Hüsnü DAL

Contact Information	Middle East Technical University Department of Mechanical Engineering Tel: +90.312.210.7338 Fax: +90.312.210.2536 Email: dal@metu.edu.tr	Date of birth 15.07.1979

Education

- **Ph.D.**, Institute of Structural Analysis, (10/2011)
  Dresden University of Technology, Germany

  Thesis: Approaches to the Modeling of Inelasticity and Failure of Rubberlike Materials
  Supervisor: Prof. Dr. M. Kaliske
  Co-supervisor: Prof. Dr. C. Miehe

- **M.Sc.**, Computational Mechanics of Materials and Structures, (07/2005)
  University of Stuttgart, Germany

  Thesis: Approaches to Modeling of Thermoviscoplastic Behavior of Glassy Polymers
  Supervisor: Prof. Dr. C. Miehe, S. Göktepe, M.Sc.

- **B.Sc.**, Civil Engineering, (06/2001)
  Middle East Technical University, Ankara, Turkey
  Specialization: Structural Mechanics

Awards and Honours

- Dresden University of Technology, Ph.D.
  Graduation with distinction: 1.0/1.0 "*summa cum laude*"

- University of Stuttgart, M.Sc.
  Thesis: GPA 1.0/1.0

- Middle East Technical University, B.Sc.
  Graduation with CumGPA 3.74/4.00 : High Honour Student

- University Entrance Exam of Turkey, ÖSS 1997
  Ranked 273 out of ~1.500.000 students

Language skills

Turkish: *native*, English: *fluent*, German: *fluent*

Academic Experience

2001 – present

- Middle East Technical University   (08/2018 – present)
  Associate Professor

- Middle East Technical University   (04/2014–07/2018)
  Assistant Professor

- University of Stuttgart   (02/2012–03/2014)
  Postdoctoral Research Associate at Simtech Excellence Cluster of University of Stuttgart
  Lecturer at Institute for Applied Mechanics, Chair I

- Swiss Federal Institute of Technology Zurich   (08/2011–01/2012)
  Postdoctoral Research Associate

- Dresden University of Technology   (10/2006–07/2011)
  Research Associate

- University of Leipzig   (10/2005–09/2006)
  Research Associate

- University of Stuttgart   (10/2003–08/2005)
  Student and administrative asisstant for international M.Sc. program
  Computational Mechanics of Materials and Structures

	• Middle East Technical University	(11/2001–09/2003)

• Middle East Technical University *(11/2001–09/2003)*
  Research and Teaching Assistant

Administrative Experience

• Middle East Technical University, *Coordinator* (05/2017–present)
  Scientific Research Projects Coordination Unit,

• Middle East Technical University *Commission member* (09/2017–present)
  Scientific Research Projects Commission

Teaching Experience

• Middle East Technical University, *Assistant/Associate Professor* (04/2014–present)
  ME 547 Introduction to Continuum Mechanics, 3 Credits
  MDM 517 Finite Element Analysis in Solids, 3 Credits
  ME 410 Mechanical Engineering Systems Laboratory, 3 Credits
  ME 210 Applied Mathematics for Mechanical Engineers, 3 Credits
  ME 206 Strength of Materials, 3 Credits
  ME 205 Statics, 3 Credits

• University of Stuttgart, *Lecturer* (02/2012 − 03/2014)
  Fall 2012, *Computational Mechanics of Materials*, 6 ECTS points
  Core course for Computational Mechanics of Materials and Structures Master students.
  Spring 2013, *Micromechanics of Materials and Homogenozation Methods*, 6 ECTS points, Elective course for Computational Mechanics of Materials and Structures Master students.
  Fall 2013, *Computational Mechanics of Materials*, 6 ECTS points
  Core course for Computational Mechanics of Materials and Structures Master students.

• Middle East Technical University, *Teaching assistant* (11/2001–09/2003)
  Spring 2003, CE 384: Structural Analysis, 3 Credits
  Core course for junior civil engineering students
  Fall 2002,   CE 483: Advanced Structural Analysis, 3 Credits
  Core course for senior civil engineering students in structural mechanics division
  Spring 2002, CE 102: Introduction for Civil Engineering
  Core course for freshman civil engineering students
  Spring 2002, CE 483: Advanced Structural Analysis, 3 Credits
  Core course for senior civil engineering students in structural mechanics division

Theses Supervised

• M.Sc. Thesis on "*A comparative study of the fitting performance of hyperelastic constitutive models*", by Yashar Badienia

• M.Sc. Thesis on "*Non-linear viscoelasticity for epoxy-based polymers : Theoretical modeling and numerical implementation*", by Ateş Koral

• M.Sc. Thesis on "*Design of an inertia measurement device for stores*", by Berkay Kılıç

• M.Sc. Thesis on "*Dynamic fracture of explosive bolt*", by Batuhan Gökçe

• M.Sc. Thesis on "*Quasi-Incompressible and Quasi-Inextensible element and material formulation for anisotropic medium*", by Burak Rodoplu

• M.Sc. Thesis on "*A multiobjective optimization toolbox development for parameter identification of elastomers*", by Tanyel Tekin

• M.Sc. Thesis on "*Finite strain modeling of coupled thermo-mechanical behavior of polycrystalline Ni-Ti shape memory alloys*", by Vahid Rezazadeh

• M.Sc. Thesis on "*A Cahn-Hilliard type phase field model for intercalation dynamics in rechargeable battery systems*" by Yuan Zhao

• M.Sc. Thesis on "*A phase field model for the failure of artery walls: Application to rupture due to Aneursym*" by Osman Gültekin

- M.Sc. Thesis on "*Intercalation induced stress generation in high performance Li-ion battery systems*", by Abbas Iftikhar

- B.Sc. Thesis on "*Biomechanik des Herzens: Einführung eines orthotropen-viskoelastischen Stoffgesetzes für das Herzgewebe*", by Sabine Kuznik

- M.Sc. Thesis on "*A Multiscale continuum damage model for cavity growth in rubberlike materials*", by Faik Baris Can Cansiz

Funding Acquired

- "*Higher order Constitutive Models for NEMS/MEMS Microstructures*", 3 year TUBITAK 1001 Research Grant, $\approx ₺540,000$

- "*Inelastic Fracture and Cavitation in Rubberlike Materials*", 3 year TUBITAK 3501 Career Award, $\approx ₺330,000$

- "*A Phase-Field Model for Anisotropic Materials*", 2 year research scholarship from TUBITAK BIDEB 2232, $\approx ₺99,000$

- "*Tailored Design of Epoxy/Glass Composites: Micromechanical Modelling and Two-Scale Simulation*", 3 year funding from German National Science Foundation, $\approx €200,000$ written together with Gordon Geissler and Prof. Michael Kaliske

- "*Computational Electromechanics of the Heart: Development of FE-Based Predictive Simulation Tools for Patient Specific Analysis*", 3(+3) year funding from German National Science Foundation, $\approx €210,000$ (x 2, in case of positive evaluation of the first period) written together with Prof. Michael Kaliske

- "*Thermomechanical Models for Amorphous Polymers Accounting for Shear Yielding and Crazing*", 3 year funding from German National Science Foundation, $\approx €230,000$ co-applicant together with Prof. Christian Miehe

Professional Activities

- Organization
  - Reviewer for Parlar Foundation *Resarch Incentive Prize*, 2019
  - Organization of "*1st International Workshop on Plasticity, Damage and Fracture of Engineering Materials*", (IWPDF 2019) August 22–23, 2019 Ankara Turkey, with T. Yalcinkaya, C. Tekoglu, M. Efe and E. Gürses.
  - Organization of symposium "*Phase-Field Models for Cracking in Complex Materials*", 6th European Conference on Computational Mechanics (Solids, Structures and Coupled Problems) (ECCM 6) June 11–15, 2018, with C. Kuhn and M.A. Keip.
  - Organization of symposium "*New Aspects in Polymer Mechanics - Curing, Thermodynamics, Ageing and Durability*", 5th GACM Colloquium on Computational Mechanics, September 30 - October 2, 2013, with M. Johlitz.
  - Organization of Simtech graduate seminar "*Advanced scale bridging techniques towards computational material design*" on June 29 and July 20, 2012 with C. Linder and C. Miehe
  - Member of selection committee for Erasmus Mundus Master in Computational Mechanics Program, Universitat Politéchnica de Catalunya Barcelona Tech

- Affiliations
  - European Mechanics Society (EUROMECH)
  - Gesellschaft für Angewandte Mathematik und Mechanik (GAMM)
  - Chamber of Civil Engineers, Ankara, Turkey

- Reviewer for
  - Journal of the Mechanics and Physics of Solids
  - Mechanics of Materials
  - Computational Mechanics
  - Continuum Mechanics and Thermodynamics
  - International Journal of Nonlinear Mechanics
  - International Journal for Numerical Methods in Biomedical Engineering

- Computer Methods in Biomechanics and Biomedical Engineering
- Tire Science and Technology
- Simulation: Transactions of the Society for Modeling and Simulation International
- Journal of Solid State Electrochemistry

Publications and Presentations

72 publications in total, thereof:

- 24 peer-reviewed journal papers
- 44 peer-reviewed and non-peer reviewed conference papers/abstracts
- 4 technical reports

32 presentations, thereof:

- 25 conference presentations
- 2 keynote conference presentations
- 5 invited talks

Journal Publications International

J24 Gültekin, O. ; Rodoplu B. ; **Dal, H.** [2020]: *A quasi-incompressible and quasi-inextensible finite element analysis of fibrous soft biological tissues* Biomechanics and Modeling in Mechanobiology, accepted.

J23 Denli F.A. ; Gültekin, O. ; Holzapfel, G.A. ; **Dal, H.** [2020]: *A phase-field model for fracture of unidirectional fiber-reinforced polymer matrix composites* Computational Mechanics 65, 1149–1166.

J22 Gültekin, O. ; Hager S. P. ; **Dal, H.**; Holzapfel, G.A. [2019]: *Computational modeling of progressive damage and rupture in fibrous biological tissues: application to aortic dissection* Biomechanics and Modeling in Mechanobiology 18, 1607–1628.

J21 **Dal, H.** [2019]: *A quasi-incompressible and quasi-inextensible element formulation for transversely isotropic materials* International Journal for Numerical Methods in Engineering 117, 118–140.

J20 Gültekin, O. ; **Dal, H.**; Holzapfel, G.A. [2019]: *On the quasi-incompressible finite element analysis of anisotropic hyperelastic materials* Computational Mechanics 63, 443–453.

J19 Kandaz, M. ; **Dal, H.** [2018]: *A comparative study of modified strain gradient theory and modified couple stress theory for gold microbeams* Archive of Applied Mechanics 88, 2051–2070.

J18 **Dal, H.**; Cansiz, B. ; Miehe, C. [2018]: *A three-scale compressible micro-sphere model for hyperelastic materials* International Journal for Numerical Methods in Engineering 116, 412–433.

J17 Nateghi A.; **Dal, H.**; Keip, M.A.; Miehe, C. [2018]: *An affine microsphere approach to modeling strain-induced crystallization in rubbery polymers* Continuum Mechanics and Thermodynamics 30(3), 485–507.

J16 Gültekin, O. ; **Dal, H.**; Holzapfel, G.A. [2018]: *Numerical Aspects of Anisotropic Failure in Soft Biological Tissues Favor Energy-based Criteria: A Rate-dependent Anisotropic Crack Phase-field Model.* Computer Methods in Applied Mechanics and Engineering 331, 23–52.

J15 **Dal, H.**; Zopf, C.; Kaliske, M. [2018]: *Micro-sphere based viscoplastic constitutive model for uncured green rubber* . International Journal of Solids and Structures, 132-133, 201–217.

J14 Cansiz, B. ; **Dal, H.**; Kaliske, M. [2018]: *Computational cardiology: the bidomain based modified Hill model incorporating viscous effects for cardiac defibrillation.* Computational Mechanics 62, 253-271.

J13 Cansiz, B. ; **Dal, H.**; Kaliske, M. [2017]: *Computational cardiology: A modified Hill model to describe the electro-visco-elasticity of the myocardium.* Computer Methods in Applied Mechanics and Engineering 315, 434–466.

J12 Gültekin, O. ; **Dal, H.**; Holzapfel, G.A. [2016]: *A phase-field approach to model fracture of arterial walls: Theory and finite element analysis.* Computer Methods in Applied Mechanics and Engineering 312, 542–566.

J11 Miehe, C. ; **Dal, H.**; Schaenzel, L.M. ; Raina, A. [2016]: *A phase-field model for chemome-chanical induced fracture in lithium-ion battery electrode particles.* International Journal for Numerical Methods in Engineering 106,683–711

J10 **Dal, H.**; Miehe, C. [2015]: *Computational electro-chemo-mechanics of lithium-ion battery electrodes at finite strains.* Computational Mechanics 55, 303–325.

J9. Can Cansız, F. B.; **Dal, H.**; Kaliske, M. [2015]: *An orthotropic viscoelastic material model for passive myocardium: Theory and algorithmic treatment.* Computer Methods in Biomechanics and Biomedical Engineering 18, 1160–1172.

J8. **Dal, H.**; Göktepe, S.; Kaliske, M.; Kuhl, E. [2013]: *A fully implicit finite element method for bidomain models of cardiac electromechanics.* Computer Methods in Applied Mechanics and Engineering 253, 323–336.

J7. Fleischauer, R.; **Dal, H.**; Kaliske, M.; Schneider, K. [2012]: *A constitutive model for finite deformation of amorphous polymers.* International Journal of Mechanical Sciences 65, 48–63.

J6. **Dal, H.**; Göktepe, S.; Kaliske, M.; Kuhl, E. [2012]: *A fully implicit finite element method for bidomain models of cardiac electrophysiology.* Computer Methods in Biomechanics and Biomedical Engineering 15,645–656.

J5. Kaliske, M.; **Dal, H.**; Fleischhauer, R.; Jenkel, C.; Netzker, C. [2012]: *Characterization of fracture processes by continuum and discrete modelling.* Computational Mechanics 50, 303–320.

J4. Netzker, C.; **Dal, H.**; Kaliske, M. [2010]: *An Endochronic Plasticity Formulation for Filled Rubber.* International Journal of Solids and Structures 47, 2371–2379.

J3. **Dal, H.**; Kaliske, M. [2009]: *A micro-continuum-mechanical material model for failure of rubber-like materials: Application to ageing induced fracturing.* Journal of the Mechanics and Physics of Solids 57, 1340–1356.

J2. **Dal, H.**; Kaliske, M. [2009]: *Bergström-Boyce model for nonlinear finite rubber viscoelasticity: Theoretical aspects and algorithmic treatment for FE method.* Computational Mechanics 44, 809–823.

J1. Näser, B.; Kaliske, M.; **Dal, H.**, Netzker, C. [2009]: *Fracture mechanical behaviour of visco-elastic materials: Application to the so-called dwell-effect.* Zeitschrift für Angewandte Mathematik und Mechanik 89, 677–686.

Journal Publications National

N1 **Dal, H.** [2017]: *Analysis of Gold Micro-beams with Modified Strain Gradient Theory* . Anadolu University Journal of Science and Technology A - Applied Sciences and Engineering 18, 663–681

Conference Proceedings

C44 Kandaz, M.; **Dal, H.** [2019]: *Two Novel Kirchhoff Plate Finite Elements For the Modified Strain Gradient Theory* Proceedings in Applied Mathematics and Mechanics, accepted.

C43 Aksu Denli, F.; **Dal, H.** [2018]: *A rate-dependent phase field approach for the failure of rubberlike materials* 6th European Conference on Computational Mechanics, 11-15 June 2018, Glasgow, UK.

C42 Kandaz, M.; **Dal, H.**; Ünlü, M. [2017]: *Analysis of Gold Microbeams with Higher Order Continuum Theories* Proceedings in Applied Mathematics and Mechanics 17, 421-422.

C41 **Dal, H.**; Gültekin, O.; Aksu Denli, F.; Holzapfel, A.G. [2017]: *Phase-Field Models for the Failure of Anisotropic Continua* Proceedings in Applied Mathematics and Mechanics 17, 91-94.

C40 **Dal, H.**; Rodoplu, B. [2017]: *A Quasi-inextensible and Quasi-incompressible Finite Element Formulation for Transversely Anisotropic Hyperelastic Solids and Soft Biological Tissues* XIV International Conference on Computational Plasticity. Fundamentals and Applications COMPLAS XIV, E. Onate, D.R.J. Owen, D.Peric & M.Chiumenti (Eds).

C39 Gültekin, O.; **Dal, H.**; Holzapfel, A.G. [2017]: *Crack Phase-Field Modeling of Anisotropic Rupture in Fibrous Soft Tissues* XIV International Conference on Computational Plasticity. Fundamentals and Applications COMPLAS XIV, E. Onate, D.R.J. Owen, D.Peric & M.Chiumenti (Eds) 139–150.

C38 **Dal, H.**; Badienia Y.; Açıkgöz, K.; Aksu Denli, F. [2017]: *A Novel Parameter Identification Toolbox for the Selection of Hyperelastic Constitutive Models from Experimental Data* Proceedings of the 7th GACM Colloquium on Computational Mechanics for Young Scientists from Academia and Industry October 11-13, 2017 in Stuttgart, Germany

C37 Nateghi A.; **Dal, H.**; Keip, M.A.; Miehe, C. [2017]: *Affine Full Network Model for Strain-Induced Crystallization in Rubbery Polymers* Proceedings of the 7th GACM Colloquium on Computational Mec hanics for Young Scientists from Academia and Industry October 11-13, 2017 in Stuttgart, Germany

C36. **Dal, H.** [2016]: *Electro-Chemo-Mechanics and Fracture of Li-on Battery Electrodes.* Colloqium "Multiscale phenomena in electrochemical and porous systems", organized by F. Theil & M. Icardo, Mathematics Institute, The University of Warwick.

C35. Gültekin, O.; **Dal, H.**; Holzapfel, A.G. [2016]: *A Phase-Field Approach to Model Fracture of Arterial Walls.* European Congress on Computational Methods in Applied Sciences and Engineering 2016, Book of Abstracts, ID 7606.

C34. **Dal, H.** [2016]: *A quasi-inextensible element formulation for anisotropic continuum.* European Congress on Computational Methods in Applied Sciences and ENgineering 2016, Book of Abstracts, ID 12407.

C33. **Dal, H.** [2015]: *Computational Modeling of Multi-physics Phenomena in Lithium-Ion Battery Electrodes.* European Conference on Numerical Mathematics and Advanced Applications, Book of Abstracts, 32

C32. Cansiz, B.; **Dal, H.**; Kaliske, M. [2014]: *Fully Coupled Cardiac Electromechanics with Orthotropic Viscoelastic Effects.* Procedia {IUTAM}, 12, 124-133

C31. Cansiz, B.; **Dal, H.**; Kaliske, M. [2014]: *Computational modeling of cardiac tissue with strongly coupled electromechanics and orthotropic viscoelastic effects.* Proceedings in Applied Mathematics and Mechanics 14, 119–120.

C30. Miehe, C.; Schänzel, L.; Ulmer, H.; **Dal, H.** [2013]: *Phase Field Modeling of Brittle and Ductile Fracture at Finite Strains. Formulation of Failure Criteria and MultiPhysics Extensions.* The Third International Conference on Computational Modeling of Fracture and Failure of Materials and Structures, 5-7 June 2013, Prague.

C29. Can Cansiz F. B.; **Dal, H.**; Kaliske, M. [2013]: *Computational Viscoelastic Modelling of Passive Myocardium.* 5th GACM Colloquium on Computational Mechanics, TU Hamburg-Harburg, September 30 - October 2, 2013, Hamburg.

C28. **Dal, H.**; Can Cansiz F. B.; Miehe, C. [2013]: *Modeling Cavity Growth in Rubberlike Materials.* 5th GACM Colloquium on Computational Mechanics, TU Hamburg-Harburg, September 30 - October 2, 2013, Hamburg.

C27. **Dal, H.**; Miehe, C. [2013]: *Coupled chemomechanics and phase field modelling of failure in electrode materials of Li-ion batteries.* Proceedings in Applied Mathematics and Mechanics 13, 207–208.

C26. **Dal, H.**; Can Cansiz F. B.; Miehe, C. [2013]: *A multiscale continuum damage model for cavity growth in rubberlike materials.* Constitutive Models for Rubber VIII, 183–189.

C25. **Dal, H.** [2013]: *A Phase field model for the de-intercalition induced failure in rechargeable Li-ion batteries.* Euromech 545: Frontiers in Finite Deformation Electromechanics, May 21–24, 2013, Dortmund, Germany.

C24. Schänzel, L. M.; **Dal, H.**; Miehe, C. [2013]: *On micromechanically-based approaches to failure in polymers.* Proceedings in Applied Mathematics and Mechanics 13, 557–560.

C23. Schänzel, L. M.; **Dal, H.**; Miehe, C. [2013]: *Phase field modeling of fracture in rubbery polymers.* Constitutive Models for Rubber VIII, 335-341.

C22. Fleischhauer, R.; **Dal, H.**; Kaliske, M. [2012]: *Numerical aspects on computational homogenization of epoxy/glass composites.* Proceedings in Applied Mathematics and Mechanics 12, 425–426.

C21. Schänzel, L. M.; **Dal, H.**; Miehe, C. [2012]: *A New Continuum Approach to the Coupling of Shear Yielding and Crazing with Fracture in Glassy Polymers.* Proceedings in Applied Mathematics and Mechanics 12, 337–338.

C20. Kaliske, M.; Özenc, K.; **Dal, H.** [2012]: *Aspects of crack propagation in small and finite strain continua.* in Jerrams, S.; Murphy, N. (Editors): *Constitutive Models for Rubber VII*, 137–142. Taylor & Francis Group, London.

C19. Behnke, R.; **Dal, H.**; Kaliske, M. [2012]: *An extended tube model for thermo-viscoelasticity of rubberlike materials: theory and numerical implementation.* in Jerrams, S.; Murphy, N. (Editors): Constitutive Models for Rubber VII, 87–92. Taylor & Francis Group, London.

C18. **Dal, H.**; Kaliske, M.; Zopf, C. [2012]: *Theoretical and numerical modelling of unvulcanized rubber.* in Jerrams, S.; Murphy, N. (Editors): Constitutive Models for Rubber VII, 99–106. Taylor & Francis Group, London.

C17. Behnke, R.; **Dal, H.**; Kaliske, M. [2011]: *An Extended Tube Model for Thermo-Viscoelasticity of Rubberlike Materials: Parameter Identification and Examples.* Proceedings in Applied Mathematics and Mechanics 11, 353–354.

C16. **Dal, H.**; Göktepe, S.; Kaliske, M.; Kuhl, E. [2011]: *A Three-Field, Bi-domain Based Approach to the Strongly Coupled Electromechanics of the Heart.* Proceedings in Applied Mathematics and Mechanics 11, 931–934.

C15. Fleischhauer, R.; **Dal, H.**; Kaliske, M. [2010]: *Micromechanical modelling and two-scale simulation of epoxy/glass composites with interphases and interfaces.* Proceedings in Applied Mathematics and Mechanics 10, 407–408.

C14. **Dal, H.**; Kaliske, M. [2010]: *Micro-sphere based formulation of yield surface free viscoplasticity with nonlinear kinematic hardening: Application to unvulcanized rubber.* 16th US National Congress of Theoretical and Applied Mechanics, June 27–July 2, 2010 State College, PA, USA.

C13. **Dal, H.**; Kaliske, M.; Hickmann, R.; Cherif, C.; Jurk, R.; Heinrich, G. [2010]: *Thermo-viscoelasticity of fibre reinforced rubbery polymers.* Proceedings in Applied Mathematics and Mechanics 10, 287–288.

C12. **Dal, H.**; Kaliske, M. [2009]: *Failure Analysis of Solids.* ANSYS Conference & 27. CAD-FEM Users Meeting, Leipzig, CD-ROM.

C11. **Dal, H.**; Kaliske, M.; Nasdala, L. [2009]: *A micro-continuum-mechanical material model for failure of rubber-like materials.* in Heinrich, G.; Kaliske, M.; Lion, A.; Reese, S. (Editors): *Constitutive Models for Rubber VI*, 401–407. Taylor & Francis Group, London.

C10. **Dal, H.**; Kaliske, M. [2009]: *Failure analysis of elastomers within the framework of continuum mechanics.* 12. Problemseminar "Deformation und Bruchverhalten von Kunststoffen", Merseburg, CD-ROM.

C9. **Dal, H.**; Kaliske, M. [2008]: *A Micromechanical model for failure analysis of rubber-like materials.* World Congress on Computational Mechanics, Venice, CD-ROM.

C8. **Dal, H.**; Kaliske, M. [2008]: *A micro-macro approach to the failure of rubber-like materials.* Proceedings in Applied Mathematics and Mechanics 8, 10413-10414.

C7. Morgner, C.; Kaliske, M.; Näser, B.; **Dal, H.** [2007]: *Numerical determination of the energy release rate for endochronic plastic material.* 2nd GACM Colloquium on Computational Mechanics, TU Munich.

C6. Näser, B.; Kaliske, M.; **Dal, H.** [2007]: *Fracture mechanical behaviour of visco-elastic materials.* Proceedings in Applied Mathematics and Mechanics 7, 1090103–1090104.

C5. Näser, B.; **Dal, H.**; Kaliske, M. [2007]: *Formulierung und Simulation bruchmechanischer Eigenschaften viskoelastischer Werkstoffe* 11. Problemseminar "Deformation und Bruchverhalten von Kunststoffen", Halle, CD-ROM.

C4. Kaliske, M.; **Dal, H.**; Näser, B.; Schmidt, J. [2007]: *Finite nonlinear viscoelastic modelling and fracture mechanical investigations.* ANSYS Conference & 25. CADFEM Users Meeting, Dresden, CD-ROM.

C3. Kaliske, M.; Näser, B.; **Dal, H.** [2007]: *Fracture of viscoelastic materials.* in Boukamel, A., L. Laiarinandrasana, S. Méo, E. Verron (Editors): Constitutive Models for Rubber V, 185–190. Taylor & Francis Group, London.

C2. **Dal, H.**; Kaliske, M.; Nasdala, L. [2007]: *Computational aspects of Bergström-Boyce finite viscoelasticity model.* in Boukamel, A., L. Laiarinandrasana, S. Méo, E. Verron (Editors): Constitutive Models for Rubber V, 241–248. Taylor & Francis Group, London.

C1. **Dal, H.**; Kaliske, M. [2006]: *An Approach to the Modeling of Physical Ageing in Rubbery Polymers.* Proceedings in Applied Mathematics and Mechanics 6: 363–364.

Lecture Presentations

Aksu Denli, F.; **Dal, H.** [2018]: *A rate-dependent phase field approach for the failure of rubberlike materials* 6th European Conference on Computational Mechanics, 11-15 June 2018, Glasgow, UK.

Dal, H.; Badienia Y.; Açıkgöz, K.; Aksu Denli, F. [2018]: *A Comparative Study on the Hyperelastic Constitutive Models for Rubber* Workshop on "Plasticity, Damage and Fracture of Engineering Materials", 25 October 2018, TOBB University of Economics and Technology, Ankara, Turkey.

Dal, H.; Badienia Y.; Açıkgöz, K.; Aksu Denli, F. [2017]: *A Novel Parameter Identification Toolbox for the Selection of Hyperelastic Constitutive Models from Experimental Data* 7th GACM Colloquium on Computational Mechanics for Young Scientists from Academia and Industry, October 11–13, Stuttgart, Germany

Dal, H. [2017]: *Recent Trends in the Modelling of Micromechanics and Failure* COMMAS Summer School, September 26–27, Stuttgart, Germany

Dal, H.; Rodoplu, B. [2017]: *A Quasi-inextensible and Quasi-incompressible Finite Element Formulation for Transversely Anisotropic Hyperelastic Solids and Soft Biological Tissues* XIV International Conference on Computational Plasticity. Fundamentals and Applications COMPLAS XIV, September 5–7, Barcelona, Spain.

Dal, H.; Gültekin, O.; Aksu Denli, F.; Holzapfel, A.G. [2017]: *Phase-Field Models for the Failure of Anisotropic Continua* 88th Annual Meeting of the International Association of Applied Mathematics and Mechanics, March 6–10, Weimar, Germany.

Kandaz, M.; **Dal, H.**; Ünlü, M. [2017]: *Analysis of Gold Microbeams with Higher Order Continuum Theories* 88th Annual Meeting of the International Association of Applied Mathematics and Mechanics, March 6–10, Weimar, Germany.

Dal, H. [2016]: *Electro-Chemo-Mechanics and Fracture of Li-on Battery Electrodes.* Colloqium "Multiscale phenomena in electrochemical and porous systems", organized by F. Theil & M. Icardo, Mathematics Institute, The University of Warwick, Warwick, UK.

Dal, H. [2016]: *A quasi-inextensible element formulation for anisotropic continuum.* European Congress on Computational Methods in Applied Sciences and ENgineering 2016, June 5-10, Crete, Greece.

Dal, H. [2015]: *Computational Modeling of Multi-physics Phenomena in Lithium-Ion Battery Electrodes.* European Conference on Numerical Mathematics and Advanced Applications

Dal, H.; Miehe, C. [2013]: *Coupled chemomechanics and phase field modelling of failure in electrode materials of Li-ion batteries.* GAMM Annual Scientific Conference, March 18–22, 2013, Novi Sad, Serbia.

Dal, H.; Miehe, C. [2013]: *A multiscale continuum damage model for cavity growth in rubberlike materials.* Eighth European Conference for Constitutive Models for Rubber (ECCMR), June 25–28, 2013, San Sebastian, Spain.

Dal, H.; Miehe, C. [2013]: *A Phase field model for the de-intercalition induced failure in rechargeable Li-ion batteries.* Euromech 545: Frontiers in Finite Deformation Electromechanics, May 21–24, 2013, Dortmund, Germany.

Dal, H.; Kaliske, M.; Zopf, C. *Theoretical and numerical modelling of unvulcanized rubber.* Seventh European Conference for Constitutive Models for Rubber (ECCMR), September 20–23, 2011, Dublin, Ireland.

Dal, H.; Göktepe, S.; Kaliske, M.; Kuhl, E. *A Three-Field, Bi-domain Based Approach to the Strongly Coupled Electromechanics of the Heart.* GAMM Annual Scientific Conference, April 18–21, 2011, Graz, Austria.

Dal, H.; Kaliske, M. *Micro-sphere based formulation of yield surface free visco-plasticity with nonlinear kinematic hardening: Application to unvulcanized rubber.* 16th US National Congress of Theoretical and Applied Mechanics, June 27-July 2, 2010 State College, PA, USA.

Dal, H.; Kaliske, M.; Hickmann, R.; Cherif, C.; Jurk, R.; Heinrich, G. *Thermoviscoelasticity of fibre reinforced rubbery polymers.* GAMM Annual Scientific Conference, March 22-26, 2010, Karlsruhe, Germany.

Dal, H.; Kaliske, M. *Failure Analysis of Solids.* ANSYS Conference & 27. CADFEM Users Meeting, November 18-20, 2009, Leipzig, Germany.

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