

# Applying Douglas–Rachford to inconsistent problems: theory and practice

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## Abstract

The celebrated Douglas-Rachford algorithm generates a sequences that converges to a minimizer of the sum of two (possibly nonsmooth) convex functions. It can be used to handle more than two (but not too many) convex functions by working in a product space.

This talk consists of two parts. In the first part, Bauschke will review the behaviour of the Douglas-Rachford algorithm applied to inconsistent problems. In the second part, Koch will explain why this situation is interesting in actual industrial applications.

Based on various joint works with Dr. Hung Phan (U Massachusetts Lowell) and Dr. Walaa Moursi (U Waterloo).