The Research Group on Applied Mathematics with emphasis on Optimization at the Faculty of Mathematics of the University of Vienna, headed by Radu Ioan Boţ, has its core research areas in Nonsmooth and Convex Optimization. Currently it offers

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1 PostDoc Position (18 months) at the
Faculty of Mathematics, University of Vienna

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within the **FWF**-funded research project **Employing Recent Outcomes in Proximal Theory Outside the Comfort Zone.**

The main scientific target of the project is to employ recent advances concerning some classical techniques used so far mainly for iteratively minimizing convex functions in Hilbert spaces to research fields lying outside their comfort zone. These methods evolve around the notion of proximality, which relies on evaluating a certain regularization of the addressed mathematical object. Due to its reliability, simplicity and accuracy, the proximal theory was successfully employed for solving nonsmooth convex optimization problems and monotone inclusions with complex structures as well, proving a strong positive impact on the treatment of real-life applications with high-dimensional data.

The research themes to be addressed in this project range from the employment of the paradigm of proximality in broader frameworks like considering generalized distances and addressing the solving of nonsmooth and nonconvex optimization problems to the approach of monotone inclusions problems and optimization problems via first- and second-order dynamical systems. The expected results should have impact beyond the corresponding research areas both in mathematical fields like ordinary differential equations, partial differential equations, optimal control, functional analysis, game theory, equilibrium problems and optimal transport theory, and in the solving of real-life problems arising in optimal location selection, image processing, machine learning, quantification of risk, network communication and video processing.

The position is available from **April 1st, 2018**. The salary is as suggested by the FWF according to a PostDoc position. The working load for the project is 40 hours per week. The deadline for application is **March 15th, 2018**.

Required Qualifications

The candidates should have a PhD degree in Mathematics, a solid theoretical background in analysis and mathematical optimization, and programming skills. Fluency in the English language has to be proven. Applications (including a letter of motivation, curriculum vitae, the PhD thesis, peer reviewed publications, copies of academic certificates and two letters of recommendation) should be sent to: min.hadler@univie.ac.at. More information can be found on http://www.mat.univie.ac.at/~rabot.