in ski jumping. In: Biomechanics VII. A. Morecki, K. Kedzior, and A. Wit (eds). University Park Press, Baltimore: 478-482, 1981.
- (69) E Nigg, B.M. and Denoth, J. Sportplatzbeläge (Playing surfaces). Second Edition, Juris Verlag, Zürich, 1981.
- 1982**
- (70) P Nigg, B.M., Denoth, J. and Unold, E. Belastungen des menschlichen Bewegungsapparates bei ausgewählten Bewegungen im Kunstturnen. In: Verletzungsrisiken und Belastungen im Kunstturnen, U. Göhner (ed). pp. 20-38, Verlag Karl Hoffmann, Schorndorf, 1982.
- (71) K Nigg, B.M., Bell, G.D., Kiefer, G.N., Luethi, S. and Schachar, N.S. A quantitative assessment of the asymmetry of locomotion parameters in subjects with chronic anterior cruciate ligament injuries. In: Human Locomotion II. J.G. Reid, T. Bryant, S. Olney, B. Smith, J. Stevenson and R. Walmsley (eds). Kingston, Ontario: 9-11, 1982.
- (72) R Nigg, B.M., Luethi, S., Segesser, B., Stacoff, A., Guidon, H.W., and Schneider, A. Sportschuhkorrekturen. Ein biomechanischer Vergleich von drei verschiedenen Sportschuhkorrekturen (Sport shoe support inlays. A biomechanical comparison of three different types of arch support). Z. Orthop., 120: 34-39, 1982.
- (73) C Nigg, B.M. Kinder im Leistungssport - einige biomechanische Überlegungen (Children in high performance sport - some biomechanical considerations). In: Kinder im Leistungssport. H. Howald and E. Hahn (eds). Birkhäuser Verlag, Basel: 60-65, 1982.
- (74) K Nigg, B.M. Perspectives in Biomech. applied to Sport and Physical Education. In: Biomech.: Principles and application. R. Huiskes, D. Van Campen and J. De Wijn (eds). Nijhoff, Boston: 19-30, 1982.
- (75) R Nigg, B.M. Biomech. testing in sports. Sports science periodical on res. and techno. in sport: 1-9, 1982.
- 1983**
- (76) R Nigg, B.M. The load on the lower extremities in selected sport activities. In: Collected papers on sport biomechanics. G.A. Wood (ed.) University of Western Australia: 62-73, 1983.
- (77) K Nigg, B.M., Luethi, S., Denoth, J. and Stacoff, A. Methodological aspects of sport shoe and sport surface analysis. In: Biomechanics VIII-B. H. Matsui and K. Kobayashi (eds). Human Kinetic Publishers, Champaign, Illinois: 1041-1052, 1983.
- (78) R Segesser, B., Stacoff, A., and Nigg, B.M. Die Belastbarkeit der Sprunggelenke aus biomechanisch - klinischer Sicht (Load on the ankle joint from a biom. - clinical aspect). Med. u. Sport, 23: 9-13, 1983.
- (79) P Nigg, B.M. Belastung und Beanspruchung des menschlichen Bewegungsapparates beim alpinen Skilaufen (Load and stress on the musculo-skeletal system during alpine skiing). In: Der Schneehase, R. Imseng (ed). C.J. Bucher, Luzern: 85-89, 1983.
- (80) E Nigg, B.M. and Denoth, J. Sportplatzbeläge (Playing surfaces). Third Edition, Juris Verlag, Zürich, 1983.
- (81) E Nigg, B.M. and Kerr, B.A. Biomechanical aspects of sport shoes and playing surfaces. Proceedings of the International Symposium on Biomechanical Aspects of Sport Shoes and Playing Surfaces. University Printing, Calgary, 1983.
- (82) K Nigg, B.M. External force measurements with sport shoes and playing surfaces. In: Biomechanical aspects of sport shoes and playing surfaces. B.M. Nigg and B.A. Kerr (eds). University Printing, Calgary: 11-23, 1983.
- (83) C Schläpfer, F., Unold, E., and Nigg, B.M. The frictional characteristics of tennis

- shoes. In: Biomechanical aspects of sport shoes and playing surfaces. B.M. Nigg and B.A. Kerr (eds). University Printing, Calgary: 153-160, 1983.
- (84) C Bahlsen, H.A. and Nigg, B.M. Selection of a lateral test movement for tennis. In: Biomechanical aspects of sport shoes and playing surfaces. B.M. Nigg and B.A. Kerr (eds). University Printing, Calgary: 169-176, 1983.
- (85) R Segesser, B. and Nigg, B.M. Der Einfluss von Boden und Schuh auf die Belastungintensität im Bereich der Sprunggelenke einschliesslich prophylaktischer Massnahmen (The influence of surface and shoe on the load in the ankle joint including prophylactic measures). *Med. u. Sport*, 23: 100-101, 1983.
- (86) K Nigg, B.M. Measurement and magnitude of load in selected sports. In: A symposium on biomechanical assessments of sports protective equipment. P.J. Bishop (ed). IXth International Congress of Biomechanics, Waterloo: 1-8, 1983.
- (87) K Nigg, B.M. Selected methodology in biomechanics with respect to swimming. In: Biomechanics and Medicine in Swimming. A.P. Hollander, P.A. Huijing, and G. de Groot (eds). Human Kinetics Publishers, Champaign, Illinois: 72-80, 1983.
- 1984**
- (88) P Nigg, B.M., Denoth, J., Kerr, B., Luethi, S., Smith, D. and Stacoff, A. Load, sport shoes and playing surfaces. In: Sport Shoes and Playing Surfaces. E.C. Frederick (ed). Human Kinetics Publishers, Champaign, Illinois: 1-23, 1984.
- (89) C Bahlsen, H.A., Vermeulen, S., Nigg, B.M. and Luethi, S.M. Kinetic and kinematic analysis of the effective mass in heel-toe running. In: Human Locomotion III: 63-64, 1984.
- (90) C Luethi, S.M., Nigg, B.M. and Bahlsen, H.A. The influence of varying shoe sole stiffnesses on impact forces in running. In: Human Locomotion III: 65-66, 1984.
- (91) C Nigg, B.M. The influence of variation in velocity on the work in cyclic movements. In: Human Locomotion III, 35-36, 1984.
- (92) R Nigg, B.M., Luethi, S.M., Stacoff, A. and Segesser, B. Biomechanical effects of pain and sport shoe corrections. *The Australian J. of Science and Medicine in Sport*, (16 (1): 10-16, 1984.
- 1985**
- (93) C Kiefer, G.N., Bell, G.D., Luethi, S.M., Schachar, N.S. and Nigg, B.M. Gait analysis of patients with chronic anterior cruciate deficient knees. Transactions of the 31st Annual Meeting of the Orthopaedic Research Society, Las Vegas, Nevada, January 21-24, 1985. Adept Printing, Inc., Illinois: 361, 1985.
- (94) C Nigg, B.M. Applied research in biomechanics. In R. Ortengren (ed). Univ. of Linköping Printing: 1-6, 1985.
- (95) C Nigg, B.M. Loading of the human musculo-skeletal system during alpine skiing. In: Proceedings of Fifth Annual Sports Medicine Ski Seminar, UBC in Whistler, pp. 21-24, 1985.
- (96) C Schläpfer, F., Magerl, F., Perren, S.M. and Nigg, B.M. Estimation of the in vivo load in the lower spine based on a semi-direct approach. In: Biomechanics IX-A. D.A. Winter, R.W. Norman, R.P. Wells, K.C. Hayes and A.E. Patla (eds). Human Kinetics Publishers, Illinois: 224-229, 1985.
- (97) C Nigg, B.M. Loads in selected sport activities - an overview. In: Biomechanics IX-B. D.A. Winter, R.W. Norman, R.P. Wells, K.C. Hayes and A.E. Patla (eds). Human Kinetics Publ., Illinois: 91-96, 1985.
- (98) C Luethi, S.M. and Nigg, B.M. The influence of different shoe construction on discomfort and pain in tennis. In: Biomechanics IX-B. D.A. Winter, R.W. Norman, R.P. Wells, K.D. Hayes and A.E. Patla (eds). Human Kinetics Publishers, Illinois: 149-153, 1985.
- (99) R Nigg, B.M. Biomechanics, load analysis and sport injuries in the lower extremities. *Sports Medicine*, 2: 367-379, 1985.
- (100) C Nigg, B.M., Luethi, S.M. and Bahlsen, A.H. Influence of shoe construction on the supination during sideward movement in tennis shoes. In: Biomechanics: Principles and Applications. S. Perren and E. Schneider (eds). Nijhoff Publishers,

The Hague: 657-662, 1985.

1986

- (101) B Nigg, B.M. Biomechanics of Running Shoes. Human Kinetics Publishers, Champaign, Illinois, 1986.
- (102) C Nigg, B.M. Biomechanical aspects of running. In: Biomechanics of Running Shoes. B.M. Nigg (ed). Human Kinetics Publishers, Illinois: 1-25, 1986.
- (103) P Nigg, B.M. Experimental techniques used in running shoe research. In: Biomechanics of Running Shoes. B.M. Nigg (ed). Human Kinetics Publishers, Illinois: 27-61, 1986.
- (104) P Nigg, B.M., Bahlsen, A.H., Denoth, J., Luethi, S.M. and Stacoff, A. Factors influencing kinetic and kinematic variables in running. In: Biomechanics of Running Shoes. B.M. Nigg (ed). Human Kinetics Publishers, Illinois: 139-159, 1986.
- (105) P Nigg, B.M. Some comments for runners. In: Biomechanics of Running Shoes. B.M. Nigg (ed). Human Kinetics Publishers, Illinois: 161-165, 1986.
- (106) K Nigg, B.M. Biomechanical aspects of running injuries. In: Proceedings of Nordic Congress on Sports Traumatology, Turku, Finland: 52-56, 1986.
- (107) K Nigg, B.M. Biomechanical aspects of orthotic devices and shoe alterations in treatment and/or prevention of running injuries. In: Proc. Nordic Congress on Sports Traumatology, Turku, Finland: 157-170, 1986.
- (108) R Nigg, B.M., Frederick, E.C., Hawes, M.R. and Luethi, S.M. Factors influencing short-term pain and injuries in tennis. International Journal of Sport Biomechanics, 2(3):156-165, 1986.
- (109) R Luethi, S.M., Frederick, E.C., Hawes, M.R. and Nigg, B.M. Influence of shoe construction on lower extremity kinematics and load during lateral movements in tennis. Int. J. Sport Biomech., 2(3):166-174, 1986.
- (110) R Nigg, B.M. and Segesser, B. Der Laufschuh, ein Mittel zur Prävention von Laufbeschwerden (The running shoe, a possibility to prevent running injuries). Z. Orthop., 124:765-771, 1986.

1987

- (111) P Nigg, B.M. Biomechanical analysis of ankle and foot movement in sports and exercise. Med Sport Sci., 23: 22-29, 1987.
- (112) P Nigg, B.M., Luethi, S.M. and Bahlsen, H.A. Biomechanische Konstruktionskriterien für Tennisschuhe (Biomechanical criteria to construct tennis shoes). In: B. Segesser and W. Pfürringer (eds), Der Schuh im Sport, Perimed, Erlangen, West Germany: 42-49, 1987.
- (113) P Segesser, B. and Nigg, B.M. Einlageversorgung im Sportschuh (Shoe corrections and shoe inserts in sport shoes). In: B. Segesser and W. Pfürringer (eds), Der Schuh im Sport, Perimed, Erlangen, West Germany: 198-204, 1987.
- (114) R Nigg, B.M. and Morlock, M. The influence of lateral heel flare of running shoes on pronation and impact forces. Med. Sci. in Sports & Exercise, 19 (3): 294-302, 1987.
- (115) P Bahlsen, H.A. and Nigg, B.M. Estimation of impact forces using the idea of an effective mass. In: Biomechanics X-B, Human Kinetics Publishers: 837-841, 1987.
- (116) P Vermeulen, S. and Nigg, B.M. On the application of the phase plane to human running. In: Biomechanics X-B, Human Kinetics Publishers: 843-848, 1987.
- (117) R Nigg, B.M. The assessment of loads acting on the locomotor system in running and other activities. Japanese Journal of Sport Sciences, 6 (10): 665-676, 1987.
- (118) R Nigg, B.M., Bahlsen, H.A., Luethi, S.M. and Stokes, S. The influence of running velocity and midsole hardness on external impact forces in heel-toe running. J. Biomechanics, 20 (10): 951-959, 1987.
- (119) R Robinson, R.O., Herzog, W., Nigg, B.M. Use of force platform variables to quantify the effects of chiropractic manipulations on gait symmetry. J. Manip. & Physiol. Therap., 10 (4): 172-176, 1987.
- (120) R Bahlsen, H.A. and Nigg, B.M. Influence of attached masses on impact forces and

- running style in heel-toe running. *International Journal of Sport Biomechanics*, 3 (3): 264-275, 1987.
- (121) N Segesser, B., Nigg, B.M. and Pförringer, W. Der Sportschuh als therapeutisches Hilfsmittel bei Sehnenproblemen der unteren Extremität (The sports shoe as a therapeutic aid for tendon problems of the lower extremity). *Orth. Praxis*, 23 (9): 713-716, 1987.
- (122) R Nigg, B.M. Biomechanical aspects of playing surfaces. *Int. J. of Sport Sciences*, 5: 117-145, 1987.
- 1988**
- (123) R Nigg, B.M. and Skleryk, B.N. Gait characteristics of the elderly. *Clinical Biomechanics*, 3: 79-87, 1988.
- (124) R Nigg, B.M. and Segesser, B. The influence of playing surfaces on the load of the locomotor system and on injuries for football and tennis. *Sports Medicine*, 5: 375-385, 1988.
- (125) R Herzog, W., Nigg, B.M. and Read, L.J. Quantifying the effects of spinal manipulations on gait using patients with low back pain. *J. Manipulative and Physiol. Therapeutics*, 11 (3): 151-157, 1988.
- (126) N Nigg, B.M. Biomechanische Studien während der Olympischen Winterspiele in Calgary (biomechanical studies during the Winter Olympics in Calgary). *Turnen and Sport*, 67 (6): 4, 1988.
- (127) R Nigg, B.M., Herzog, W., and Read, L.J. Effect of visco-elastic shoe insoles on vertical impact forces in heel-toe running. *Am. J. Sports Medicine*, 16 (1): 70-76, 1988.
- (128) R Yeadon, M.R. and Nigg, B.M. A method for the assessment of area-elastic surfaces. *Med. and Sci. in Sports and Exercise*, 20 (4): 403-407, 1988.
- (129) R Nigg, B.M., Yeadon, M.R. and Herzog, W. The influence of construction strategies of sprung surfaces on deformation during vertical jumps. *Med. and Sci. in Sports and Exercise*, 20 (4): 396-402, 1988.
- (130) P Nigg, B.M. Causes of Injuries - Extrinsic factors. In: *The Olympic Book of Sports Med.* 10(1): 363-375, 1988.
- (131) N Nigg, B.M. Biomechanische Aspekte zu Kunstrasen (Biomechanical aspects of artificial turf). *Schulen and Sportstätten*: 8-11, 1988.
- (132) R Nigg, B.M., Bahlsen, H.A. The influence of heel flare and midsole construction on pronation, supination and impact forces for heel-toe running, *International Journal of Sport Biomechanics*, 4: 205-219, 1988.
- (133) R Herzog, W., Nigg, B.M., Read, L.J. and Olsson, E. Asymmetries in ground reaction force patterns in normal human gait. *Med. and Sci. in Sports and Exercise*, 21 (1): 110-114, 1988.
- (134) R Nigg, B.M. The assessment of loads acting on the locomotor system in running and other sport activities. *Seminars in Orthopaedics*, 3 (4): 197-206, 1988.
- (135) C Vermeulen, S.A. and Nigg, B.M. A computer model for determining the path of a flexible structure constrained by rigid surfaces. In: *Biomechanics XI-B.* G. de Groot, A.P. Hollander, P.A. Huijting and G.T. van Ingen Schenau (eds). Free University Press, Amsterdam: 1040-1044, 1988.
- (136) C Morlock, M.M. and Nigg, B.M. Dynamic and quasi-static models of the foot. In: *Biomechanics XI-A.* G. de Groot, A.P. Hollander, P.A. Huijting and G.J. van Ingen Schenau (eds). Free University Press, Amsterdam: 410-416, 1988.
- 1989**
- (137) P Nigg, B.M., Luethi, S.M. and Bahlsen, H.A. The tennis shoe - biomechanical design criteria, *The Shoe in Sport*, B. Segesser, W. Pförringer (eds.). Wolfe Publishing Ltd., London, England: 39-53, 1989.
- (138) P Nigg, B.M. Assessment of load effects in the reduction and treatment of injuries. In: *Future Directions in Exercise and Sport Science Research.* Skinner, Corbin, Landers, Martin and Wells, (eds.). Human Kinetics Publishers, Illinois: 181-193, 1989.

- (139) R Ekstrand, J. and Nigg, B.M. Surface related injuries in soccer. *Sports Medicine*, 8(1): 56-62, 1989.
- 1990**
- (140) R Nigg, B.M. The validity and relevance of tests used for the assessment of sport surfaces. *Med. and Sci. in Sports and Exercise*, 22 (1): 131-139, 1990.
- (141) N Nigg, B.M. On the right foot. *College Athletic Management*, 2:3, 8-10, 1990.
- (142) P Taunton, J.E. and Nigg, B.M. Playing surfaces and equipment. In: *Sport Medicine Manual*, IOC Medical Commission. Jackson, R. (ed.). Hurford Ent., Calgary: 63-71, 1990.
- (143) R Areblad, M., Nigg, B.M., Ekstrand, J., Olsson, K.O. and Ekstrom, H. Three-dimensional measurements of rearfoot motion during running. *J. Biomechanics*, 23 (9): 933-940, 1990.
- (144) R Motriuk, H.U. and Nigg, B.M. A technique for normalizing centre of pressure paths. *J. Biomech.*, 23 (9): 927-932, 1990.
- (145) R Nigg, B.M., Skarvan, G., Frank, C.B. and Yeadon, M.R. Elongation and forces of ankle ligaments in a physiological range of motion. *Foot & Ankle*, 11 (1): 30-40, 1990.
- (146) R Nigg, B.M. and Bobbert, M. On the potential of various approaches in load analysis to reduce the frequency of sports injuries. *J. Biomechanics*, 23 (1): 2-12, 1990.
- 1991**
- (147) R Morlock, M. and Nigg, B.M. Theoretical considerations and practical results on the influence of the representation of the foot for the estimation of internal forces with models. *Cl. Biom.*, 6: 3-13, 1991.
- (148) R Bobbert, M.F., Schamhardt, H.C. and Nigg, B.M. Calculation of vertical ground reaction force estimates during running from positional data. *J. Biomechanics*, 24 (12): 1095-1105, 1991.
- (149) P Nigg, B.M. Jumping in athletics - an overview. *Techniques in Athletics*, 1-10, 1991.
- 1992**
- (150) R Hawes, M. R., Nachbauer, W., Sovak, D. and Nigg, B.M. Footprint parameters as a measure of arch height. *Foot & Ankle*, 13: 22-26, 1992.
- (151) R Bobbert, M.F., Yeadon, M.R. and Nigg, B.M. Mechanical analysis of the landing phase in heel-toe running. *J. Biomechanics*, 25: 3, 223-234, 1992.
- (152) R Nigg, B.M. and Segesser, B. Biomechanical and orthopaedic concepts in sport shoe construction. *Med. and Sci. in Sports and Exercise*, 24 (5):595-602, 1992.
- (153) R Nigg, B.M., Fisher, V., Allinger, T.L., Ronsky, J.R. and Engsborg, J.R. Range of motion of the foot as a function of age. *Foot & Ankle* 13 (6): 336-343, 1992.
- (154) R Nachbauer, W. and Nigg, B.M. Effects of arch height and arch flattening of the foot on ground reaction forces in running. *Medicine and Science in Sports and Exercise* 24(11): 1264-1269, 1992.
- 1993**
- (155) R Nigg, B.M., Cole, G.K. and Nachbauer, W. Effects of arch height of the foot on angular motion of the lower extremities in running. *Journal of Biomechanics* 26(8): 909-916, 1993.
- (156) N Nigg, B.M. Bewegungserziehung und Bewegungswissenschaften (Physical education and movement sciences). *NZZ, Forschung und Technik*, August: 63, 1993.
- (157) R Nigg, B.M. Sport science in the twenty-first century. *Journal of Sports Sciences* 11(4): 343-347, 1993.
- (158) R Cole, G.K., Nigg, B.M., Ronsky, J.L, and Yeadon, M.R. Application of the joint coordinate system to three-dimensional joint attitude and movement representation: A standardization proposal. *J. Biomechanical Engineering* 115: 344-349, 1993.
- (159) R Grimston, S.K., Nigg, B.M., Hanley, D.A. and Engsborg, J.R. Differences in ankle

- joint complex range of motion as a function of age. *Foot & Ankle*, 14(4): 215-222, 1993.
- (160) P Segesser, B. and Nigg, B.M. Sport shoe construction - orthopaedic and biomechanical concepts. In: *The Encyclopedia of Sports Medicine*. Renström, P.A.F.H. (ed.). Blackwell Scientific Publications, London, UK: Vol 4, pp 398-416, 1993.
- (161) P Nigg, B.M. Excessive loads and sport injury mechanisms. In: *The Encyclopedia of Sports Medicine*. Renström, P.A.F.H. (ed.). Blackwell Scientific Publications, London, UK: Vol 4, pp 107-119, 1993.
- (162) R Hintermann, B., and Nigg, B.M. Pronation aus der Sicht der Bewegungsübertragung zwischen Kalkaneus und Tibia (Pronation from the view point of movement transfer between calcaneus and tibia). *Schweiz. Ztschr. für Sportmedizin*, 41:151-156, 1993.
- (163) P Nigg, B.M. Bewegungserziehung und Bewegungswissenschaften im 21. Jahrhundert (Movement education and movement sciences in the 21st century) In: *Bewegung-Sport-Forschung*. Kornexl, E. and Nachbauer, W. (eds.). Institut für Sportwissenschaften der Univ. Innsbruck, Austria: pp 87-96, 1993.
- 1994**
- (164) P Nigg, B.M. Biomechanics as applied to sports. In: *Oxford Textbook of Sports Medicine*. Harries, M., Williams, C., Stanish, W.D., and Micheli, L.J. (eds.). Oxford University Press, Oxford, UK: pp 94-112.
- (165) E Nigg, B.M. and Herzog, W. (eds.). *Biomechanics of the musculo-skeletal system*. John Wiley & Sons, Sussex, UK, 1994.
- (166) P Nigg, B.M. Introduction to Biomechanics of the musculo-skeletal system. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 1-46, 1994.
- (167) P Nigg, B.M. and Grimston, S.K. Biomaterials: Bone. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 48-78, 1994.
- (168) P Nigg, B.M. Force. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 200-224, 1994.
- (169) P Nigg, B.M. Pressure distribution. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 225-236, 1994.
- (170) P Nigg, B.M. Acceleration. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 237-253, 1994.
- (171) P Nigg, B.M. and Cole, G.K. Optical methods. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 254-286, 1994.
- (172) P Nigg, B.M. Inertial properties of the human or animal body. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 337-364, 1994.
- (173) P Nigg, B.M. Modelling (several sections). In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 365-471, 1994.
- (174) P Nigg, B.M. and van den Bogert, A.J. Simulation. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). John Wiley & Sons, Sussex, UK: pp 551-567, 1994.
- (175) R Reinschmidt, C., Nigg, B.M., Hamilton, G.R. Influence of activity on plantar force distribution. *Clinical Biomechanics*, 9:130-132, 1994.
- (176) R van den Bogert, A.J., Smith, G.D., and Nigg, B.M. In vivo determination of the anatomical axes of the ankle joint complex: an optimization approach. *J. Biomechanics*, 27(12): 1477-1488, 1994.
- (177) R Hintermann, B. and Nigg, B.M. Die Bewegungsübertragung zwischen Fuss und Unterschenkel in vitro (The movement transfer between foot and leg in vitro).

- Sportverletzungen - Sportschaden, 8:60-66, 1994.
- (178) R Hintermann, B., Nigg, B.M., and Sommer, C. Foot movement and tendon excursion: an *in vitro* study. *Foot and Ankle*, 15: 386-395, 1994.
- (179) R Hintermann, B., Nigg, B.M., Sommer, C. and Cole, G.K. Transfer of movement between calcaneus and tibia, *in vitro*. *Clinical Biomechanics*, 9(6): 349-355, 1994.
- (180) R Hintermann, B., Nigg, B.M. and Cole, G.K. Influence of selective arthrodesis on the movement transfer between calcaneus and tibia *in vitro*. *Clinical Biomechanics*, 9(6): 356-361, 1994.
- (181) R Chen, H., Nigg, B.M. and de Koning, J.J. Relation between plantar pressure distribution under the foot and insole comfort. *Clinical Biomechanics*, 9(6): 335-341, 1994.
- 1995**
- (182) R Nigg, B.M., Fisher, V. and Ronsky, J.L. Gait characteristics as a function of age and gender. *Gait & Posture*, 2(4): 213-220, 1995.
- (183) R Nigg, B.M. and Anton, M. Energy aspects for elastic and viscous shoe soles and playing surfaces. *Medicine and Science in Sports and Exercise*, 27(1): 92-97, 1995.
- (184) R Nigg, B.M. and de Boer, R.W. A kinematic comparison of over ground and treadmill running. *Medicine and Science in Sports and Exercise*, 27(1): 98-105, 1995.
- (185) R Nigg, B.M., Nigg, C.R. and Reinschmidt, Ch. Reliability and validity of active, passive and dynamic range of motion tests. *Sportverletzung-Sportschaden*, 9: 51-57, 1995.
- (186) P Nigg, B.M. Bewegungserziehung und Bewegungswissenschaften im 21. Jahrhundert. In: *Bewegung - Sport - Forschung*. E. Kornexl and W. Nachbauer (eds.). Institut für Sportwissenschaften der Univ. Innsbruck, Austria: 87-96, 1995.
- (187) R Ronsky, J.L., Nigg, B.M., and Fisher, V. Correlation between physical activity and the gait characteristics and ankle joint flexibility of the elderly. *Clinical Biomechanics*, 10(1): 41-49, 1995.
- (188) R Gerritsen, K.G.M., van den Bogert, A.J. and Nigg, B.M. Direct dynamics simulation of the impact phase in heel-toe running. *Journal of Biomechanics*, 28(6): 661-668.
- (189) R Cole, G.K., Nigg, B.M., Fick, G.H. and Morlock, M. Internal loading of the foot and ankle during impact in running. *Journal of Applied Biomechanics*, 11: 25-46, 1995.
- (190) R Reinschmidt, Ch. and Nigg, B.M. Influence of heel height on ankle joint moments in running. *Medicine and Science in Sports and Exercise*, 27(3): 410-416, 1995.
- (191) R Chen, H., Nigg, B.M., Hulliger, M. and de Koning, J. Influence of sensory input on plantar pressure distribution. *Clinical Biomechanics*, 10(5): 271-274, 1995.
- (192) R Hintermann, B. and Nigg, B.M. *In vitro* kinematics of the axially loaded ankle complex in response to dorsiflexion and plantarflexion. *Foot & Ankle*, 16(8): 514-518, 1995.
- (193) R Hintermann, B., Sommer, Ch. and Nigg, B.M. Influence of ligament transection on tibial and calcaneal rotation with loading and dorsi-plantarflexion. *Foot & Ankle*, 16(9): 567-571, 1995.
- (194) C Kim, S. and Nigg, B.M. Movement coupling between foot and leg in barefoot and shod heel-toe running. *Proceedings of the 1995 Seoul Int. Sport Science Congress*: 236-245, 1995.
- (195) R Nigg, B.M., Cole, G.K. and Brüggemann, P. Impact forces during heel-toe running. *Journal of Applied Biomechanics*, 11(4): 407-432, 1995.
- (196) R Hintermann, B. and Nigg, B.M. Influence of arthrodeses on kinematics of the axially loaded ankle joint complex during dorsi-plantarflexion. *Foot & Ankle*, 16(10): 633-636, 1995.
- 1996**
- (197) R Nachbauer, W., Kaps, P., Nigg, B.M., Brunner F., Lutz A., Oberkircher, G. and Mössner, M. A video technique for obtaining 3-d coordinates in alpine skiing. *J. Appl. Biomech.*, 12(1): 104-115, 1996.

- (198) R Sommer, C., Hintermann, B., Nigg, B.M. and van den Bogert, A.J. Influence of ankle ligaments on tibial rotation: an in vitro study. *Foot & Ankle*, 17(2): 79-84, 1996.
- (199) R Cole, G.K., Nigg, B.M., van den Bogert, A.J. and Gerritsen, K.G.M. Lower extremity joint loading during impact in running. *Clin. Biomechanics*, 11(4): 181-193, 1996.
- (200) R van den Bogert, A.J., Read, L. and Nigg, B.M. A method for inverse dynamic analysis using accelerometry. *J. Biomechanics* 29(7): 949-954, 1996.
- (201) R Wiley, J.P. and Nigg, B.M. The effect of an ankle orthosis on ankle range of motion and performance. *JOSPT* 23(6): 362-369, 1996.

1997

- (202) P Hintermann, B. and Nigg, B.M. Epidemiology of foot and ankle disorders/injuries. In: *Musculoskeletal disorders in the workplace: Principles and practice*. M. Nordin, G.B.J. Andersson and M.H. Pope (eds.). Mosby-Year Book, Inc., St. Louis, USA: pp 537-549, 1997.
- (203) P Nigg, B.M. and Hintermann, B. Biomechanics of the ankle joint complex and the shoe. In: *Musculoskeletal disorders in the workplace: Principles and practice*. M. Nordin, G.B.J. Andersson and M.H. Pope (eds.). Mosby-Year Book, Inc., St. Louis, USA: pp 558-569, 1997.
- (204) P Hawes, M.R. and Nigg, B.M. Anthropometry of the human foot. In: *Musculoskeletal disorders in the workplace: Principles and practice*. M. Nordin, G.B.J. Andersson and M.H. Pope (eds.). Mosby-Year Book, Inc., St. Louis, USA: pp 550-557, 1997.
- (205) K Nigg, B.M., van den Bogert, A.J., Read, L. and Reinschmidt, C. Load on the locomotor system during skiing - a biomechanical perspective. In: *Science and skiing*. E. Müller, H. Schwameder, E. Kornexl and C. Raschner (eds.). E&FN Spon, London, UK: pp 27-35, 1997.
- (206) R Reinschmidt, C., van den Bogert, A.J., Murphy, N., Lundberg, A. and Nigg, B.M. Tibiocalcaneal motion during running - measured with external and bone markers. *Cl. Biomech.* 12(1): 8-16. 1997.
- (207) R Stähelin, Nigg, B.M., T. Stefanyshyn, D.J., van den Bogert, A.J. and Kim, S.-J. A method to determine bone movement in the ankle joint complex *in vitro*. *J. Biomechanics* 30(5): 513-516, 1997.
- (208) R Reinschmidt, C., van den Bogert, A.J., Nigg, B.M., Lundberg, A. and Murphy, N. Effect of skin movement artefact on the calculation of knee joint motion during running. *J. Biomech.* 30(7): 729-732, 1997.
- (209) R Reinschmidt, C., van den Bogert, A.J., Lundberg, A., Nigg, B.M., Murphy, N., Stacoff, A. and Stano, A. Tibiofemoral and tibiocalcaneal motion during walking: external vs. skeletal markers. *Gait & Posture* 6: 98-109, 1997.
- (210) R Koning, J.J. de, Nigg, B.M. and Gerritsen, K.G. Assessment of the mechanical properties of area-elastic sport surfaces with video analysis. *Med. Sc. Sports Ex.* 29(12): 1664-1668, 1997.
- (211) R Nigg, B.M. Impact forces in running. *Current Opinion in Orthopedics* 8: 43-47, 1997.
- (212) R Stefanyshyn, D.J. and Nigg, B.M. Mechanical energy contribution of the metatarsalphalangeal joint to running and sprinting. *J. Biomech.* 30(11/12): 1081-1085, 1997.

1998

- (213) R Stefanyshyn, D.J. and Nigg, B.M. Contribution of lower extremity joints to mechanical energy in running, vertical jumps and long jumps. *Journal of Sports Science* 16: 177-186, 1998.
- (214) R Nigg, B.M., Kahn, A., Fisher, V and Stefanyshyn, D. Effect of shoe insert construction on foot and leg movement. *Medicine and Science in Sports and Exercise* 30(4): 550-555, 1998.
- (215) R Stefanyshyn, D.J. and Nigg, B.M. Dynamic angular stiffness of the ankle joint

- during running and sprinting. *J. Applied Biomechanics* 14(3): 292-299, 1998.
- (216) R Hintermann, B. and Nigg, B.M. Kinematic Changes of the Ankle-Joint Complex Caused by Selective Arthrodesis. In *Current Status of Ankle Arthroplasty*, Springer Verlag, Berlin - Hakon Kofoed (ed.), pp 64-67, 1998.
- (217) R Hintermann, B. and Nigg, B.M. Pronation in Runners – Implications for Injuries. *Sports Med.* 26(3): 169-176, 1998.
- (218) R Wright, I.C., Neptune, R.R., van den Bogert, A.J. and Nigg, B.M. Passive regulation of impact forces in heel-toe running. *Clin. Biomech.* 13(7): 521-531, 1998.

1999

- (219) R Nigg, B.M., Nurse, M.A. and Stefanyshyn, D.J. Shoe inserts and orthotics for sport and physical activities. *Med. Sc. Sports & Ex.* 31(7): S421-S428, 1999.
- (220) R Nigg, B.M. and Liu, W. The effect of muscle stiffness and damping on simulated impact force peaks during running. *J. Biomech.* 32(8): 849-856, 1999.
- (221) R Baroud, G., Nigg, B.M. and Stefanyshyn, D. Energy storage and return in sport surfaces. *Sports Engineering*, 2: 173-180, 1999.
- (222) R van den Bogert, A.J., Read, L. and Nigg, B.M. An analysis of hip joint loading during walking, running, and skiing. *Med. Sc. Sports & Ex.* 31(1): 131-142, 1999.
- (223) R Liu, W., Miller, J.E., Stefanyshyn, D.J. and Nigg, B.M. Accuracy and reliability of a technique for quantifying foot shape, dimensions and structural characteristics. *Ergonomics* 42(2): 346-358, 1999.
- (224) R Lee, S., Müller, C.Ch., Stefanyshyn, D.J., and Nigg, B.M. Relative Forefoot Abduction and its Relationship to Foot Length *in vitro*. *Cl. Biomech.* 14(3): 193-202, 1999.
- (225) R Nurse, M.A. and Nigg, B.M. Quantifying a relationship between tactile and vibration sensitivity of the human foot with plantar pressure distributions during gait. *Cl. Biomech.* 14(9): 667-672, 1999.
- (226) R Sasse, M., Nigg, B.M. and Stefanyshyn, D.J. Tibiotalar Motion – Effect of fibular displacement and deltoid ligament transection: *In vitro* study. *Foot and Ankle*, 20(11): 733-737, 1999.

2000

- (227) R Nigg, B.M., Nurse, M.A., Stefanyshyn, D.J. Sporteinlagen – ein neues Konzept. *Orthopädie Schuhtechnik, OST Sonderheft Propriozeption.* 32-40, 2000.
- (228) E Nigg, B.M., MacIntosh, B.R. and Mester, J. (eds.) *Biomechanics and biology of movement.* Human Kinetics, Champaign, IL, USA, 2000.
- (229) E Nigg, B.M. and Herzog, W. (eds.) *Biomechanics of the musculo-skeletal system.* 2nd Edition. John Wiley & Sons, Sussex, UK, 2000.
- (230) P Nigg, B.M., Stefanyshyn, D. and Denoth, J. Mechanical considerations of work and energy. In: *Biomechanics and Biology of movement.* B.M. Nigg, B.R. MacIntosh and J. Mester (eds.). Human Kinetics, Champaign, IL, USA: pp 5-18, 2000.
- (231) P Nigg, B.M. Forces acting on and in the human body. In: *Biomechanics and Biology of movement.* B.M. Nigg, B.R. MacIntosh and J. Mester (eds.). Human Kinetics, Champaign, IL, USA: pp 253-267, 2000.
- (232) R Gschwend, N., Frei, Th., Morscher, E., Nigg, B.M. and Loehr, J. Alpine and cross-country skiing after total hip replacement. *Acta Orthop Scand*, 71(3):243-249, 2000
- (233) R Liu, W. and Nigg, B.M. A mechanical model to determine the influence of masses and mass distribution on the impact force during running. *J. Biomech.* 33: 219-224, 2000.
- (234) R Liu, W., Maitland, M. and Nigg, B.M. The effect of axial load on the *in vivo* anterior drawer test of the ankle joint complex. *Foot & Ankle Int.* 21(5): 420-426, 2000.
- (235) R Miller, J.E. Nigg, B.M., Liu, W., Stefanyshyn, D.J. and Nurse, M.A. Influence of foot, leg and shoe characteristics on subjective comfort. *Foot & Ankle International*, 21(9): 759-767, 2000.
- (236) R Miller, J.E., Baroud, G. and Nigg, B.M. Elastic behaviour of sport surface materials. *Sports Engineering*, 3(3): 177-184, 2000.

- (237) R Reinschmidt, C. and Nigg, B.M. Current issues in the design of running and court shoes. *Sportverletzung-Sportschaden*, 14: 71-82, 2000.
- (238) R Stefanyshyn, D.J. and Nigg, B.M. Energy aspects associated with sport shoes. *Sportverletzung-Sportschaden*, 14: 82-89, 2000.
- (239) R Stefanyshyn, D.J. and Nigg, B.M. Influence of midsole bending stiffness on joint energy and jump height performance. *Med. Sc. Sports Ex.*, 32(2): 471-476, 2000.
- (240) P Stefanyshyn, D.J. and Nigg, B.M. Work and energy influenced by athletic equipment. In: *Biomechanics and Biology of movement*. B.M. Nigg, B.R. MacIntosh and J. Mester (eds.). Human Kinetics, Champaign, IL, USA: pp 49-65, 2000.
- (241) R Stefanyshyn, D.J., Nigg, B.M., Fisher, V., O'Flynn, B. and Liu, W. The influence of high heeled shoes on kinematics, kinetics and muscle EMG of normal female gait. *J. Appl. Biomech.* 16: 309-319, 2000.
- (242) R Stacoff, A., Reinschmidt, C., Nigg, B.M., van den Bogert, A.J., Lundberg, A., Denoth, J. and Stüssi, E. Effects of foot orthoses on skeletal motion during running. *Cl. Biomech.* 15(1): 54-64, 2000.
- (243) R Stacoff, A., Nigg, B.M., Reinschmidt, C., van den Bogert, A.J., Lundberg, A., Stüssi, E. and Denoth, J. Movement coupling at the ankle during the stance phase of running. *Foot & Ankle*, 21(3): 232-239, 2000.
- (244) R Stacoff, A., Nigg, B.M., Reinschmidt, C., van den Bogert, A.J. and Lundberg, A. Tibiocalcaneal kinematics of barefoot versus shod running. *J. Biomechanics* 33(11): 1387-1396, 2000.
- (245) R Wright, I.C., Neptune, R.R. van den Bogert, A.J. and Nigg, B.M. The effects of ankle compliance and flexibility on ankle sprains. *Med. Sc. Sports Ex.*, 31(2): 260-265, 2000.
- (246) R Wright, I.C., Neptune, R.R., van den Bogert, A.J. and Nigg, B.M. The influence of foot positioning on ankle sprains. *J. Biomech.* 33(5): 513-519, 2000.
- 2001**
- (247) P Nigg, B.M., Schwameder, D., Stefanyshyn, D. and von Tscharnar, V. The effect of ski binding position on performance and comfort in skiing. In: *Science and Skiing II*. (E. Müller, H. Schwameder, C. Raschner, S. Lindinger and E. Kornexl, eds.), Verlag Dr. Kovač. pp 3-13, 2001
- (248) R Nigg, B. M. and Wakeling, J. M. Impact forces and muscle tuning - a new paradigm. *Exercise and Sport Sciences Review*, 29(1), 37-41, 2001.
- (249) R Nigg, B.M. The role of impact forces and foot pronation - a new paradigm. *Clin. J. Sports Medicine*, 11, 2-9, 2001.
- (250) R Nigg, B.M., Cole, G., Stergiou, P. and Stefanyshyn, D. The use of pressure measurements to determine the effect of shoe orthotics on knee joint moments. *Clin. Biomechanics* 16: 846-847, 2001.
- (251) R Mündermann, A., Stefanyshyn, D.J. and Nigg, B.M. Relationship between footwear comfort and anthropometric and sensory factors. *Medicine and Science in Sports and Exercise*, 33(11): 1939-1945, 2001.
- (252) R Nurse, M.A. and Nigg, B.M. Plantar pressure changes following sensory attenuation in human subjects. *Clin. Biomechanics* 16: 847-848, 2001.
- (253) R Nurse, M.A. and Nigg, B.M. The effect of changes in foot sensation on plantar pressure and muscle activity. *Clinical Biomechanics* 16: 719-727, 2001.
- (254) R Schwameder, H., Nigg, B.M., von Tscharnar, V. and Stefanyshyn, D. The effect of binding position on kinetic variables in alpine skiing. In: *Science and Skiing II*. (E. Müller, H. Schwameder, C. Raschner, S. Lindinger and E. Kornexl, eds.), Verlag Dr. Kovač. pp 43-54, 2001
- (255) R Stacoff, A., Reinschmidt, C., Nigg, B.M., van den Bogert, A.J., Lundberg, A., Denoth, J. and Stüssi, E. Effects of shoe sole construction on skeletal motion during running. *Med. Sc. Sports Ex.*, 33(2): 311-319, 2001.
- (256) R Wakeling, J., von Tscharnar, V., Nigg, B.M. and Stergiou, P. Muscle activity in the leg is tuned in response to ground reaction forces. *J. Applied Physiology*, 91: 1307-1317, 2001.

- (257) R Wakeling, J.M. and Nigg, B.M. Modification of soft tissue vibrations in the leg by muscular activity. *J. Appl. Physiology*, 90: 412-420, 2001.
- (258) R Wakeling, J.M. and Nigg, B.M. Soft-tissue vibrations in the quadriceps measured with skin-mounted transducers. *J. Biomechanics*, 34:539-543, 2001.
- (259) R Wakeling, J.M., Pascual, S.A, Nigg B.M. and von Tscharner V. Surface EMG shows distinct populations of muscle activity when measured during sustained sub-maximal exercise. *Eur. J. Appl. Physiology*, 86: 40-47, 2001.
- (260) R Wakeling J.M. and Nigg, B.M. Un supporto per l'arco (Support for the arch of the foot). *Sport & Medicina*,17(5): 33-35, 2001.

2002

- (261) R Nigg, B.M. Response to the letter to the editor by Robert W. Mann, Sc.D. *Clin. J. Sport Med.* 12(1): 58-59, 2002.
- (262) P Nigg, B.M. and Hintermann, B. Biomechanics of the ankle joint complex and the shoe. In: *The Unstable Ankle.* (N. Meir and G. Mann, eds.) *Human Kinetics.* pp 17-26, 2002.
- (263) P Gerritsen, K.G.M., Nigg, B.M. and Wright, I.C. Shoes and surfaces in tennis: injury and performance aspects. In: *Handbook of Sports Medicine and Science: Tennis.* (P.A.F.H. Renström, ed.) *Blackwell Science.* pp 39-45.
- (264) R Hintermann, B., Valderrabano, V and Nigg, B.M. Influence of screw type on obtained contact area and contact force in a cadaveric subtalar arthrodesis model. *Foot & Ankle*, 23(11): 986-991, 2002.
- (265) R Mündermann, A. Nigg, B.M., Stefanyshyn, D.J. and Humble, R.N. Development of a reliable method to assess footwear comfort during running. *Gait and Posture*, 16: 38-45, 2002.
- (266) R Schöllhorn, W.I., Nigg, B.M., Stefanyshyn, D.J. and Liu, W. Identification of individual walking patterns using time discrete and time continuous data sets. *Gait and Posture*, 15: 180-186, 2002.
- (267) R Wakeling, J.M., Nigg, B.M. & Rozitis, A.I. Muscle activity damps the soft tissue resonance which occurs in response to pulsed and continuous vibrations. *J. Appl. Physiol.* 93:1093-1103, 2002.
- (268) R Wakeling, J.M., Pascual, S.A. & Nigg, B.M. Altering muscle activity in the lower extremities by running with different shoes. *Med. Sci. Sports Exerc.*, 34(9):1529-1532, 2002.

2003

- (269) R Mündermann A., B.M. Nigg, R.N. Humble, and D.J. Stefanyshyn. Foot orthotics affect lower extremity kinematics and kinetics during running. *Clinical Biomechanics* 18(3), 254-262, 2003.
- (270) R Nigg, B.M., Stergiou, P., Cole, G., Stefanyshyn, D., Mündermann, A. and Humble, N. Effect of shoe inserts on kinematics, center of pressure, and leg joint moments during running. *Med. Sci. Sports Exerc.* 35(2), 314-319, 2003.
- (271) R Nigg, B.M., Stefanyshyn, D.J., Cole, G., Stergiou, P and Miller, J. The effect of material characteristics of shoe soles on muscle activation and energy aspects during running. *J. Biomechanics* 36:569-575, 2003.
- (272) R von Tscharner, V. Goepfert, B. and Nigg, B.M. Changes in EMG signals for the muscle tibialis anterior while running barefoot or with shoes resolved by non-linear scaled wavelets. *J. Biomechanics*, 36:1169-1176, 2003.
- (273) E Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. *Sport Surfaces, biomechanics, injuries, performance, testing, installation.* Topline Printing, Calgary, Canada. 2003.
- (274) P Nigg, B.M. The stages of the Cirque du Soleil. In: Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. (eds.). *Sport Surfaces, biomechanics, injuries, performance, testing, installation.* Topline Printing, Calgary, Canada, pp 8-9, 2003.
- (275) P Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. Impact forces during exercise and physical activity. In: Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. (eds.). *Sport Surfaces, biomechanics, injuries, performance, testing, installation.* Topline

- Printing, Calgary, Canada, pp 13-29, 2003.
- (276) P Nigg, B.M., Stefanyshyn, D.J. and Cole, G.K. Criteria for functional testing of sport surfaces. In: Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. (eds.). Sport Surfaces, biomechanics, injuries, performance, testing, installation. Topline Printing, Calgary, Canada, pp 311-334, 2003.
- (277) P Stefanyshyn, D.J. and Nigg, B.M. Energy and performance aspects in sport surfaces. In: Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. (eds.). Sport Surfaces, biomechanics, injuries, performance, testing, installation. Topline Printing, Calgary, Canada, pp 31-46, 2003.
- (278) P Cole, G.K., Stefanyshyn, D.J. and Nigg, B.M. A novel method for testing traction of sport surfaces In: Nigg, B.M., Cole, G.K. and Stefanyshyn, D.J. (eds.). Sport Surfaces, biomechanics, injuries, performance, testing, installation. Topline Printing, Calgary, Canada, pp 253-268, 2003.
- (279) R Mündermann, A., Nigg, B.M., Humble, R.N, Stefanyshyn, D.J. Orthotic Comfort is Related to Kinematics, Kinetics and EMG in Recreational Runners. *Medicine and Science in Sports and Exercise* 35(10):1710-1719, 2003.
- (280) R Wakeling, J.M., Liphardt, A-M. & Nigg, B.M. Muscle activity reduces soft-tissue resonance at heel-strike during walking. *J. Biomech.* 36:1761-1769, 2003.
- (281) R Valderrabano, V., Hintermann B, Nigg BM, Stefanyshyn DJ, Stergiou P: Kinematic Changes after Fusion and Total Replacement of the Ankle, Part 1: Range of Motion. *Foot Ankle Int.* 24(12): 881-887, 2003.
- (282) R Valderrabano, V., Hintermann B, Nigg BM, Stefanyshyn DJ, Stergiou P: Kinematic Changes after Fusion and Total Replacement of the Ankle, Part 2: Movement Transfer. *Foot Ankle Int.* 24(12): 888-896, 2003.
- (283) R Valderrabano, V., Hintermann B, Nigg BM, Stefanyshyn DJ, Stergiou P: Kinematic Changes after Fusion and Total Replacement of the Ankle, Part 3: Talar Movement. *Foot Ankle Int.* 24(12): 897-900, 2003.
- (284) R von Tscherner, V., Goepfert, B., and Nigg, B.M.. Changes in EMG signals for the muscle tibialis anterior while running barefoot or with shoes. *J. Biomechanics* 36: 1169-1176, 2003.
- 2004**
- (285) R Mündermann, A., Nigg, B.M., Humble, N. and Stefanyshyn, D.J. Consistent immediate effects of foot orthoses on comfort and lower extremity kinematics, kinetics and muscle activity. *J. Appl. Biomech.* 20: 71-84, 2004.
- (286) R Boyer, K.A. and Nigg, B.M. Muscle activity in the leg is tuned in response to impact force characteristics. *J. Biomechanics* 37: 1583-1588, 2004.
- (287) C Nigg, B.M. Impact forces and movement control – two new paradigms. Geoffrey Dyson Award, ISBS, 2004.
- (288) R Lun, VMY, Meeuwisse, WH, Stergiou, P, Stefanyshyn, D and, Nigg, BM. The incidence of running injury and its relationship to lower limb alignment in recreational runners. *Br J Sports Med.* Oct 38(5):576-80, 2004.
- (289) N Nigg, B.M. Der MBT Schuh und seine Biomechanische/therapeutische Wirkungsweise (the mBT shoe and its biomechanical/therapeutical effects). *Orthopädie Schuhtechnik*, 12: 29-30, 2004.
- 2005**
- (290) R Nigg, B.M. The MBT shoe and its biomechanical/therapeutic effectiveness. *Orthopädie Schuhtechnik*, Special Edition, 12-13, 2005.
- (291) R Nigg, B.M. Der MBT Schuh und seine biomechanische/therapeutische Wirkungsweise. *Med. Orthop. Technik*, 3: 77-78, 2005.
- (292) R Nurse, M.A., Hulliger, M., Wakeling, J.M., Nigg, B.M. and Stefanyshyn, D.J. Changing the texture of footwear can alter gait patterns. *Journal of Electromyography and Kinesiology.* 15(5): 496-506, 2005.
- (293) C Nigg, B.M., Stefanyshyn, D.J., Cole, G.K. and Boyer, K. Footwear research – past, present and future. In: *Proc. 7th Symposium on Footwear Biomechanics* (eds. J. Hamill, E. Hardin and K. Williams), Cleveland, Ohio, pp 14-17, 2005.

2006

- (294) R Nigg, B.M., Hintzen, S. and Ferber, R. Effect of an unstable shoe construction on lower extremity gait characteristics. *Cl. Biomechanics*, 21:82-88, 2006.
- (295) C Nigg, B.M. New ideas and concepts in sport shoe development. In: Proc. 24th Int. Symposium on Biomechanics in Sports (eds. Schwameder H., Sturtzenberger, G., Fastenbauer, V., Lindinger S. and Müller E.), Salzburg, Austria, pp 33-38, 2006.
- (296) P Nigg, B.M. Neue Ideen und Konzepte in der Sportschuhentwicklung (new ideas and concepts in sport shoe development). In: Füße, die Stützen der Leistung (eds. R. Oegerli and T. Oppliger), Beriteli Hallwag Druck AG, Wabern, Switzerland, pp 60-70, 2006.
- (297) P Nigg, B.M. and Valderrabano, V. Fuss und Sprunggelenk - Belastung und Leistung (foot and ankle joint complex – load and performance). In: Füße, die Stützen der Leistung (eds. R. Oegerli and T. Oppliger), Beriteli Hallwag Druck AG, Wabern, Switzerland, pp 12-19, 2006.
- (298) R Nigg, B.M., Emery, C. and Hiemstra, L.A. Unstable shoe construction and reduction of pain in osteoarthritis patients. *Medicine and Science in Sport and Exercise*. 38:1701-8, 2006.
- (299) R Boyer, K.A. and Nigg, B.M. soft tissue packages within one soft tissue compartment. *J. Biomechanics*, 39:645-651, 2006.
- (300) R Mündermann, A., Wakeling, J.M., Nigg, B.M., Humble, N. and Stefanyshyn, D.J. Foot orthoses affect frequency components of muscle activity in the lower extremity. *Gait & Posture* 23(3): 295-302, 2006.

2007

- (301) R Valderrabano, V., Nigg, B.M., Hintermann, B., Goepfert, B., Dick, V. and von Tschanner, V. Muscular Lower Leg Asymmetry in Middle-Aged People. *Foot & Ankle Int.*, 28(2):242-249, 2007.
- (302) R Valderrabano, V. Nigg, B.M., von Tschanner, V. Frank, C. and Hintermann, B. J. Leonard Goldner Award 2006: Total Ankle Replacement in Ankle Osteoarthritis: An Analysis of Muscle Rehabilitation. *Foot and Ankle International*. *Foot and Ankle Int.*, 28(2):281-291, 2007.
- (303) R Boyer, K.A. and Nigg, B.M. 2006. Muscle tuning during running: Implications of an un-tuned landing. *J. Biomechanical Engineering*, 128, 815-822.
- (304) R Boyer K.A, Nigg B.M. Changes in muscle activity in response to different impact forces affects soft tissue compartment mechanical properties. *J Biomech Eng.*, 129: 594-602, 2007.
- (305) R Boyer KA, Nigg BM. Quantification of the input signal for soft tissue vibration during running. *Journal of Biomechanics* 2007; 40 1877-80.
- (306) P Nigg, B.M. and Boyer, K.A. Acceleration. In: *Biomechanics of the musculo-skeletal system*. Nigg, B.M. and Herzog, W. (eds.). (new chapter) John Wiley & Sons, Sussex, UK: pp 343-361, 2007.
- (307) R Valderrabano, V., Nigg, B.M., von Tschanner, V., Stefanyshyn, D.J., Goepfert, B. and Hintermann, B. Gait analysis in ankle osteoarthritis and total ankle replacement. *Clinical Biomechanics*, 22(8), 894-904, 2007.

2008

- (308) R Cheung JT, Nigg BM, Clinical applications of computational simulation of foot and ankle, *Sport Orthopädie –Sport Traumatologie*, 23: 264-271, 2008.
- (309) R von Tschanner V. and Nigg, B.M. Point Counterpoint “Spectral properties of the surface EMG: Motor unit recruitment strategies and muscle fiber type. *J. of Appl. Physiology*, 105, 1672-1673, 2008.
- (310) R von Tschanner V. and Nigg, B.M. Last Word Point Counterpoint “Spectral properties of the surface EMG: Motor unit recruitment strategies and muscle fiber type. *J. of Appl. Physiology*, 105(5), 1682, 2008.
- (311) R Hume, P.A., Hopkins, W., Rome, K., Maulder, P., Coyle, G., Nigg, B. Effectiveness of foot orthoses for treatment and prevention of lower limb injuries.

- Sports Medicine, 38(9), 759-779, 2008.
- (312) R Federolf, P., Mills, R., and Nigg, B.M. Ice friction of flared ice hockey skate blades. *J. Sports Sciences*, 26(11), 1201-1208, 2008.
- 2009**
- (313) P Federolf, P., von Tscharnner, V., Haeufle, D., Nigg, B.M., Gimpl, M. and Müller, E. Vibration exposure in alpine skiing and consequences for muscle activation levels. In: Müller E., Lindinger, S. and Stöggl T. eds., *Science and Skiing IV*, Meyer and Meyer Sport, Maidenhead (UK), pp 19-25, 2009.
- (314) R Nigg, B.M., Stefanyshyn, D.J., Rozitis, A.I. and Mündermann, A. Resultant knee joint moments for lateral movement tasks on sliding sport surfaces. *J. Sports Sciences*, 27(5), 427-435, 2009.

Dr. Peter Federolf

Books and Book Chapters

- (1) Federolf P., (2005). *Finite Element Simulation of a Carving Snow Ski*. Pro Business, Berlin, Germany. ISBN: 978-3938262870, 126 pages.

International Peer Reviewed Papers

- (1) Federolf P., Mills R., Nigg B. (2008). Ice Friction of Different Ice Hockey Skate Blade Designs. *Journal of Sports Sciences* 26, 11, 1201 – 1208.
- (2) Federolf P., Scheiber P., Rauscher E., Schwameder H., Lüthi A., Rhyner H.-U., Mueller E. (2008). Impact of Skier Actions on the Gliding Times in Alpine Skiing. *Scandinavian Journal of Medicine & Science in Sports* 18, 6, 790-797.
- (3) Federolf P., JeanRichard F., Fauve M., Lüthi A., Rhyner H.-U., Dual J. (2006). Deformation of Snow During a Carved Ski Turn. *Cold Regions Science and Technology* 46, 1, 69-77.

Submitted Manuscripts

- (4) Federolf P., Nigg B., Coza A. (submitted: November 2008). Differences in Skating Performance and Adaptations of Muscle Activation due to a New Ice Hockey Skate Blade Design. *Journal of Sports Science*.

Manuscripts in preparation

- (5) Federolf P., von Tscharnner V., Haeufle D., Nigg B. A new time resolving analysis technique to study vibrations. (technical note) *Journal of Biomechanics*.
- (6) Federolf P., Haeufle D., von Tscharnner V., Nigg B., Gimpl M., Mueller E. Characterization of body vibrations in skiing. *Journal of Sport Sciences*.

Keynotes and Invited Presentations

- (1) Nigg B., Federolf P., Mueller E. (2007). Impact of Vibrations on the Human Body during Skiing. Keynote. 4th International Congress on Science and Skiing, December 14-20, 2007, St. Christoph a. Arlberg, Austria, 22.
- (2) Federolf P., (2006). Ski-snow interaction processes in alpine skiing and their significance for the skier's motion. Invited Presentation. *International Research Seminar*, University of Jyväskylä, Snowpolis Vuokatti, Monday Feb 27th.

Conference Proceedings and Presentations

- (3) Federolf P., Haeufle D., von Tscharnner V., Nigg B., Gimpl M., Mueller E. (2008). Characterization of Vibrations during Skiing using Wavelet Analysis. In *Science and Skiing*

- IV, Erich Müller, Stefan Lindinger, Thomas Stöggl (eds.), Meyer & Meyer Sport (UK) Ltd., Maidenhead, UK 19-25.
- (4) Federolf P., Haeufle D., von Tscharnner V., Nigg B., Gimpl M., Mueller E. (2007). Characterization of Vibrations during Skiing using Wavelet Analysis. *Book of Abstracts, 4th International Congress on Science and Skiing, December 14-20, 2007, St. Christoph a. Arlberg, Austria, 33.*
 - (5) Federolf P., Mills R., Nigg B. (2007). Agility characteristics of ice hockey players depend on the skate blade design. In: *Program and Abstracts of the XXI Congress, International Society of Biomechanics Taipei, Taiwan 1.-5. July 2007* (eds.: Rik Huiskes and Farshid Guilak). *Journal of Biomechanics* 40, Supp. 2, S235.
 - (6) Federolf P., Coza A., Mills R., Nigg B. (2007). Biomechanical assessment of a new ice hockey skate blade design. In *Proceedings of the 8th Footwear Biomechanics Symposium, 27.-29. June 2007, Taipei, Taiwan* (eds.: E.C. Frederick and S.W. Yang), 85-86.
 - (7) Federolf, P., Rauscher E., Scheiber P., Schwameder H. (2006) Does a skier's position on the ski affect the results of gliding tests used to assess ski-snow friction? *Proceedings of the ISBS 2006, 554-557.*
 - (8) Lüthi, A., Federolf, P., Fauve, M., Rhyner, H.U. (2006) Effect of Bindings and Plates on Ski Mechanical Properties and Carving Performance. In: *The Engineering of Sport 6, Volume 1: Developments for Sports*, Eckehard Fozzy Moritz, Steve Haake (eds.), Springer Science+Buisness Media LLC, New York, USA. 299-304.
 - (9) Federolf, P., Auer, M., Fauve, M., Lüthi, A., Rhyner, H.U. (2006) Subjective Evaluation of the Performance of Alpine Skis and Correlations with Mechanical Ski Properties. In: *The Engineering of Sport 6, Volume 1: Developments for Sports*, Eckehard Fozzy Moritz, Steve Haake (eds.), Springer Science+Buisness Media LLC, New York, USA. 287-292.
 - (10) Federolf P., Lüthi A., Rhyner H.-U., Dual J. (2004). Finite Element Simulation of Carving Skis and Their Interaction with Snow. *Proceedings of the First International Working Conference IT and Sport & 5th Conference dvs-Section Computer Science in Sport.* 51-55.
 - (11) Federolf P., Fauve M., Szabó D., Lüthi A., Rhyner H.-U., Schneebeili M., Ammann W., Dual J. (2004). Mechanical Properties of Snow During Rapid Impact. *Snow Engineering* V, 209-214.
 - (12) Federolf P., Lüthi A., Fauve M., Rhyner H.-U., Ammann W., Dual J. (2004). Determination of Turning Parameters in Carved Skiing and Application to a Numerical Ski-Binding Model. *Proceedings of the 22nd International Symposium of Biomechanics in Sports.* 301-304.
 - (13) Federolf P., Fauve M., Lüthi A., Rhyner H.-U., Ammann W., Dual J., (2004). Finite Element Simulation of a Carving Alpine Ski. *3rd International Congress on Science and Skiing*, (abstract book), 11-12.
 - (14) Lüthi A., Federolf P., Fauve M., Oberhofer K., Rhyner H.-U., Ammann W., Stricker G., Schiefermüller C., Eitzlmair E., Schwameder H., Müller E. (2004). Determination of Forces in Carving using three independent methods. *Proceedings of the 3rd International Congress on Science and Skiing.*

Dr. Lisa Stirling (nee Guevremont)

Peer Reviewed Journal Articles

- (1) Vogelstein J.R., Francesco Tenore F., **Guevremont L.**, Vivian K. Mushahwar V.K., Etienne-Cummings R., A Silicon Central Pattern Generator Controls Locomotion in vivo, *IEEE Transactions on Biomedical Circuits and Systems*, 2008 – in press
- (2) †Lau B., †**Guevremont L.**, Mushahwar V.K., Strategies for Generating Prolonged Functional Standing Using Intramuscular Stimulation or Intraspinal Microstimulation, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2007 Jun;15(2):273-85
- (3) **Guevremont L.**, Norton J., Mushahwar V.K., A Physiologically-based Controller for Generating Overground Locomotion using Functional Electrical Stimulation, *Journal of Neurophysiology*, 2007 Mar; 97(3): 2499-510

- (4) **Guevremont L.**, Renzi C.G., Norton J.A., Kowalczewski J., Saigal R., Mushahwar V.K., Locomotor-Related Networks in the Lumbosacral Enlargement of the Adult Spinal Cat: Activation through Intraspinal Microstimulation, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2006, Sept; 14(3): 266-272
- (5) Gaunt R.A., Prochazka A., Mushahwar V.K., **Guevremont L.**, Ellaway P.H., Intraspinal microstimulation elicits multisegmental sensory afferents at lower stimulus levels than local α -motoneuron responses, *Journal of Neurophysiology*. 2006, Dec; 96(6): 2995-3005
- (6) Mushahwar V.K., **Guevremont L.**, Saigal R., Could Cortical Signals Control Intraspinal Stimulators? *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2006, June; 14(2): 198-201

† co-first authors

Peer Reviewed Abstracts (* poster presentation, ** platform presentation)

- (1) **Stirling L.M.**, Nigg B.M., von Tscharner V., (2009) Index to quantify the development of fatigue during prolonged running, XXII Congress of the International Society of Biomechanics, Cape Town, South Africa
- (2) **Stirling L.M.**, Kugler P., von Tscharner V., (2009) Support vector machine classification of muscle intensity patterns during prolonged running, XXII Congress of the International Society of Biomechanics, Cape Town, South Africa
- (3) Davis, E., Nigg B.M., Federolf P., **Stirling L.M.**, (2009) variability in motion analysis due to experimenter experience and protocol, XXII Congress of the International Society of Biomechanics, Cape Town, South Africa
- (4) **Stirling L.M.**, von Tscharner V., Kim S.H., Nigg B.M., (2008) Biomechanical changes during prolonged running, North American Congress on Biomechanics, Ann Arbor, Michigan
- (5) ** **Guevremont L.**, Norton J.A., Mushahwar V.K., (2006) Open- and closed-loop control strategies for restoring overground locomotion using FES, International FES Society Meeting, Japan
- (6) Lau B., **Guevremont L.**, Mushahwar V.K., (2006) Control strategies for restoring staning using intramuscular and intraspinal stimulation, International FES Society Meeting, Japan
- (7) Vogelstein J.R., **Guevremont L.**, Francesco Tenore F., Vivian K. Mushahwar V.K., Etienne-Cummings R., (2006) A Silicon Central Pattern Generator Controls Locomotion in vivo, NIH NINDS Neural Interfaces Workshop, Bethesda Maryland
- (8) **Guevremont L.**, Norton J., Lau, B., Mushahwar V.K., (2005) An Open- and Closed-Loop Control System for Generating Overgorund Locomotion Using Functional Electrical Stimulation, NIH NINDS Neural Interfaces Workshop, Bethesda Maryland
- (9) ** **Guevremont L.**, Norton J.A., Lau B., Mushahwar V.K., (2005) Generating Overground Locomotion Using a Simple Closed-Loop Controller, 6th Annual Alberta Biomedical Engineering Conference, Banff
- (10) ** **Guevremont L.**, Norton J.A., Mushahwar V.K., (2004) Development of a Control System for Generating Overground Locomtoin using Intraspinal Microstimulation, 5th Annual Alberta Biomedical Engineering Conference, Banff
- (11) ** **Guevremont L.**, Norton J.A., Mushahwar V.K., (2004) Intraspinal Microstimulation Electrodes remain Stable and can generate Functional Locomotor Patterns in Chronically Implanted and Spinalised Cats, Canadian Physiological Society Meeting, Vernon
- (12) **Guevremont L.**, Norton J., Saigal R., Mushahwar V.K., (2003) A Chronic Study of Intraspinal Microstimulation in Spinalised Cats, 34th Neural Prosthesis Workshop, Washington DC
- (13) Mushahwar V.K., Prochazka A., Ellaway P.H., **Guevremont L.**, Gaunt, R.A., (2003) Microstimulation in CNS excites axons well before neuronal cell bodies. *Society for Neuroscience Abstracts*, 33: 276.6

- (14) **Guevremont L.**, Renzi C.G., Kowalczewski J., Mushahwar V.K., (2003) Tonic Intraspinal Microstimulation Induces Functional Walking Patterns in Cats. Society for Neuroscience Abstracts, 33: 276.5
- (15) **Guevremont L.**, Renzi C.G., Kowalczewski J., Mushahwar V.K., (2003) Tonic Intraspinal Microstimulation of the Lumbosacral Enlargement Can Generate Rhythmic Walking Patterns in Cats. IBRO Congress, Prague, 2003.
- (16) Mushahwar V.K., **Guevremont L.**, Renzi C.G., Kowalczewski J., (2002) Distribution of locomotor networks in the lumbar enlargement of the adult spinal cat. Neural Control of Movement Society Conference, Santa Barbara

Other Contributions

Conferences

- (1) ** **Guevremont L.**, Norton J.A., Lau B., Mushahwar V.K., (2005) One Small Step for a Cat, Alberta Motor Control Meeting, Kananaskis
- (2) ** **Guevremont L.**, Gupta N., Norton J.A., Mushahwar V.K., (2004) Intraspinal Microstimulation: A Novel Technique for Restoring Standing and Stepping After Spinal Cord Injury. Glenrose Hospital Research Days Conference
- (3) ** **Guevremont L.**, Mushahwar V.K., (2004) Is there Hope for Superman? The Faculty of Graduate Studies and Research and the Graduate Students' Association Open House Forum: Vision without Borders

Industry Reports

- (4) Adidas, progress report, Indicators of fatigue during prolonged running, July 2008

Book Chapters

- (5) **Guevremont L.**, and Mushahwar V.K., Tapping into the Spinal Cord for Restoring Function after Spinal Cord Injury, Neural Engineering, DiLorenzo, DJ and JD Bronzino (editors), CRC Press / Taylor and Francis, November 2007