

Some Books Relevant to Multivariate Meshfree Approximation

1. S. N. Atluri and S. Shen, *The Meshless Local Petrov-Galerkin (MLPG) Method*, Tech Science Press, Encino, CA, 2002.
2. M. D. Buhmann, *Radial Basis Functions : Theory and Implementations*, Cambridge University Press, Cambridge, 2003.
3. W. Cheney and W. Light, *A Course in Approximation Theory*, Brooks/Cole, 1999.
4. J. Fan and I. Gijbels, *Local Polynomial Modelling and its Applications*, Chapman & Hall (New York), 1996.
5. W. Freeden, T. Gervens, and M. Schreiner, *Constructive Approximation on the Sphere*, Oxford University Press, Oxford, 1998.
6. M. A. Golberg and C. S. Chen, *Discrete Projection Methods for Integral Equations*, Computational Mechanics Publications, Southampton, 1997.
7. K. Höllig, *Finite Element Methods With B-Splines*, SIAM Frontiers in Applied Mathematics no. 26, Philadelphia, 2003.
8. O. Kounchev, *Multivariate Polysplines: Applications to Numerical and Wavelet Analysis*, Academic Press, New York, 2001.
9. P. Lancaster and K. Šalkauskas, *Curve and Surface Fitting*, Academic Press, New York, 1986.
10. G. R. Liu, *Mesh Free Methods: Moving beyond the Finite Element Method*, CRC Press, Boca Raton, FL, 2002.
11. P. V. Yee and S. Haykin, *Regularized Radial Basis Function Networks: Theory and Applications*, Wiley-Interscience, 2001.

Survey Papers (incomplete list)

- I. I. Babuška, U. Banerjee and J. E. Osborn, Survey of meshless and generalized finite element methods: A unified approach, University of Texas, Austin, TICAM Report 02-03, 2002.
- II. T. Belytschko, Y. Krongauz, D. Organ, M. Fleming and P. Krysl, Meshless methods: an overview and recent developments, *Comp. Meth. Appl. Mech. Eng.* (139) 1996, 3–47.
- III. M. D. Buhmann, New developments in the theory of radial basis function interpolation, in *Multivariate Approximations: From CAGD to Wavelets*, K. Jetter and F. I. Utreras (eds.), World Scientific (1993), 35–75.
- IV. M. D. Buhmann, Radial basis functions, in *Acta Numerica 2000, Vol. 9*, Cambridge University Press (2000), 1–38.
- V. T. Evgeniou, M. Pontil, and T. Poggio, Regularization networks and support vector machines, *Adv. Comput. Math.* 13 (2000), no. 1, 1–50.
- VI. G. E. Fasshauer, Solving differential equations with radial basis functions: multilevel methods and smoothing, *Adv. in Comp. Math.* (11) 1999, 139–159.
- VII. S. Li and W. K. Liu, Meshfree and particle methods and their applications., *Appl. Mech. Rev.* 55 (2002), no. 1, 1–34.
- VIII. M. J. D. Powell, The theory of radial basis function approximation in 1990, in *Advances in Numerical Analysis II: Wavelets, Subdivision Algorithms, and Radial Basis Functions*, W. Light (ed.), Oxford University Press (1992), 105–210.

- IX. R. Schaback, Creating surfaces from scattered data using radial basis functions; in *Mathematical Methods for Curves and Surfaces*, M. Dæhlen, T. Lyche, and L. L. Schumaker (eds.), Vanderbilt University Press, 1995, 477–496.
- X. R. Schaback, Remarks on meshless local construction of surfaces, in *The Mathematics of Surfaces, IX*, R. Cipolla and R. Martin (eds.), Springer, 2000, 34–58.
- XI. R. Schaback and H. Wendland, Characterization and construction of radial basis functions, in *Multivariate Approximation with Applications*, N. Dyn, D. Leviatan, D. Levin, and A. Pinkus (eds.), Cambridge University Press, 2001, 1–24.
- XII. M. Unser, Sampling – 50 years after Shannon, *Proc. IEEE* 88 (2000), 569–587.

Book Projects or Manuscripts:

- a. C. S. Chen, Y. C. Hon and R. Schaback, *Scientific Computing with Radial Basis Functions*, working on manuscript.
- b. A. Huerta and P. Breitkopf, *Meshless and Particle Based Approaches in Computational Mechanics*, Kogan Page, December 2003.
- c. A. Iske, *Multiresolution Methods in Scattered Data Modelling*, Habilitation Thesis, 2002 (actual book may turn out to be *Meshfree Methods for Transport Equations*).
- d. G. R. Liu and M. B. Liu, *Smoothed Particle Hydrodynamics: A Meshfree Particle Method*, World Scientific, Winter 2003.
- e. R. Schaback, *Reconstruction of Multivariate Functions From Scattered Data (Radial Basis Functions)*, manuscript, 1997.
- f. H. Wendland, *Scattered Data Modelling by Radial and Related Functions*, Habilitation Thesis, 2002.