# List of Publications - Josef Kiendl

## Papers in peer-reviewed international journals

60. M. Torre, S. Morganti. A. Nitti, M. D. de Tullio, .**J. Kiendl**, F.S. Pasqualini, A. Reali *An efficient active-stress electromechanical isogeometric shell model for muscular thin film simulations*; Mechanics of Materials, 105046 (2024)

59. D. Magisano, A. Corrado, L. Leonetti, **J. Kiendl**, G. Garcea *Large deformation Kirchhoff–Love shell hierarchically enriched with warping: Isogeometric formulation and modeling of alternating stiff/soft layups*; Computer Methods in Applied Mechanics and Engineering, 116556 (2024)

58. T.X. Duong, L. Leonetti, **J. Kiendl** *A variationally consistent contact formulation based on a mixed interpolation point method and isogeometric discretization*; Computer Methods in Applied Mechanics and Engineering, 116361 (2023)

57. A. Nitti, M. Torre, A. Reali, **J. Kiendl**, M. D. de Tullio *A multiphysics model for fluid-structure-electrophysiology interaction in rowing propulsion*; Applied Mathematical Modelling; 124:414-444 (2023)

56. L. Leonetti, **J. Kiendl** *A mixed integration point (MIP) formulation for hyperelastic Kirchhoff–Love shells for nonlinear static and dynamic analysis*; Computer Methods in Applied Mechanics and Engineering; 416:116325 (2023)

55. M. Loibl, L. Leonetti, A. Reali, **J. Kiendl**; *Patch-wise quadrature of trimmed surfaces in Isogeometric Analysis*; Computer Methods in Applied Mechanics and Engineering; 415:116279 (2023)

54. 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)

53. N. Ramos, C. Mittermeier, **J. Kiendl**; *Efficient simulation of the heat transfer in fused filament fabrication*; Journal of Manufacturing Processes, 94:550-563 (2023)

52. 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)

51. D. Proserpio, **J. Kiendl**; *Penalty coupling of trimmed isogeometric Kirchhoff-Love shell patches*; Journal of Mechanics, 38:156-165 (2022)

50. 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)

49. 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)

48. 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)

47. 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)

46. 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)

45. A. Patton, P. Antolin, **J. Kiendl**, A. Reali; *Efficient equilibrium-based stress recovery for isogeometric laminated curved structures*; Composite Structures, 272:113975 (2021)

44. 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)

43. A. Patton, P. Antolin, J.-E. Dufour, **J. Kiendl**, A. Reali; *Accurate equilibrium-based inter-laminar stress recovery for isogeometric laminated composite Kirchhoff plates*; Composite Structures, 256:112976 (2021)

42. 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)

41. 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)

40. 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)

39. 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)

38. 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)

37. 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)

36. **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)

35. 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)

34. 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)

33. 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)

32. V. Balobanov, **J. Kiendl**, S. Khakalo, J. Niiranen; *Kirchhoff-Love shells within strain gradient elasticity: weak and strong formulations and an $H^3$-conforming isogeometric implementation*; Computer Methods in Applied Mechanics and Engineering, 344:837-857 (2019)

31. 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)

30. C. Gao, **J. Kiendl**; *Short review on architectured materials with topological interlocking mechanisms*; Material Design & Processing Communications, DOI:10.1002/mdp2.31 (2019)

29. 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)

28. 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)

27. 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)

26. M. Ambati, **J. Kiendl**, L. De Lorenzis; *Isogeometric Kirchhoff-Love shell formulation for elasto-plasticity*; Computer Methods in Applied Mechanics and Engineering, 340:320-339 (2018)

25. 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)

24. 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)

23. **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)

22. **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)

21. 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)

20. L. Heltai, **J. Kiendl**, A. DeSimone, A. Reali; *A natural framework for isogeometric fluid-structure interaction based on BEM-shell coupling*; Computer Methods in Applied Mechanics and Engineering, 316:522-546 (2017)

19. 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)

18. 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)

17. **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)

16. 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)

15. 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)

14. **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)

13. 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)

12. **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)

11. 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)

10. **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)

9. 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)

8. **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)

7. 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)

6. 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)

5. Y. Bazilevs, M.-C. Hsu, **J. Kiendl**, D.J. Benson; *A Computational Procedure for Pre-Bending of Wind Turbine Blades*; International Journal for Numerical Methods in Engineering, 89:323-336 (2012)

4. 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)

3. 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)

2. 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)

1. **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)

0. **J. Kiendl**, K.-U. Bletzinger, J. Linhard, R. Wüchner; *Isogeometric shell analysis with Kirchhoff-Love Elements*; Computer Methods in Applied Mechanics and Engineering, 198:3902-3914 (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)