Otto-von-Guericke-Universität Magdeburg
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

Herr Dr. Khanh Nguyen Duc

(Université Claude Bernard, Lyon)

über das Thema

# On the shifted Littlewood-Richardson coefficients and the Littlewood-Richardson coefficients

**Zoom-Koordinaten:** Meeting ID: 951 9966 2620 / Passcode: 461614

**Zeit:** Dienstag, 8. Juni 2021, 14.00 Uhr

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Prof. Petra Schwer

**Abstract:** We give a new interpretation of the shifted Littlewood-Richardson coefficients $f^{\nu}_{\lambda\mu}$ ($\lambda, \mu, \nu$ are strict partitions). The coefficients $g_{\lambda\mu}$ which appear in the decomposition of Schur $Q$-function $Q_\lambda$ into the sum of Schur functions $Q_\lambda = 2^{l(\lambda)} \sum_{\mu} g_{\lambda\mu} s_\mu$ can be considered as a special case of $f^{\nu}_{\lambda\mu}$ (here $\lambda$ is a strict partition of length $l(\lambda)$). We also give another description for $g_{\lambda\mu}$ as the cardinal of a subset of a set that counts Littlewood-Richardson coefficients $c^{\tilde{\lambda}}_{\mu^t\mu}$. This new point of view allows us to establish connections between $g_{\lambda\mu}$ and $c^{\tilde{\lambda}}_{\mu^t\mu}$. More precisely, we prove that $g_{\lambda\mu} = g_{\lambda\mu^t}$, and $g_{\lambda\mu} \leq c^{\tilde{\lambda}}_{\mu^t\mu}$. We conjecture that $g^2_{\lambda\mu} \leq c^{\tilde{\lambda}}_{\mu^t\mu}$ and formulate some conjectures on our combinatorial models which would imply this inequality if it is valid.