CARL
VON
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universität | OLDENBURG

Fakultät II   *Informatik, Wirtschafts- und*
Rechtswissenschaften
Department für Informatik

Internes Kolloquium

Am **Freitag,** dem **27. November 2015,** um **13:00 Uhr** hält

Dipl.-Inform. Björn Engelmann
Carl von Ossietzky Universität Oldenburg

im Rahmen seiner beabsichtigten Dissertation einen Vortrag mit dem Titel

Modular Verification of Dynamically-Typed Object-Oriented Programs

Der Vortrag findet am Uhlhornsweg im Raum A2 2-222 (SCARE Common Room) statt.

Abstract:

Dynamically-typed object-oriented languages enable programmers to write elegant, reusable and extensible programs. However, due to their inherent lack of static type information, the current methodology for program verification is not directly applicable to these languages. In this thesis, we aim to provide adequate verification techniques for dynamically-typed programs. To this end, we will

- introduce the first sound and complete program logic for a dynamically-typed object-oriented language,

- investigate the role type information plays in program verification,

- show that type-safe dynamically-typed programs can be verified just like statically-typed ones,

- provide a way to semi-automatically derive type information (and thus proof type safety) for dynamically-typed programs.

Additionally, making correctness proofs for dynamically-typed programs modular and facilitating their reuse requires abstracting from concrete types. To accomplish this we propose integrating algebraic specifications into Hoare logic and use them as type-independent interfaces.

Betreuer: Prof. Dr. Ernst-Rüdiger Olderog

Weitere Kolloquiumstermine sind im WWW abrufbar.