

1154-01-307

**Tinne Hoff Kjeldsen\*** ([thk@math.ku.dk](mailto:thk@math.ku.dk)), Department of Mathematical Sciences, University of Copenhagen, Universitetsparken 5, 2100 Copenhagen, Denmark. *From Mathematical Programming to Convex Analysis: Duality as a driving force in history of mathematics.*

The presentation will focus on the emergence of convex analysis in the 20th century in the context of mathematical programming with special attention to the significance of duality. More specific, we will look at duality in the history of mathematical programming from von Neumann's work in game theory to Fenchel's duality theorem in nonlinear programming and the role it played for the development of convex analysis. How did ideas of duality emerge in linear programming? What role did they play for the development of nonlinear programming? How did Fenchel introduce ideas of duality in nonlinear programming and how did his duality function as a driving force for the development of convex analysis? (Received August 30, 2019)