

# List of Publications - Josef Kiendl

## Papers in peer-reviewed international journals

55. A. Farahat, H. Verhelst, **J. Kiendl** M. Kapl; [Isogeometric analysis for multi-patch structured Kirchhoff-Loveshells](#); Computer Methods in Applied Mechanics and Engineering, 411:116060 (2023)
54. N. Ramos, C. Mittermeier, **J. Kiendl**; [Efficient simulation of the heat transfer in fused filament fabrication](#); Journal of Manufacturing Processes, 94:550-563 (2023)
53. S. Eisenträger, **J. Kiendl**, G. Michaloudis, R. Duy, Y. Vetyukov; [Stability analysis of plates using cut Bogner-Fox-Schmit elements](#); Computers and Structures, 270:106854 (2022)
52. D. Proserpio, **J. Kiendl**; [Penalty coupling of trimmed isogeometric Kirchhoff-Love shell patches](#); Journal of Mechanics, 38:156-165 (2022)
51. N. Ramos, C. Mittermeier, **J. Kiendl**; [Experimental and numerical investigations on heat transfer in fused filament fabrication 3D-printed specimens](#); International Journal of Advanced Manufacturing Technology, 118:1367-1381 (2022)
50. A. del Toro Llorens, **J. Kiendl**; [An isogeometric finite element-boundary element approach for the vibration analysis of submerged thin-walled structures](#); Computers and Structures, 256:106636 (2021)
49. L. Coradello, **J. Kiendl**, A. Buffa; [Coupling of non-conforming trimmed isogeometric Kirchhoff-Love shells via a projected super-penalty approach](#); Computer Methods in Applied Mechanics and Engineering, 387:114187 (2021)
48. D. Proserpio, M. Ambati, L. De Lorenzis, **J. Kiendl**; [Phase-field simulation of ductile fracture in shell structures](#); Computer Methods in Applied Mechanics and Engineering, 385:114019 (2021)
47. A. Özen, D. Auhl, C. Völlmecke, **J. Kiendl**, B. E. Abali; [Optimization of manufacturing parameters and tensile specimen geometry for fused deposition modeling \(FDM\) 3-D printed PETG](#); Materials,14(10):2556 (2021)
46. A. Patton, P. Antolin, **J. Kiendl**, A. Reali; [Efficient equilibrium-based stress recovery for isogeometric laminated curved structures](#); Composite Structures, 272:113975 (2021)
45. A. Nitti, **J. Kiendl**, A. Gizzi, A. Reali, M. de Tullio; [A curvilinear isogeometric framework for the electromechanical activation of thin muscular tissues](#); Computer Methods in Applied Mechanics and Engineering, 382:113877 (2021)
44. A. Patton, P. Antolin, J.-E. Dufour, **J. Kiendl**, A. Reali; [Accurate equilibrium-based interlaminar stress recovery for isogeometric laminated composite Kirchhoff plates](#); Composite Structures, 256:112976 (2021)

43. H. Do, Y. Y. Tan, N. Ramos, **J. Kiendl**, O. Weeger; [Nonlinear isogeometric multiscale simulation for design and fabrication of functionally graded knitted textiles](#); Composites Part B: Engineering, 202:108416 (2020)
42. L. Leonetti, F. S. Liguori, D. Magisano, **J. Kiendl**, A. Reali, G. Garcea; [A robust penalty coupling of non-matching isogeometric Kirchhoff-Love shell patches in large deformations](#); Computer Methods in Applied Mechanics and Engineering, 371:113289 (2020)
41. D. Proserpio, M. Ambati, L. De Lorenzis, **J. Kiendl**; [A framework for efficient isogeometric computations of phase-field brittle fracture in multipatch shell structures](#); Computer Methods in Applied Mechanics and Engineering, 372:113363 (2020)
40. L. Coradello, D. D'Angella M. Carraturo, **J. Kiendl**, S. Kollmannsberger, E. Rank, A. Reali; [Hierarchically refined isogeometric analysis of trimmed shells](#); Computational Mechanics, 66:431-447 (2020)
39. P. Antolin, **J. Kiendl**, M. Pingaro, A. Reali; [A simple and effective method based on strain projections to alleviate locking in isogeometric solid shells](#); Computational Mechanics, 65(6):1621-1631 (2020)
38. A. Nitti, **J. Kiendl**, A. Reali, M. de Tullio; [An immersed-boundary/isogeometric method for fluid-structure interaction involving thin shells](#); Computer Methods in Applied Mechanics and Engineering, 364:112977 (2020)
37. **J. Kiendl**, C. Gao; [Controlling toughness and strength of FDM 3D-printed PLA components through the raster layup](#); Composites Part B: Engineering, 180:107562 (2020)
36. H. Casquero, D. Toshniwal, A. Li, T.J.R. Hughes, **J. Kiendl**, Y. Zhang; [Seamless integration of design and Kirchhoff-Love shell analysis using analysis-suitable unstructured T-splines](#); Computer Methods in Applied Mechanics and Engineering, 360:112765 (2020)
35. E. Marino, **J. Kiendl**, L. De Lorenzis; [Isogeometric collocation for implicit dynamics of three-dimensional beams undergoing finite motions](#); Computer Methods in Applied Mechanics and Engineering, 356:548-570 (2019)
34. L. Leonetti, D. Magisano, A. Madeo, G. Garcea, **J. Kiendl**, A. Reali; [A simplified Kirchhoff-Love large deformation model for elastic shells and its effective isogeometric formulation](#); Computer Methods in Applied Mechanics and Engineering, 354:369-396 (2019)
33. V. Balobanov, **J. Kiendl**, S. Khakalo, J. Niiranen; [Kirchhoff-Love shells within strain gradient elasticity: weak and strong formulations and an H<sup>3</sup>-conforming isogeometric implementation](#); Computer Methods in Applied Mechanics and Engineering, 344:837-857 (2019)
32. E. Marino, **J. Kiendl**, L. De Lorenzis; [Explicit isogeometric collocation for the dynamics of three-dimensional beams undergoing finite motions](#); Computer Methods in Applied Mechanics and Engineering, 343:530-549 (2019)
31. C. Gao, **J. Kiendl**; [Short review on architected materials with topological interlocking mechanisms](#); Material Design & Processing Communications, DOI:10.1002/mdp2.31 (2019)

30. A. Herrema, **J. Kiendl**, M.-C. Hsu; [A framework for isogeometric-analysis-based optimization of wind turbine blade structures](#); Wind Energy, 22:153-170 (2019)
29. A. Herrema, E. Johnson, D. Proserpio, M.C.H. Wu, **J. Kiendl**, M.-C. Hsu; [Penalty coupling of non-matching isogeometric Kirchhoff-Love shell patches with application to composite wind turbine blades](#); Computer Methods in Applied Mechanics and Engineering, 346:810-840 (2019)
28. J. Niiranen, V. Balobanov, **J. Kiendl**, S. B. Hosseini; [Variational formulations, model comparisons and numerical methods for Euler-Bernoulli micro- and nano-beam models](#); Mathematics and Mechanics of Solids, 24:312-335 (2019)
27. M. Ambati, **J. Kiendl**, L. De Lorenzis; [Isogeometric Kirchhoff-Love shell formulation for elastoplasticity](#); Computer Methods in Applied Mechanics and Engineering, 340:320-339 (2018)
26. N.A. Nodargi, **J. Kiendl**, P. Bisegna, F. Caselli, L. De Lorenzis; [An isogeometric analysis formulation for red blood cell electro-deformation modeling](#); Computer Methods in Applied Mechanics and Engineering, 338:392-411 (2018)
25. M.C.H. Wu, R. Zakerzadeh, D. Kamensky, **J. Kiendl**, M. Sacks, M.-C. Hsu; [An anisotropic constitutive model for immersogeometric fluid-structure interaction analysis of bioprosthetic heart valves](#); Journal of Biomechanics, 74:23-31 (2018)
24. **J. Kiendl**, F. Auricchio, A. Reali; [A displacement-free formulation for the Timoshenko beam problem and a corresponding isogeometric collocation approach](#); Meccanica, 53(6):1403-1413 (2018)
23. **J. Kiendl**, E. Marino, L. De Lorenzis; [Isogeometric collocation for the Reissner-Mindlin shell problem](#); Computer Methods in Applied Mechanics and Engineering, 325:645-665 (2017)
22. O. Weeger, B. Narayanan, L. De Lorenzis, **J. Kiendl**, M.L. Dunn; [An isogeometric collocation method for frictionless contact of Cosserat rods](#); Computer Methods in Applied Mechanics and Engineering, 321:361-382 (2017)
21. L. Heltai, **J. Kiendl**, A. DeSimone, A. Reali; [A natural framework for isogeometric fluidstructure interaction based on BEM-shell coupling](#); Computer Methods in Applied Mechanics and Engineering, 316:522-546 (2017)
20. J. Niiranen, **J. Kiendl**, A. Niemi, A. Reali; [Isogeometric analysis for sixth-order boundary value problems of gradient-elastic Kirchhoff plates](#); Computer Methods in Applied Mechanics and Engineering, 316:328-348 (2017)
19. H. Casquero, L. Liu, Y. Zhang, A. Reali, **J. Kiendl**, H. Gomez; [Arbitrary-Degree T-splines for Isogeometric Analysis of Fully Nonlinear Kirchhoff-Love Shells](#); Computer-Aided Design, 82:140-153 (2017)
18. **J. Kiendl**, M. Ambati, L. De Lorenzis, H. Gomez, A. Reali; [Phase-field description of brittle fracture in plates and shells](#); Computer Methods in Applied Mechanics and Engineering, 312:374-394 (2016)

17. F. Auricchio, L. Beirão da Veiga, **J. Kiendl**, C. Lovadina, A. Reali; [Isogeometric collocation mixed methods for rods](#); Discrete and Continuous Dynamical Systems - Series S, 9:33-42 (2016)
16. M.-C. Hsu, D. Kamensky, F. Xu, **J. Kiendl**, C. Wang, M.C.H. Wu, J. Mineroff, A. Reali, Y. Bazilevs, M. Sacks; [Dynamic and fluid-structure interaction simulations of bioprosthetic heart valves using parametric design with T-splines and Fung-type material models](#); Computational Mechanics, 55:1211-1225 (2015)
15. **J. Kiendl**, M.-C. Hsu, M.C.H. Wu, A. Reali; [Isogeometric Kirchhoff-Love shell formulations for general hyperelastic materials](#); Computer Methods in Applied Mechanics and Engineering, 291:280-303 (2015)
14. L. Beirão da Veiga, T.J.R. Hughes, **J. Kiendl**, C. Lovadina, J. Niiranen, A. Reali, H. Speleers; [A locking-free model for Reissner-Mindlin plates: Analysis and isogeometric implementation via NURBS and triangular NURPS](#); Mathematical Models and Methods in Applied Sciences, 25:1519-1551 (2015)
13. **J. Kiendl**, F. Auricchio, T.J.R. Hughes, A. Reali; [Single-variable formulations and isogeometric discretizations for shear deformable beams](#); Computer Methods in Applied Mechanics and Engineering, 284:988-1004 (2015)
12. J.F. Caseiro, R.A.F. Valente, A. Reali, **J. Kiendl**, F. Auricchio, R.J. Alves de Sousa; [Assumed Natural Strain NURBS-based solid-shell element for the analysis of large deformation elasto-plastic thin-shell structures](#); Computer Methods in Applied Mechanics and Engineering, 284:861-880 (2015)
11. **J. Kiendl**, F. Auricchio, L. Beirão da Veiga, C. Lovadina, A. Reali; [Isogeometric collocation methods for the Reissner-Mindlin plate problem](#); Computer Methods in Applied Mechanics and Engineering, 284:489-507 (2015)
10. J.F. Caseiro, R.A.F. Valente, A. Reali, **J. Kiendl**, F. Auricchio, R.J. Alves de Sousa; [On the Assumed Natural Strain method to alleviate locking in solid-shell NURBS-based finite elements](#); Computational Mechanics, 53:1341-1353 (2014)
9. **J. Kiendl**, R. Schmidt, R. Wüchner, K.-U. Bletzinger; [Isogeometric shape optimization of shells using semi-analytical sensitivity analysis and sensitivity weighting](#); Computer Methods in Applied Mechanics and Engineering, 274:148-167 (2014)
8. F. Auricchio, L. Beirão da Veiga, **J. Kiendl**, C. Lovadina, A. Reali; [Locking-free isogeometric collocation methods for spatial Timoshenko rods](#); Computer Methods in Applied Mechanics and Engineering, 263:113-126 (2013)
7. S. Shojaee, E. Izadpanah, N. Valizadeh, **J. Kiendl** [Free vibration analysis of thin plates by using a NURBS-based isogeometric approach](#); Finite Elements in Analysis and Design; 61:23-34 (2012)
6. Y. Bazilevs, M.-C. Hsu, **J. Kiendl**, D.J. Benson; [A Computational Procedure for PreBending of Wind Turbine Blades](#); International Journal for Numerical Methods in Engineering, 89:323-336 (2012)

5. N. Nguyen-Thanh, **J. Kiendl**, H. Nguyen-Xuan, R. Wüchner, K.-U. Bletzinger, Y. Bazilevs, T. Rabczuk; [\*Rotation free isogeometric thin shell analysis using PHT-splines\*](#); Computer Methods in Applied Mechanics and Engineering, 200(47- 48):3410-3424 (2011)
4. Y. Bazilevs, M.-C. Hsu, **J. Kiendl**, R. Wüchner, K.-U. Bletzinger; [\*3D simulation of wind turbine rotors at full scale. Part II: Fluid-structure interaction modeling with composite blades\*](#); International Journal for Numerical Methods in Fluids; 65:236-253 (2011)
3. R. Schmidt, **J. Kiendl**, K.-U. Bletzinger, R. Wüchner; [\*Realization of an integrated structural design process: analysis-suitable geometric modelling and isogeometric analysis\*](#); Computing and Visualization in Science, 13:315-330 (2010)
2. **J. Kiendl**, Y. Bazilevs, M.-C. Hsu, R. Wüchner, K.-U. Bletzinger; [\*The bending strip method for isogeometric analysis of Kirchhoff-Love shell structures comprised of multiple patches\*](#); Computer Methods in Applied Mechanics and Engineering, 199:2403-2416 (2010)
1. **J. Kiendl**, K.-U. Bletzinger, J. Linhard, R. Wüchner; [\*Isogeometric shell analysis with Kirchhoff-Love Elements\*](#); Computer Methods in Applied Mechanics and Engineering, 198:39023914 (2009)

### **Book chapters**

1. M. A. Ghaziani, **J. Kiendl**, L. De Lorenzis; [\*Isogeometric Multiscale Modeling with Galerkin and Collocation Methods\*](#); Virtual Design and Validation (2020)