

Senka Maćešić

Assist. Prof. in Mathematics(Professor in Technical Sciences),
Faculty of Engineering, University of Rijeka
Dr.Sc. Faculty of Engineering, University of Rijeka, 1998

Research interest: numerical schemes for hyperbolic conservation laws, genetic algorithms, computational fluid dynamics

Recent publications:

- [1] Sopta L., Maćešić, S., Holjević D., Črnjarić-Žic, N., Škifić J., Družeta S., Crnković, B., *Tribaljš dam-break and flood wave propagation*, **Annali dell'Universita di Ferrara**, in press, (2007)
- [2] Črnjarić-Žic, N., Maćešić, S., Crnković, B., *Efficient implementation of WENO schemes to nonuniform meshes*, **Annali dell'Universita di Ferrara**, in press, (2007)
- [3] Črnjarić-Žic, N., Vuković, S., Sopta, L., *On Different Flux Splittings and Flux Functions in WENO Schemes for Balance Laws*, **Computers & Fluids**, 35, 1074-1092, (2006)
- [4] Sopta, L., Črnjarić-Žic, N., Vuković, S., Holjević, D., Škifić, J., Družeta, S., *Numerical simulations of water wave propagation and flooding*, in **Proceedings of the Conference on Applied Scientific Computing** (ed. Drmač, Marušić, Tutek), pp. 293-304, ISBN 1-4020-3196-3 (HB), ISBN 1-4020-3197-1 (e-book), Springer, Dordrecht, 2005
- [5] Vuković, S., Črnjarić-Žic, N., Sopta, L.: *Order of accuracy of extended WENO schemes*, in **Proceedings of the Conference on Applied Scientific Computing**, (ed. Drmač, Marušić, Tutek), pp. 329-341, ISBN 1-4020-3196-3 (HB), ISBN 1-4020-3197-1 (e-book), Springer, Dordrecht, 2005

Selected publications:

- [1] Črnjarić-Žic, N., Vuković, S., Sopta, L., *Balanced finite volume WENO and central WENO schemes for the shallow water and the open-channel flow equations*, **Journal of Computational Physics**, 200, 512-548 (2004)
- [2] Vuković, S., Črnjarić-Žic, N., Sopta, L., *WENO schemes for balance laws with spatially variable flux*, **Journal of Computational Physics**, 199, 87-109 (2004)
- [3] Črnjarić-Žic, N., Vuković, S., Sopta, L., *Extension of ENO and WENO schemes to One-Dimensional Bed-Load Sediment Transport Equations*, **Computers & Fluids**, Vol. 33, 31-56 (2004)
- [4] Vuković, S., Sopta, L., *Upwind Schemes with Exact Conservation Property for One-Dimensional Open Channel Flow Equations*, **SIAM Journal of Scientific Computing** 24(5), pp. 1630-1649, 2003.
- [5] Vuković, S., Sopta, L., *ENO and WENO schemes with the exact conservation property for one-dimensional shallow water equations*, **Journal of Computational Physics** 179, (2002), pp. 1-29, doi: 10.1006/jcph.2002.7076.