

COMPUTER ASSISTED PROOFS IN APPLIED MATHEMATICS

Summer Graduate School, MSRI/SLMath, July 7 to 18, 2025

Recommended Preparatory Reading

- [1] A. NEUMAIER, [Computer-assisted proofs](#), in *12th GAMM - IMACS International Symposium on Scientific Computing, Computer Arithmetic and Validated Numerics (SCAN 2006)* (Duisberg, Germany, 2006), IEEE, Piscataway, NJ, 2006, Article #5, ISBN 978-0-7695-2821-2, [link](#).
- [2] J. B. VAN DEN BERG, [Introduction to rigorous numerics in dynamics: general functional analytic setup and an example that forces chaos](#), in *Rigorous numerics in dynamics* (Seattle, WA, 2016), J. B. VAN DEN BERG and J.-P. LESSARD, eds., Proceedings of Symposia in Applied Mathematics **74**, American Mathematical Society, Providence, RI, 2018, ISBN 978-1-4704-2814-3, [link](#), [alternate](#), pp. 1–25. [MR](#) [Zbl](#)
- [3] R. E. MOORE, R. B. KEARFOTT, and M. J. CLOUD, [The interval number system](#), in *Introduction to interval analysis*, Society for Industrial and Applied Mathematics, Philadelphia, PA, 2009, ISBN 978-0-898716-69-6, Ch. 2, pp. 7–17. [MR](#) [Zbl](#)
- [4] A. QUARTERONI, R. SACCO, and F. SALERI, [Solution of systems of nonlinear equations](#), in *Numerical mathematics*, Texts in Applied Mathematics **37**, Springer, Cham, Switzerland, 2nd ed., 2007, ISBN 978-3-540-34658-6; 3-540-34658-9, §7.1, pp. 286–298. [MR](#) [Zbl](#)