

# Einladung

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

**Herr Prof. Dr. Andreas Defant (Universität Oldenburg)**

über das Thema

**Harald Bohr meets George Boole.**

Der Vortrag findet am

**Donnerstag, dem 2. Mai 2019, um 16.00 Uhr im Raum 2/N013, Neues Hörsaalgebäude**

statt.

Ich möchte Sie hiermit recht herzlich zu dieser Veranstaltung einladen. Das Kolloquium wird von Herrn Prof. Dr. Thomas Kalmes geleitet.

Gegen 15:15 Uhr findet in der Coffee-Bar im Foyer eine Kaffeerunde statt, in der man den Vortragenden schon mal willkommen heißen und mit Kollegen plaudern kann.

**Abstract:**

Harald Bohr's power series theorem from 1913 states that for a holomorphic function  $f$  on the open unit disc  $\mathbb{D}$  we have

$$\sup_{z \in \frac{1}{3}\mathbb{D}} \sum_{n=0}^{\infty} |f^{(n)}(0) z^n| \leq \sup_{z \in \mathbb{D}} |f(z)|,$$

and here the so-called Bohr radius  $1/3$  can not be improved. This nowadays well-known result came out as a sort of by-product of Bohr's intensive study of ordinary Dirichlet series  $\sum_n a_n n^{-s}$  from the beginning of the last century, and since then it remained a subject of special attention in various more general settings as e.g. for holomorphic functions on the polydisc  $\mathbb{D}^N$ .

In our talk we intend to report on a recent study of Bohr's phenomenon for real functions on the Boolean cube  $\{-1, 1\}^N$ . Initiated by George Boole these functions today form the crucial object of interest in theoretical computer sciences, social choice, combinatorics and graph theory, among other fields.

Compared with the classical complex situation subtle differences as well as striking parallels occur. Moreover, we indicate an unexpected connection with the efficiency of quantum computers.

Prof. Dr. Oliver Ernst  
Dekan

