

## List of publications (2025): B D Reddy

### Books

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- B1. Reddy BD (1986) *Functional Analysis and Boundary Value Problems: An Introductory Treatment*. Longman, London and Wiley, New York. 333 pages.
- B2. Reddy BD (1998) *Introductory Functional Analysis with Applications to Boundary-Value Problems and Finite Elements*. Springer-Verlag, New York. 471 pages.
- B3. Han W and Reddy BD (1999) *Plasticity: Mathematical Theory and Numerical Analysis*. Springer-Verlag, New York. 371 pages.
- B4. Han W and Reddy BD (2013) *Plasticity: Mathematical Theory and Numerical Analysis*. 2<sup>nd</sup> edition, Springer, New York. 421 pages.

### Edited works

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- E1. Reddy BD (editor) (1997) *Recent Developments in Computational and Applied Mechanics: A Volume in Honour of John B Martin*. CIMNE, Barcelona. 432 pages.
- E2. Lubuma J M-S, Luhandjula MK and Reddy BD (editors) (1997) *Actes de la Conférence Internationale sur les Problèmes Variationnels en Mathématiques Appliquées*. Presses de l'Université de Kinshasa. 332 pages.
- E3. Reddy BD (guest editor) (1999) Special Issue on Advances in Computational Plasticity, *Computer Methods in Applied Mechanics and Engineering* **171** (Nos. 3-4).
- E4. Reddy BD (editor) (2008) *Theoretical, Modelling and Computational Aspects of Inelastic Media* (Proceedings of IUTAM Symposium). Springer, Berlin. 388 pages.
- E5. Franz T and Reddy BD (guest editors) (2012) Special Issue on Selected Papers from 2<sup>nd</sup> African Conference on Computational Mechanics, *International Journal for Numerical Methods in Biomedical Engineering* **28** (No. 1).

### Chapters in books

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- CB1. Martin JB and Reddy BD (1988) Variational principles and solution algorithms for internal variable formulations of problems in plasticity. In *Omaggio a Giulio Ceradini* (U Andreaus et al., eds) Università di Roma 'La Sapienza', Rome, 465 - 477.
- CB2. Reddy BD (1997) John B Martin: a biographical essay. In *Recent Developments in Computational and Applied Mechanics: A Volume in Honour of John B Martin* (BD Reddy, ed.) CIMNE, Barcelona, 1 - 10.
- CB3. Reddy BD and Mitchell GP (1997) Finite element approximations of the flow of fibre suspensions. In *Recent Developments in Computational and Applied Mechanics: A Volume in Honour of John B Martin* (BD Reddy, ed.) CIMNE, Barcelona, 342 - 356.
- CB4. Reddy BD (1997) Acceleration waves. In *Encyclopaedia of Mathematics* (M Hazewinkel, ed.) Kluwer Academic Publishers, Dordrecht, Netherlands, 18 - 19.
- CB5. Ebobisse Bille F and Reddy BD (2009) Mathematical aspects of elastoplasticity. In *Multiple Scales Problems in Biomathematics, Mechanics, Physics and Numerics* (Proceedings of CIMPA School, Cape Town, August 2007 (A Abdulle, J Banasiak, A Damlamian, and M Sango, eds) Gakkotosho, Tokyo, 185 - 220.

- CB6. Reddy BD and McBride AT (2012) Introduction to finite element analysis and recent developments. Chapter 1 in *Modeling and Simulation in Fibrous Materials: Techniques and Applications* (A Patanaik, ed.) Nova Science Publishers, New York, 1 - 28.
- CB7. Jasinoski SC, Cluver MA, Chinsamy A and Reddy BD (2013) Anatomical plasticity in the snout of *Lystrosaurus*. In *Early Evolutionary History of the Synapsida* (Kammerer CF, Angielczyk KD and Frobisch J, eds), Springer, New York, 139 –149.
- CB8. Yeoman MS, Reddy BD, Bezuidenhout D, Bowles HC, Zilla P and Franz T (2014) Development of a fabric-reinforced porous graft for vascular tissue engineering using finite element methods and genetic algorithms. In *Cardiovascular and Cardiac Therapeutic Devices* (Franz T, ed.) Springer, Berlin, 29 - 62.
- CB9. Reddy BD, Functional Analysis, Boundary Value Problems, and Finite Elements. In *Advanced Finite Element Technologies* (Wriggers P and Schröder J, eds) CISM Course and Lecture Notes, Springer, Wien (2016) 1 - 15.
- CB10. Reddy BD, Three-Field Mixed Finite Element Methods in Elasticity. In *Advanced Finite Element Technologies* (Wriggers P and Schröder J, eds) CISM Course and Lecture Notes, Springer, Wien (2015) 53 - 68.
- CB11. Reddy BD, Theoretical and Numerical Elastoplasticity. In *Advanced Finite Element Technologies* (Wriggers P and Schröder J, eds) CISM Course and Lecture Notes, Springer, Wien (2016) 177 - 194.
- CB12. Reddy BD (2017) Mathematical foundations of elastoplastic deformations in solids. In *Encyclopedia of Computational Mechanics*, Second Edition (Stein E, de Borst R and Hughes TJR, eds), John Wiley & Sons, Chichester. Vol. 1, 1 - 27. Online ISBN: 9781119176817.
- CB13. Reddy BD, Research networks. In *On Becoming a Scholar: What Every New Academic Needs to know* (Jansen J and Visser D, eds) African Minds, Cape Town (2022) 110–121.
- CB14. Reddy BD and van Huyssteen D, Alternative approaches to the stabilization of virtual element formulations for hyperelasticity. In *Current Trends and Open Problems in Computational Mechanics* (eds Aldakheel F, Hudobivnik B, Soleimani M, Wessels H, Weißenfels C and Marino M) Springer, Berlin (2022) 435-442.

### Journal articles

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- J1. Baggett J, Martin JB and Reddy BD (1977) Elastic-plastic deformations in plane frames. *The Civil Engineer in South Africa* **19**, 89 - 93.
- J2. Reddy BD and Calladine CR (1978) Classical buckling of a thin-walled tube subjected to bending moment and internal pressure. *International Journal of Mechanical Sciences* **20**, 641 - 650.
- J3. \*Reddy BD (1979) An experimental study of the plastic buckling of circular cylinders in pure bending. *International Journal of Solids and Structures* **15**, 669 - 683.
- J4. Reddy BD (1979) Plastic buckling of a cylindrical shell in pure bending. *International Journal of Mechanical Sciences*, **21** 671 - 679.
- J5. Reddy BD (1979) Discussion of paper 'Inelastic buckling of circular tubes in bending' by RM Korol (in *Journal of the Engineering Mechanics Division of the ASCE* **104** (1978) 939 - 952). *Journal of the Engineering Mechanics Division of the ASCE*, **105**, 358 - 359.
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- J7. Reddy BD (1981) Dual extremum principles in the dynamics of rigid-plastic bodies undergoing finite deformation. *Journal of the Mechanics and Physics of Solids* **29**, 199 - 210.
- J8. Reddy BD (1982) A deformation theory analysis of the bifurcation of pressurised thick-walled cylinders. *Quarterly Journal of Mechanics and Applied Mathematics* **35**, 183 - 196.
- J9. Reddy BD (1982) Surface instabilities on an equibiaxially stretched elastic half-space. *Mathematical Proceedings of the Cambridge Philosophical Society* **91**, 491 - 501.
- J10. Duffett GA and Reddy BD (1983), Plastic buckling of initially imperfect stiffened cylinders in axial compression. *Journal of Applied Mechanics* **50**, 88 - 94.

- J11. Reddy BD (1983) The occurrence of surface instabilities and shear bands in plane strain deformation of an elastic half-space. *Quarterly Journal of Mechanics and Applied Mathematics* **36**, 337 - 350.
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- J13. Duffett GA and Reddy BD (1983) The analysis of incompressible hyperelastic bodies by the finite element method. *Computer Methods in Applied Mechanics and Engineering* **41**, 105 - 120.
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- J15. Reddy BD, Griffin TB and Marais MJ (1985) A penalty approach to the rate problem in small-strain plasticity. *IMA Journal of Applied Mathematics* **34**, 303 - 321.
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- J23. \*Reddy BD (1988) Convergence of mixed finite element approximations for the shallow arch problem. *Numerische Mathematik* **53**, 687 - 700.
- J24. Geveci T, Reddy BD and Pearce HT (1989) The approximation of the spectrum of the Stokes operator. *RAIRO - Modélisation Mathématique et Analyse Numérique* **23**, 129 - 136.
- J25. Reddy BD (1989) The impact of continuum mechanics on analysis. *Notices of the SA Mathematical Society* **21**, 166 - 182.
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- J28. Eve RA, Gültop T and Reddy BD (1990) An internal variable finite strain theory of plasticity. *Quarterly of Applied Mathematics* **48**, 625 - 644.
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- J34. le Roux C and Reddy BD (1993) The steady Navier-Stokes equations with mixed boundary conditions: applications to free boundary flows. *Nonlinear Analysis: Theory, Methods and Applications* **20**, 1043 - 1068.
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