



# **Institut für Systemsoftware**

# Aktuelle Mitarbeiter des SSW



## Leitung



Hanspeter Mössenböck

## Sekretariat



Karin Gusenbauer



Laura Hofmann

## Systemadministrator



Michael Kaffenda

## Stammpersonal / Assistenten



Herbert Prähofer



Markus Weninger



Sebastian Kloibhofer



Lukas Makor



Christoph Pichler



Florian Huemer

## Compilerforschung mit Oracle



## eInformatics



## Oracle Labs





**GraalVM™**  
Run Programs Faster Anywhere

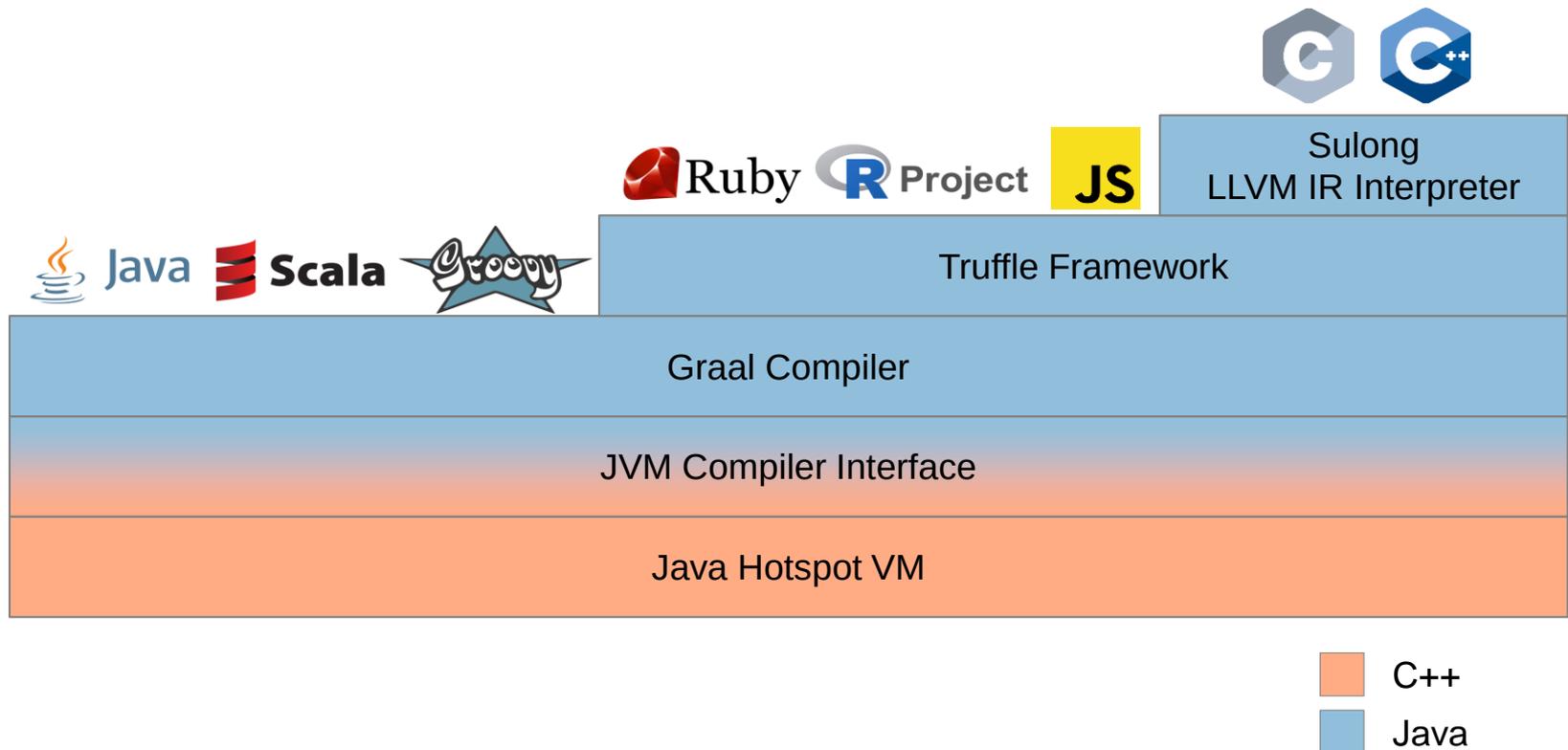
[WHY GRAALVM](#) [GET STARTED](#)

The graphic features a central white cube labeled 'GraalVM' with a glowing orange 'RUBY' cube on top. Surrounding it are five smaller white cubes connected by lines, labeled 'Scala', 'MS SQL', 'OpenJDK', 'Oracle Database', and 'Node'.

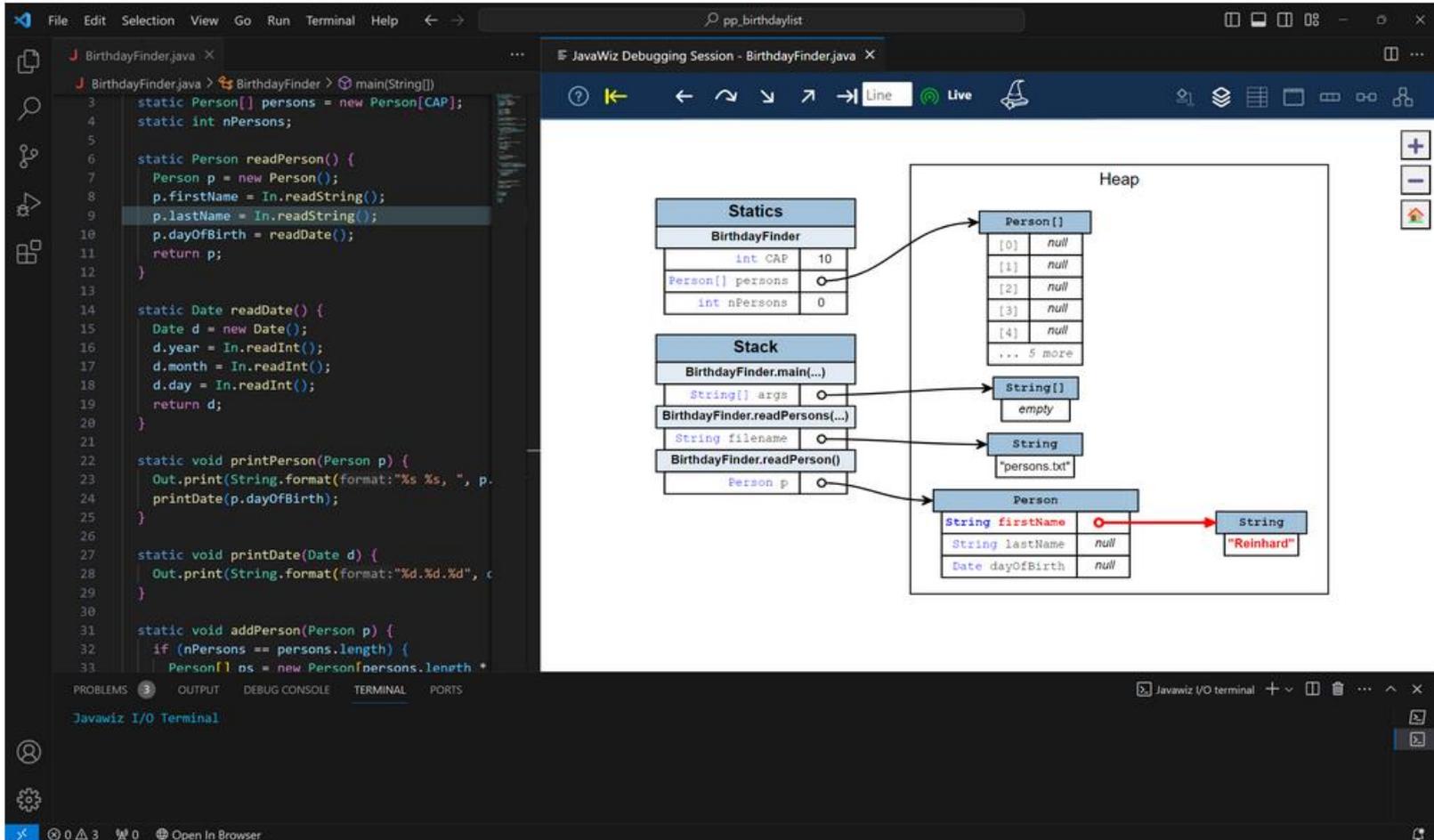
# Forschungsbereiche



- **Graal:** dynamic compiler written in Java
- **Truffle:** language implementation framework



## JavaWiz - Visualisierungstool für Programmieranfänger



The screenshot displays the JavaWiz IDE interface. On the left, the source code for `BirthdayFinder.java` is shown, with line 9 highlighted. The right pane shows the JavaWiz Debugging Session, which visualizes the program's state:

- Statics:** A table for `BirthdayFinder` with fields `int CAP` (10), `Person[] persons` (pointing to a heap array), and `int nPersons` (0).
- Stack:** A table showing the current call stack:
  - `BirthdayFinder.main(...)` with `String[] args` (empty).
  - `BirthdayFinder.readPersons(...)` with `String filename` ("persons.txt").
  - `BirthdayFinder.readPerson()` with `Person p` (pointing to a heap object).
- Heap:** A diagram showing memory objects:
  - A `Person[]` array with 5 elements, all `null`.
  - A `String[]` array (empty).
  - A `String` object containing "persons.txt".
  - A `Person` object with `String firstName` (pointing to a `String` object "Reinhard"), `String lastName` (null), and `Date dayOfBirth` (null).

At the bottom, the `Javawiz I/O Terminal` is visible.

**Offene Theme:** <http://sww.jku.at/Teaching/Projects/open.html>

- Leider nicht immer aktuell
- Am besten **direkt Mail an einen der SSW-Mitarbeiter oder Prof. Mössenböck**
- Themenfindung dann typischerweise im persönlichen Gespräch
  - Mit Fokus auf die Interessen des Studenten / der Studentin

Laufende und abgeschlossene Bachelorarbeiten: <http://sww.jku.at/Teaching/Projects/>

## Finished Theses

- 2023: Moodle Manager (Vinojcic Adrian, Supervisor: **Lukas Makor**)
- 2023: **Visual Studio Code Extension for Siemens G-Code** (Lukas Aichhorn, Supervisor: **Markus Weninger**)
- 2023: **Online Memory City Visualization Tool** (Daniel Raso, Supervisor: **Markus Weninger**)
- 2023: **Automatic Detection of Data Structures in Reconstructed Heap States** (Manuel Vujakovic, Supervisor: **Markus Weninger**)
- 2023: **Improving Vectorization of Fold Loops in a Dynamic Compiler** (Christoph Aigner, Supervisor: **Lukas Makor**)
- 2023: **Automatisches Ausfüllen von Prüfungsrastern** (Johann Reichl, Supervisor: **Hanspeter Mössenböck**)
- 2023: **Using Virtualization for Building Images from Native Image Bundles for Deterministic Reproducibility** (Dominik Mascherbauer, Supervisors: Ch. Wirth,
- 2023: **Applying GitOps principles to a cloud-native application** (Manuel Fagner, Supervisor: **Lukas Makor**)
- 2023: **Extending Microjava with Object-orientation and Extensions** (Felix Schmid, Supervisor: **Hanspeter Mössenböck**)
- 2023: **Extension of Microjava with Object-orientation and Extensions** (Sarah Gastner, Supervisor: **Hanspeter Mössenböck**)
- 2023: **A Parser Generator for LALR(1) Grammars** (Maximilian Arthofer, Supervisor: **Hanspeter Mössenböck**)
- 2023: **Extending the Online Exam System Xaminer with Streaming Capabilities** (Herber Tobias, Supervisor: **Markus Weninger**)
- 2023: **Synchronized Timeline View for Memory Cities** (Kaan Baylan, Supervisor: **Markus Weninger**)
- 2023: **Testautomatisierung der WPF-Applikation auf den ASFINAG-Verkehrsautomaten mittels Appium** (Michael Haas, Supervisor: **Sebastian Kloibhofer**)
- 2023: **A Framework for Static Analysis of IEC 61131-3 Languages: Part 1** (Jonathan Kudlich, Supervisor: **Herbert Prähofer**)
- 2023: **A Framework for Static Analysis of IEC 61131-3 Languages: Part 2** (Keanu Pöschke, Supervisor: **Herbert Prähofer**)
- 2023: **Fill-in-the-blanks Questions for the Online Exam System Xaminer** (Rebecca Rachinger, Supervisor: **Markus Weninger**)
- 2023: **Typinator: Windows Application for Automatic Text Expansion** (Simon Primetzhofer, Supervisor: **Markus Weninger**)
- 2023: **Reactive Markup - A Functional UI Library in Haskell** (Simon Reitingner, Supervisor: **Herbert Prähofer**)
- 2023: **Web-Frontend für ein elektronisches Klausursystem** (Julian Garn, Supervisor: **Hanspeter Mössenböck**)
- 2023: **MusicLib - Eine Android-App zur Kategorisierung von Musiksammlungen auf Smartphones** (Baasanjav Jargal, Supervisor: **Hanspeter Mössenböck**)
- 2023: **Global Warming Scoring Solution for Sustainable Investment** (Stefan Haslhofer, Supervisor: **Markus Weninger**)

# Interesse?



- Schreibt uns eine E-Mail.
- Oder besucht uns direkt am Institut.
  
- **Kontakt:**
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  - <http://ssw.jku.at/>
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  - Institutsvorstand: Prof. Hanspeter Mössenböck – [hanspeter.moessenboeck@jku.at](mailto:hanspeter.moessenboeck@jku.at)