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Computability and Complexity in Analysis
– in honor of Klaus Weihrauch's 65th birthday –
J.UCS Special Issue

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This special issue of the Journal of Universal Computer Science (JUCS) contains a selection of articles presented at the Fifth International Conference on Computability and Complexity in Analysis, CCA 2008, that took place on August 21-24, 2008 in Hagen, Germany. It was the 14th event in a series of workshops, seminars and conferences. For more information about CCA see `http://cca-net.de`.

This time the conference was held in honor of Klaus Weihrauch's 65th birthday and it included a faculty colloquium to celebrate his retirement. As expressed by a conference participant in 2003, Klaus Weihrauch is the lynchpin of the CCA group and thus it was appropriate that in this year the conference series returned to Hagen where it once started in 1995.

The conference is concerned with Computable Analysis, the theory of computability and complexity over real-valued data. Computability theory studies the limitations and abilities of computers in principle. Computational complexity theory provides a framework for understanding the cost of solving computational problems, as measured by the requirement for resources such as time and space. In particular, computable analysis supplies an algorithmic foundation of numerical computation.

Scientists working in the area of computability and complexity over the real numbers and over more general continuous data structures come from different fields, such as theoretical computer science, domain theory, logic, constructive mathematics, computer arithmetic, numerical mathematics and all branches of analysis.

This special issue contains a selection of 12 articles most of which are based on talks presented at the conference. We would like to thank all authors for their contributions and the referees for their thorough and diligent work. Finally, we would like to thank all the organizers of the conference at the University of Hagen for their help and Professor Hermann Maurer, the managing editor of JUCS, for his support.

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