

Journal Articles

- Adoteye, Kaska et al. (2015). “Correlation of Parameter Estimators for Models Admitting Multiple Parametrizations”. In: *International Journal of Pure and Applied Mathematics* 105.3, pp. 497–522.
- Banks, Harvey Thomas, Robert Baraldi, Jared Catenacci, et al. (2016). “Parameter Estimation Using Unidentified Individual Data in Individual Based Models”. In: *Mathematical Modeling of Natural Phenomena* 11.6, pp. 103–121.
- Banks, Harvey Thomas, Robert Baraldi, Karissa Cross, et al. (2015). “Uncertainty quantification in modeling HIV viral mechanics.” In: *Mathematical Biosciences and Engineering* 12.5, pp. 937–964.
- Banks, Harvey Thomas, Robert Baraldi, and Kevin Flores (2015). “Optimal Design for Minimizing Uncertainty in Dynamic Equilibrium Systems”. In: *Eurasian Journal of Mathematical and Computer Applications* 3, pp. 20–43.
- Banks, Harvey Thomas, Robert Baraldi, Kevin Flores, and Michael Stemkovski (2016). “Validation of a Mathematical Model for Green Algae (*Raphidocelis subcapitata*) Growth and Implications for a Coupled Dynamical System with *Daphnia Magna*”. In: *Applied Sciences* 6.5, p. 155.
- Baraldi, Robert, Rajiv Kumar, and Aleksandr Aravkin (2019). “Basis Pursuit Denoise with Nonsmooth Constraints”. In: *IEEE Transactions on Signal Processing* 67.22, pp. 5811–5823.
- Baraldi, Robert, Carl Ulberg, et al. (Sept. 2019). “Relaxation algorithms for matrix completion, with applications to seismic travel-time data interpolation”. In: *Inverse Problems* 35.10, p. 105009. DOI: 10.1088/1361-6420/ab3204. URL: <https://doi.org/10.1088/1361-6420/ab3204>.
- Baraldi, Robert J., Aleksandr Aravkin, and Orban Dominique (2022). “A Levenberg-Marquardt Method for Nonsmooth Regularized Least Squares”. In: *SIAM Journal on Scientific Computing* In Review.
- Baraldi, Robert J., Aleksandr Aravkin, and Dominique Orban (2021). “A Proximal Quasi-Newton Trust-Region Method for Nonsmooth Regularized Optimization”. In: *SIAM Journal of Optimization* 32.2, pp. 900–929. URL: <https://epubs.siam.org/doi/abs/10.1137/21M1409536>.
- Baraldi, Robert J. and Drew P. Kouri (2022). “A Proximal Trust-Region Method for Nonsmooth Optimization with Inexact Function and Gradient Evaluations”. In: *Mathematical Programming* 201.1, pp. 1–40. URL: <https://link.springer.com/article/10.1007/s10107-022-01915-3>.
- (2023). “Efficient Proximal Subproblem Solvers for a Nonsmooth Trust-Region Method”. In: *Computational Optimization and Applications* In Review.
- (n.d.). “Local Convergence Analysis of an Inexact Trust-Region Method for Nonsmooth Optimization”. In: *Optimization Letters* In Review ().
- Baraldi, Robert J., Stefan Wild, and Sven Leyffer (2023). “Using Filter Methods to Guide Convergence for ADMM with Applications to Nonnegative Matrix Factorization”. In: *SIAM Journal on Optimization* In Review.

- Liu, Christopher et al. (2021). “Comparison of Machine Learning Approaches for Tsunami Forecasting from Sparse Observations”. In: *Pure and Applied Geophysics* 178, pp. 5129–5153. URL: <https://link.springer.com/article/10.1007/s00024-021-02841-9>.
- Rim, Donsub et al. (2022). “Tsunami Early Warning from Global Navigation Satellite System Data using Convolutional Neural Networks”. In: *Geophysical Review Letters* 49.20. URL: <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2022GL099511>.

Book Chapters

- Baraldi, Robert J., Drew P. Kouri, and Denis Ridzal (2023). “Trust-Region Methods with Inexact and Adaptive Computations”. In: *Encyclopedia of Optimization*. Ed. by Panos M. Pardalos and Oleg A. Prokopyev. Cham, Switzerland: Springer Nature.

Conference Papers

- Baraldi, Robert J., Evelyn Herberg, et al. (2024). “Adaptive Randomized Sketching for Dynamic Nonsmooth Optimization”. In: *Model Validation and Uncertainty Quantification, Volume 3*. Ed. by Roland Platz et al. Cham: Springer Nature Switzerland, pp. 107–116. ISBN: 978-3-031-37003-8.
- “Uncertainty quantification for a model of HIV-1 patient response to antiretroviral therapy interruptions” (2014). In: *Proceedings of the 2014 American Control Conference*, pp. 2753–2758.