



# Particle Theory Seminar

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“Flavour-violation in the MSSM”

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## Abstract:

The Minimal Supersymmetric Standard Model (MSSM) is the best studied (and probably also best motivated) extension of the SM. However, it possesses many new sources of flavour (CP) violation which leads to the famous SUSY flavour (CP) problem. After an introduction to flavour-violation in the MSSM I focus on the following aspects:

- Chiral enhancement of self-energies and resummation.
- Constraints from FCNC processes on the MSSM parameter-space.
- Effective Higgs vertices beyond the decoupling limit.
- Non-degenerate squarks and Kaon/D mixing.
- Phenomenological consequences of radiative flavour-violation.
- Right-handed  $W$ -couplings in the MSSM and the determination of  $V_{ub}$ ,  $V_{cb}$ .
- $b \rightarrow d\gamma$  and constraints on new physics.