

Jüri Engelbrecht

Date of birth (dd/mm/yyyy) 01/08/1939

Phone 6204160, 50 58 177

E-mail je@ioc.ee

Additional information

Career

Institution and position held	2008 - ... Tallinn University of Technology , Institute of Cybernetics at TUT; Lead Researcher (1.00) 2004 - ... Estonian Academy of Sciences, Vice-President 1994 - ... Tallinn University of Technology , Institute of Cybernetics at TUT; Head of the Department (0.00) 1992 - ... Tallinn Technical University, Professor, 1984 - ... Tallinn University of Technology , Faculty of Civil Engineering, Department of Mechanics, Chair of Applied Mechanics; Professor (0.25) 2005 - 2008 Tallinn University of Technology , Institute of Cybernetics at TUT; Extraordinary Lead Researcher (1.00) 1994 - 2004 Estonian Academy of Sciences, President 1994 - 1994 Sidney Sussex College Cambridge, Fellow, 1989 - 1994 Institute of Cybernetics of Estonian Academy of Sciences, Deputy Director 1986 - 1989 Institute of Cybernetics of Estonian Academy of Sciences, head of department 1969 - 1986 Institute of Cybernetics of Estonian Academy of Sciences, senior researcher 1968 - 1969 Tallinn University of Technology ; Senior Teacher (1.00) 1967 - 1968 Tallinn University of Technology ; Assistant (1.00) 1965 - 1967 Tallinn University of Technology ; Post-graduate scholarship (1.00) 1963 - 1965 Tallinn University of Technology ; Other staff (1.00)
Education	1965 - 1967 Tallinn Technical University, Post-graduate scholarship 1957 - 1962 Tallinn Technical University, Diploma in Engineering
Administrative responsibilities	2001 - ... Euromech – convener of the Advisory Board 1995 - ... ICSU – General Assembly, member 1999 - 2001 ISIMM – Council, member 1997 - 2002 Science Competence Council at Ministry of Education, chairman 1996 - 2008 IUTAM – member of the General Assembly, Congress Committee and the Bureau, since 2004 Treasurer 1995 - 2000 Euromech – member of the Council 1994 - 2004 Estonian Academy of Sciences, president 1994 - 2004 Estonian Science and Development Council, member 1991 - 2008 Estonian National Committee for Mechanics, chairman 1986 - 1991 Euromech – member of the Council

Research activity

Degree information	Jüri Engelbrecht , Doctor's Degree, 1981, Mittelineaarsed deformatsioonilained (Nonlinear deformation waves), Ukraina TA Mehaanikainstituut
Honours & Awards	2010, Jüri Engelbrecht; Lisbon Academy of Sciences -fellow 2010, Jüri Engelbrecht; World Academy of Arts and Sciences WAAS - fellow 2008, Yearly Award, Biosciences and Environment - Enn Seppet, Jüri Engelbrecht, Marko Vendelin, Valdur Saks; 2008, Yearly Award, Biosciences and Environment; National Science Award

	2008, Jüri Engelbrecht; Medal, Finnish Academy of Sciences
	2008, Jüri Engelbrecht; Commandeur de l'ordre de Leopold II, Belgium
	2007, Jüri Engelbrecht; Bulgarian Academy of Sciences, foreign member
	2007, Jüri Engelbrecht; Order of the National Coat of the Arms, 3rd Class
	2005, Jüri Engelbrecht; Order of Merit of Republic of Poland
	2005, Jüri Engelbrecht; Nikolai Alumäe Medal in informatics and engineering of Estonian Academy of Sciences
	2005, Jüri Engelbrecht; Marin Drinov Medal of the Bulgarian Academy of Sciences
	2004, Jüri Engelbrecht; Medal of Merit of the Estonian Ministry of Education and Science no 1
	2004, Jüri Engelbrecht; Academia Europea, fellow
	2003, Jüri Engelbrecht; Les Palmes Academiques, France
	2003, Jüri Engelbrecht; Estonian Naturalists' Society, honorary member
	2002, Jüri Engelbrecht; Great Medal "Mente et manu", Tallinn University of Technology
	2001, Jüri Engelbrecht; World Innovation Foundation, fellow
	2001, Jüri Engelbrecht; Lion Order Commander Grand Cross, Finland
	2000, Jüri Engelbrecht; Estonian Scientific Society in Sweden, honorary member
	2000, Jüri Engelbrecht; Medal of the Baltic Academies of Sciences
	1999, Jüri Engelbrecht; Medal of the Estonian Academy of Sciences
	1999, Jüri Engelbrecht; Order of the National Coat of the Arms 4th Class
	1999, Jüri Engelbrecht; Doctor honoris causa , Budapest Technical University
	1999, Jüri Engelbrecht; Small Medal "Mente et manu", Tallinn University of Technology
	1998, Jüri Engelbrecht; Hungarian Academy of Sciences, honourable member
	1998, Jüri Engelbrecht; Gothenburg Royal Society of Sciences and Arts, foreign member
	1996, Jüri Engelbrecht; Academia Scientiarum et Artium Europaea, active member
	1996, Jüri Engelbrecht; New York Academy of Sciences
	1996, Jüri Engelbrecht; Latvian Academy of Sciences, foreign member
	1995, Jüri Engelbrecht; White Rose Comm. Finland
	1992, Jüri Engelbrecht; Estonian Science Prize
	1992, Yearly Award, Natural Sciences and Engineering - Jüri Engelbrecht; National Science Prize
	1987, Jüri Engelbrecht; Accademia Peloritana dei Pericolanti, foreign member
Field of research	4. Natural Sciences and Engineering, 4.10. Physics and Technical Physics
Current grants & projects	Nonlinear dynamics and complex systems Centre for Nonlinear Studies MULTISCALE SIMULATION OF HIGH STRAIN RATE DYNAMICS IN MICROSTRUCTURED MATERIALS
Dissertations under supervision	Ivan Sertakov , Doctor's Degree, (sup) Jaan Janno, Jüri Engelbrecht , Direct and inverse problems for models of microstructure of Mindlin type, Tallinn University of Technology , Institute of Cybernetics at TUT
Dissertations supervised	Merle Randrüüt , Doctor's Degree, 2010, (sup) Andrus Salupere, Jüri Engelbrecht , Wave Propagation in Microstructured Solids: Solitary and Periodic Waves, Tallinn University of Technology , Institute of Cybernetics at TUT Mihhail Berezovski , Doctor's Degree, 2010, (sup) Jüri Engelbrecht , Numerical Simulation of Wave Propagation in Heterogeneous and Microstructured Materials, Tallinn University of Technology , Institute of Cybernetics at TUT Marko Vendelin , Doctor's Degree, 2001, (sup) Jüri Engelbrecht , Südamelihase mehanoenergeetika modelleerimine (Cardiac mechanoenergetics in silico), Tallinn University of Technology

Pearu Peterson, Doctor's Degree, 2001, (sup) **Jüri Engelbrecht**, Embrecht van Groesen, Mitmiksolitonide vastastikmõjud ja laineharjade pöördülesanne (Multi-soliton interactions and the inverse problem of wave crests), **Tallinn University of Technology**

Olav Kongas, Doctor's Degree, 1998, (sup) **Jüri Engelbrecht**, Nonlinear dynamics in modelling cardiac arrhythmias, **Tallinn University of Technology**

Urmas Valdek, Doctor's Degree, 1989, (sup) **Jüri Engelbrecht**, Mittelineaarse tasapolariseeritud põiklainete evolutsioon elastses poolruumis (Evolution of nonlinear polarized shear waves in elastic halfspace), Eesti TA Küberneetika Instituut

Tõnu Peipman, Doctor's Degree, 1984, (sup) **Jüri Engelbrecht**, Mittelineaarsed lained dispersiooniga keskkonnas (Nonlinear waves in dispersive media), **Tallinn University of Technology**

Andres Ellamaa, Doctor's Degree, 1973, (sup) **Jüri Engelbrecht**, Ühe- ja kahemõõtmeline ehhoentsefalograafia peajaju haiguste diagnoosimisel (One- and two-dimensional echoencephalography for diagnostics of brain diseases), **University of Tartu**

Merle Randrüüt, Master's Degree, 2006, (sup) **Jüri Engelbrecht**, Lainelevi modelleerimine mikrostruktuuriga materjalides (Modelling of deformation waves in microstructured solids), **Tallinn University of Technology , Faculty of Science**

Mihhail Berezovski, Master's Degree, 2006, (sup) **Jüri Engelbrecht**, Numerical simulation of elastic wave propagation in layered nonlinear media (Numerical simulation of elastic wave propagation in layered nonlinear media), **Tallinn University of Technology**

Tanel Peets, Master's Degree, 2006, (sup) **Jüri Engelbrecht**, Dispersioon mikrostruktuursetes materjalides (Dispersion in microstructured materials), **Tallinn University of Technology , Institute of Cybernetics at TUT**

Marko Vendelin, Master's Degree, 1997, (sup) **Jüri Engelbrecht**, Modelling of electrical activation of the myocardium, **Tallinn University of Technology**

Pearu Peterson, Master's Degree, 1997, (sup) **Jüri Engelbrecht**, Lainelevi dispersiooniga mittekonservatiivses keskkonnas (Travelling waves in nonconservative media with dispersion), **Tallinn University of Technology**

Olav Kongas, Master's Degree, 1993, (sup) **Jüri Engelbrecht**, Nonlinear oscillations in modelling of heart dynamics, **Tallinn University of Technology**

Mati Feldmann, Master's Degree, 1992, (sup) **Jüri Engelbrecht**, An analytical model for a nearfield of an ultrasonic transducer using evolution equations, **Tallinn University of Technology**

Tarvo Sillat, Master's Degree, 1999, (sup) **Jüri Engelbrecht**, Lainelevi dissipatiivsetes mikrostruktuuriga keskkonnades (Wave propagation in dissipative microstructured media), **Tallinn University of Technology**

Additional information

Phd, DSc

1962 - Diploma in Engineering Tallinn Technical University

1968 - Cand Sc (PhD) in Mechanics, Tallinn Technical University

1981 - DSc, Math. Phys. in Continuum Mechanics, Ukrainian Academy of Sciences, Kiev

1999 - Dr. h. c. from Budapest Technical University

Publications

[Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard A. \(2011\). Thermoelasticity with dual internal variables. Journal of Thermal Stresses, 34\(5-6\), 413 - 430.](#)

[Engelbrecht, Jüri; Salupere, Andrus; Tamm, Kert \(2011\). Waves in microstructured solids and the Boussinesq paradigm. Wave Motion, 48\(8\), 717 - 726.](#)

[Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard A. \(2011\). Generalized thermomechanics with dual internal variables. Archive of Applied Mechanics, 81\(2\), 229 - 240.](#)

Berezovski, Arkadi; Engelbrecht, Jüri; Berezovski, Mihhail (2011). Waves in microstructured solids: a unified viewpoint of modeling. *ACTA Mechanica*, 220(1-4), 349 - 363.

Janno, Jaan; Engelbrecht, Jüri (2011). *Microstructured Materials: Inverse Problems*. Berlin: Springer

Berezovski, Arkadi; Engelbrecht, Jüri; Berezovski, Mihhail (2011). Dispersive wave equations for solids with microstructure. In: *Vibration Problems ICOVP 2011 : The 10th International Conference on Vibration Problems: (Eds.)Náprstek, Jiří; Horáček, Jaromír; Okrouhlík, Miloslav [et al]*. Dordrecht: Springer, 2011, (Springer Proceedings in Physics; 139), 699 - 705.

Berezovski, M.; Berezovski, A.; Engelbrecht, J. (2011). Wave propagation in heterogeneous materials with secondary substructure. In: *Advances in Heterogeneous Material Mechanics (2011) : Proceedings of the Third International Conference, May 22-26, 2011, Shanghai, China: (Eds.)Fan, Jinghong et al.*. Lancaster: DEStech Publications, Inc., 2011, 531 - 534.

Janno, Jaan; Engelbrecht, Jüri (2011). Inverse problems for microstructured materials. In: *ECCOMAS Thematic Conference on Inverse Problems in Mechanics of Structures and Materials, IPM 2011 : Conference Proceedings, 27-30 April 2011, Rzeszów-Sieniawa, Poland: (Eds.)Waszczyszyn, Zenon; Ziemiański, Leonard*. Rzeszów: Rzeszów University of Technology Publishing House, 2011, 43 - 44.

Engelbrecht, Jüri (2011). Solitoni mitu nägu. Mägi,Vahur (Eds.). Tallinna Tehnikaülikooli aastaraamat 2010. XVIII (125 - 129). Tallinn: TTÜ kirjastus

Engelbrecht, Jüri (2010). Nonlinear wave motion and complexity. *Proceedings of the Estonian Academy of Sciences*, 59(2), 66 - 71.

Berezovski, Mihhail; Berezovski, Arkadi; Engelbrecht, Jüri (2010). Waves in materials with microstructure: numerical simulation. *Proceedings of the Estonian Academy of Sciences*, 59(2), 99 - 107.

Herrmann, Heiko; Engelbrecht, Jüri (2010). The balance of spin from the point of view of mesoscopic continuum physics for liquid crystals. *Journal of Non-Equilibrium Thermodynamics*, 35(3), 337 - 346.

Engelbrecht, Jüri; Ravasoo, Arvi; Janno, Jaan (2010). Nonlinear acoustic nondestructive evaluation (NDE): qualitative and quantitative effects. *Materials and Manufacturing Processes*, 25(4), 212 - 220.

Berezovski, Arkadi; Engelbrecht, Jüri; Peets, Tanel (2010). Multiscale modeling of microstructured solids. *Mechanics Research Communications*, 37(6), 531 - 534.

Engelbrecht, Jüri; Berezovski, Arkadi; Soomere, Tarmo (2010). Highlights in the research into complexity of nonlinear waves. *Proceedings of the Estonian Academy of Sciences*, 59(2), 61 - 65.

Berezovski, M.; Berezovski, A.; Engelbrecht, J. (2010). Numerical simulations of one-dimensional microstructure dynamics. In: *Proceedings of the 2nd International Symposium on Computational Mechanics and the 12th International Conference on the Enhancement and Promotion of Computational Methods in Engineering and Science, Hong Kong - Macau, China, 30 November - 3 December 2009: (Eds.)Lu, Jane W.Z.; Leung, Andrew Y.T.; Iu, Vai Pan; Mok, Kai Meng*. Melville, NY: American Institute of Physics, 2010, (AIP Conference Proceedings; 1233), 1052 - 1057.

Engelbrecht, Jüri; Berezovski, Arkadi; Berezovski, Mihhail (2010). Deformation wave in microstructured materials: theory and numerics. In: *IUTAM Symposium on Recent Advances of Acoustic Waves in Solids : Proceedings of the IUTAM Symposium on Recent Advances of Acoustic Waves in Solids, Taipei, Taiwan, May 25-28, 2009: (Eds.)Wu, Tsung-Tsong; Ma, Chien-Ching*. Berlin: Springer, 2010, (IUTAM Bookseries; 26), 19 - 29.

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(2010). Teadusmõte Küberneetika Instituudis. [Tallinn]: Tallinna Tehnikaülikool

Randrüüt, Merle; Salupere, Andrus; Engelbrecht, Jüri (2009). On modelling wave motion in microstructured solids. *Proceedings of the Estonian Academy of Sciences*, 58(4), 241 - 246.

Janno, J.; Engelbrecht, J. (2009). Identification of microstructured materials by phase and group velocities. *Mathematical Modelling and Analysis*, 14(1), 57 - 68.

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Torino), 67(3), 293 - 325.

Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard A. (2009). Internal variables and generalized continuum theories. In: IUTAM Symposium on Progress in the Theory and Numerics of Configurational Mechanics : Proceedings of the IUTAM Symposium held in Erlangen, Germany, 20-24 October 2008: (Eds.)Steinmann, P.. Dordrecht: Springer, 2009, (IUTAM Bookseries; 17), 149 - 158.

Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard A. (2009). Internal variables and scale separation in dynamics of microstructured solids. In: IUTAM Symposium on Scaling in Solid Mechanics : Proceedings of the IUTAM Symposium held in Cardiff, UK, 25-29 June, 2007: (Eds.)Borodich, F.M.. Springer, 2009, (IUTAM Bookseries), 69 - 80.

Engelbrecht, Jüri; Winther, Ragnar; Quak, Ewald (2009). CENS, CMA and the CENS-CMA project. Quak, Ewald; Soomere, Tarmo (Eds.). Applied Wave Mathematics : Selected Topics in Solids, Fluids, and Mathematical Methods (1 - 6). Heidelberg: Springer

Engelbrecht, Jüri (2009). Deformation waves in solids. Quak, Ewald; Soomere, Tarmo (Eds.). Applied Wave Mathematics : Selected Topics in Solids, Fluids, and Mathematical Methods (13 - 30). Heidelberg: Springer

Berezovski, Arkadi; Berezovski, Mihhail; Engelbrecht, Jüri (2009). Waves in inhomogeneous solids. Quak, Ewald; Soomere, Tarmo (Eds.). Applied Wave Mathematics : Selected Topics in Solids, Fluids, and Mathematical Methods (55 - 81). Heidelberg: Springer

Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard A. (2009). One-dimensional microstructure dynamics. Ganghoffer, J.-F.; Pastrone, F. (Eds.). Mechanics of Microstructured solids : Cellular Materials, Fibre Reinforced Solids and Soft Tissues (21 - 28). Berlin: Springer

Berezovski, Mihhail; Berezovski, Arkadi; Engelbrecht, Jüri (2009). Waves in materials with microstructure: numerical simulation. In: International Conference on Complexity of Nonlinear Waves : Book of Abstracts, October 5-7, 2009, Tallinn, Estonia: (Eds.)Berezovski, Arkadi; Soomere, Tarmo. Tallinn: Tallinn University of Technology, 2009, 9.

Engelbrecht, Jüri (2009). Nonlinear waves: examples of complexity. In: International Conference on Complexity of Nonlinear Waves : Book of Abstracts, October 5-7, 2009, Tallinn, Estonia: (Eds.)Berezovski, Arkadi; Soomere, Tarmo. Tallinn: Tallinn University of Technology, 2009, 15.

Engelbrecht, Jüri; Ravasoo, Arvi (2009). Nondestructive characterization of functionally graded materials. In: ESMC2009. Proceedings of the 7th EUROMECH Solid Mechanics Conference. Book of Abstracts: Mini-Symposia: (Eds.)Ambrósio, Jorge A.C.; Silva, Miguel P.T.. Lisbon: Portuguese Association for Theoretical, Applied and Computational Mechanics, 2009, 605 - 606.

Engelbrecht, Jüri; Berezovski, Arkadi; Berezovski, Mihhail (2009). Deformation waves in microstructured materials: theory and numerics. In: IUTAM Symposium on Recent Advances of Acoustic Waves in Solids : May 25-28, 2009, Institute of Applied Mechanics, National Taiwan University, Taipei, Taiwan., 2009, 21 - 22.

Saks, Valdur; Engelbrecht, Jüri; Seppet, Enn; Vendelin, Marko (2009). Molekulaarne süsteemne bioenergeetika : kommentaar Eesti Vabariigi teaduse aastapreemia pälvinud tööde tsüklile. Mägi, Vahur (Eds.). Tallinna Tehnikaülikooli aastaraamat 2008. XVI (291 - 298). Tallinn: TTÜ kirjastus

Ván, Peter; Berezovski, Arkadi; Engelbrecht, Jüri (2008). Internal variables and dynamic degrees of freedom. Journal of Non-Equilibrium Thermodynamics, 33(3), 235 - 254.

Janno, J.; Engelbrecht, J. (2008). Inverse problems related to a coupled system of microstructure. Inverse Problems, 24(4), 1 - 15.

Peets, T.; Randrüüt, M.; Engelbrecht, J. (2008). On modelling dispersion in microstructured solids. Wave Motion, 45(4), 471 - 480.

Salupere, A.; Tamm, K.; Engelbrecht, J. (2008). Numerical simulation of interaction of solitary deformation waves in microstructured solids. International Journal of Non-Linear Mechanics, 43(3), 201 - 208.

Soomere, T.; Engelbrecht, J. (2008). Comment on setup of turbulence mechanics accounting for a preferred orientation of eddy rotation. Concepts of Physics, 5(2), 223 - 225.

Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard (2008). Numerical simulation of waves and fronts in inhomogeneous solids. World Scientific

Engelbrecht, J.; Berezovski, A.; Salupere, A. (2008). Solitary waves in dispersive materials. *In: Proceedings WASCOM 2007 : 14th Conference on Waves and Stability in Continuous Media, Baia Samuele, Sicily, Italy 30 June - 7 July 2007: (Eds.)Manganaro, Natale; Monaco, Roberto; Rionero, Salvatore*. New Jersey: World Scientific, 2008, 239 - 246.

Engelbrecht, J.; Ravasoo, A.; Janno, J. (2008). Nonlinear acoustic NDE - qualitative and quantitative effects. *In: Multifunctional Materials and Structures : Selected, peer reviewed papers from International Conference on Multifunctional Materials and Structures, July 28-31, 2008, Hong Kong, P.R.China: (Eds.)Lau, A. K.T.; Lu, J.; Varadan, V. K.; Chang, F.K.; Tu, J.P.; Lam, P.M.*. Stafa-Zurich: Trans Tech Publications Ltd, 2008, (Advanced Materials Research ; 47-50), 17 - 20.

Engelbrecht, Jüri; Herrmann, Heiko; Ván, Péter (2008). Preface. *Proceedings of the Estonian Academy of Sciences*, 57, 117

Engelbrecht, J.; Ravasoo, A.; Janno, J. (2008). Nonlinear acoustic NDE - qualitative and quantitative effects. *In: International Conference on Multi-functional Materials and Structures (MFMS 2008): Hong Kong SAR China, 28 July - 31 July 2008.; 2008.*

Engelbrecht, Jüri; Randrüüt, Merle; Salupere, Andrus (2008). On modelling wave motion in microstructured solids. *In: 11th EUROMECH-MECAMAT conference, Mechanics of microstructured solids: cellular materials, fibre reinforced solids and soft tissues: Book of Abstracts, March 10-14, 2008, Torino, Italy: (Eds.)Ganghoffer, Jean-Francois; Pastrone, Franco*. Turin: University of Turin, 2008, 30 - 31.

Berezovski, A.; Engelbrecht, J.; Maugin, G.A. (2008). Internal variables and microstructured materials. *In: ICTAM 2008 CD-ROM Proceeding: ICTAM 2008, Adelaide, Australia, 25-29 August 2008. , 2008, 11079.*

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Engelbrecht, Jüri (2008). Üloha ALLEA ve sjednocování Evropských akademií. *Akademický bulletin AV ČR*, 5, 14 - 15.

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Engelbrecht, Jüri (2008). Challenges of the future: reflections of ALLEA on ERA. *ALLEA Annual Report 2007 (9 - 22)*. Amsterdam: ALLEA

Engelbrecht, Jüri; Schroots, Johannes J.F. (2008). Preface. Engelbrecht, Jüri; Schroots, Johannes J.F. (Eds.). *ALLEA Annual Report 2007 (5)*. Amsterdam: ALLEA

[Saks, Valdur; Engelbrecht, Jüri; Seppet, Enn; Vendelin, Marko] (2008). Teaduspreemia geo-ja bioteaduste alal tööde tsükli "Molekulaarne süsteemne bioenergeetika" eest. *Villems, Richard (Eds.). Eesti Vabariigi teaduspreemiad 2008 (110 - 123)*. Tallinn: Eesti Teaduste Akadeemia

Engelbrecht, Jüri (2008). Akadeemiad ajas ja ruumis. *Akadeemia*, 20(10), 2116 - 2130, 2324-2326.

Berezovski, Arkadi; Engelbrecht, Jüri; Maugin, Gérard A. (2007). Front dynamics in inhomogeneous solids. *Proceedings of the Estonian Academy of Sciences. Physics. Mathematics*, 56(2), 155 - 161.

Salupere, A.; Tamm, K.; Engelbrecht, J.; Peterson, P. (2007). On the interaction of deformation waves in microstructured solids. *Proceedings of the Estonian Academy of Sciences. Physics. Mathematics*, 56(2), 93 - 99.

Engelbrecht, J.; Berezovski, A.; Salupere, A. (2007). Nonlinear deformation waves in solids and dispersion. *Wave Motion*, 44(6), 493 - 500.

Engelbrecht, J.; Janno, J. (2007). Microstructured solids and inverse problems. *Rendiconti del Seminario Matematico (Università e Politecnico di Torino)*, 65(2), 159 - 169.

Vendelin, Marko; Saks, Valdur; Engelbrecht, Jüri (2007). Principles of mathematical modeling and in silico studies of integrated cellular energetics. *Saks, Valdur (Eds.). Molecular system bioenergetics: energy for life (407 - 434)*. Weinheim: Wiley-VCH

Engelbrecht, J.; Pastrone, F.; Braun, M.; Berezovski, A. (2007). Hierarchies of waves in nonclassical materials. *Delsanto, P.P. (Eds.). Universality of nonclassical nonlinearity : applications to non-destructive evaluations and ultrasonics (29 - 47)*. New York: Springer

Berezovski, A.; Engelbrecht, J.; Maugin, G.A. (2007). Modeling and numerical simulation of nonclassical effects of waves, including phase transition fronts. Delsanto, P.P. (Eds.). *Universality of nonclassical nonlinearity : applications to non-destructive evaluations and ultrasonics* (203 - 219). New York: Springer

Saks, V.A.; Vendelin, M.; Aliev, M.K.; Kekelidze, T.; Engelbrecht, J. (2007). Mechanisms and modeling of energy transfer between intracellular compartments. Lajtha, A.; Gibson, G. E.; Dienel, G. A. (Eds.). *Handbook of Neurochemistry and Molecular Neurobiology : Brain Energetics. Integration of Molecular and Cellular Processes* (815 - 860). New York: Springer

Berezovski, Arkadi; Berezovski, Mihhail; Engelbrecht, Jüri, Maugin, Gerard A (2007). Numerical simulation of waves and fronts in inhomogeneous solids. W.K.Nowacki and Han Zhao (Eds.). *Multi-Phase and Multi-Component Materials Under Dynamic Loading* (71 - 80). Warsaw: Inst. Fundam. Technol. Research

Engelbrecht, J.; Maugin, G.A. (Guest eds.) (2007). Proceedings of the Estonian Academy of Sciences. Physics. Mathematics. Special issue on non-equilibrium dynamical phenomena in inhomogeneous solids - EUROMECH Colloquium 478. Tallinn: Estonian Academy Publishers

Saks, V.A.; Vendelin, M.; Aliev, M.; Monge, C.; Engelbrecht, J. (2007). Molecular system bioenergetics: Mechanisms and modelling of energy transfer between intracellular compartments. *Journal of Neurochemistry*, 102(Suppl. 1), 16

Salupere, A.; Engelbrecht, J.; Tamm, K. (2007). Numerical simulation of propagation of solitary deformation waves in microstructured solids. *In: USNCCM IX : Ninth US National Congress on Computational Mechanics, San Francisco, CA, July 22--26, 2007, [book of abstracts]: The Ninth U.S. National Congress on Computational Mechanics (USNCCM IX), San Francisco, USA, July 23--26, 2007.* San Francisco, USA: U.S. Association for Computational Mechanics, 2007, 8.

Salupere, A.; Tamm, K.; Engelbrecht, J. (2007). Interaction of solitary deformation waves in microstructured solids. *In: Book of Abstracts, The Fifth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory: The Fifth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, USA, April 16-19, 2007. (Eds.)Taha, T. R. .* Athens, USA: The University of Georgia, 2007, 114.

Engelbrecht, J.; Salupere, A.; Berezovski, A. (2007). Mikrostruktuursed materjalid ja deformatsioonilained. Küttner, Rein (Eds.). *Teadusmõte Eestis (IV) Tehnikateadused (II)* (9 - 15). Tallinn: Eesti Teaduste Akadeemia

Engelbrecht, Jüri (2007). Quo vadis: research in Estonia. Estonia: member state of NATO and the EU: international business handbook 2007-2008 (163 - 170). Tallinn: MTÜ Euroinformer

Engelbrecht, Jüri (2007). From the Editorial Board. *Proceedings of the Estonian Academy of Sciences. Engineering*, 13(4), 488

Berezovski, Arkadi; Berezovski, Mihhail; Engelbrecht, Jüri (2006). Numerical simulation of nonlinear elastic wave propagation in piecewise homogeneous media. *Materials Science and Engineering: A*, 418(1-2), 364 - 369.

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Engelbrecht, J.; Berezovski, A.; Pastrone, F.; Braun, M. (2006). Deformation waves in microstructured solids and dispersion. *In: Proceedings of WASCUM 2005: (Eds.)R.Monaco.* Singapore: World Scientific Publishing Co, 2006, 204 - 209.

Engelbrecht, J.; Vendelin, M. (2006). Mathematical modelling of cardiac mechanoenergetics. *In: Mechanics of biological tissue: (Eds.)Holzapfel, G.A.; Ogden, R.W..* Berlin: Springer, 2006, 369 - 378.

Saks, V.; Guerrero, K.; Vendelin, M.; Engelbrecht, J.; Seppet, E. (2006). The creatine kinase isoenzymes in organized metabolic networks and regulation of cellular respiration: a new role for Maxwell's demon. Vial, C. (Eds.). *Creatine Kinase* (223 - 267). New York: Nova Science Publishers

Janno, Jaan; Engelbrecht, Jüri (2006). Üksiklained mittelineaarses mikrostruktuuriga tahkestes ja nendega seotud pöördülesanne. *In: Eesti Matemaatika Selts.Aastaraamat 2005: (Eds.)Puusemp, P..* Tallinn: Eesti Matemaatika Selts, 2006, 12 - 29.

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