

Einladung

In der Reihe „Chemnitzer Mathematisches Colloquium“ der Fakultät für Mathematik der TU Chemnitz spricht

Frau Prof. Dr. Anita Behme (TU Dresden)

über das Thema

Siegmund-duality of Markov processes.

Der Vortrag findet am

Donnerstag, dem 4. Juli 2024, um 16:00 Uhr, im Raum 2/B202

statt.

Ich möchte Sie hiermit recht herzlich zu dieser Veranstaltung einladen. Das Kolloquium wird von Frau Prof. Dr. Imma Valentina Curato geleitet.

Abstract:

According to Siegmund (1976) two Markov processes X, Y on \mathbb{R}_+ are dual, if for all $t, x, y \geq 0$

$$\mathbb{P}^x(X_t \leq y) = \mathbb{P}^y(Y_t \geq x).$$

This duality is a helpful tool in applied probability as it allows (under suitable regularity conditions) to express the stationary law of one of the processes via hitting probabilities of the other process.

We recall a few well-known examples of pairs of dual Markov processes and their applications, add new case-studies, and discuss how to find a dual process in the general context of Lévy-type processes. Further, we will shed some light on the connection between the above duality and the related concept of time-reversal as used in the theory of semimartingales.

Prof. Dr. Daniel Potts
Dekan

