

# Development and Integration of Impedance Analysis within Onboard Vehicle Electronics for Advanced Fuel Cell Diagnostics

Institut für Verbrennungskraftmaschinen  
und Brennstoffzellen



## Description

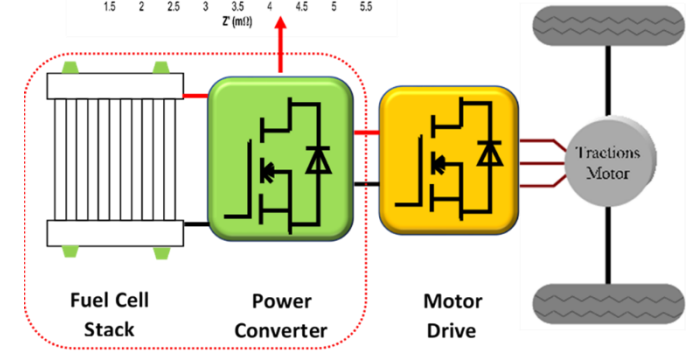
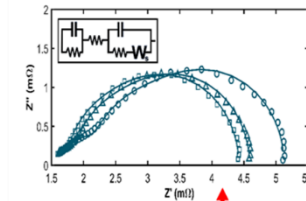
This thesis project focused on revolutionizing fuel cell diagnostics through the innovative integration of impedance analysis into onboard vehicle electronics. This research aims to assess and classify various options for implementing impedance analysis within the vehicle's electronic systems for effective fuel cell diagnostics. If you're passionate about bridging the gap between theory and practical application, this thesis offers a unique opportunity to make a lasting impact.

## Your responsibilities

- Develop a strong understanding of the basic principles behind impedance analysis for fuel cells.
- Explore and articulate diverse implementation options, including utilizing the fuel cell DC/DC converter, employing cell voltage monitoring, or incorporating other specialized electronic devices for impedance analysis.

## Prerequisites

- Ability to collaborate effectively within a multidisciplinary team.
- Demonstrate an innovative mindset, willing to explore new ideas and technologies in the field of fuel cell diagnostics.
- Good knowledge of vehicle electronics and a basic understanding of chemistry
- Very good knowledge of English, both written and spoken



**Starting: As soon as possible**

## Contact

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| <input checked="" type="checkbox"/> Bachelorarbeit | <input checked="" type="checkbox"/> theoretisch   |
| <input type="checkbox"/> Studienarbeit             | <input type="checkbox"/> simulativ                |
| <input checked="" type="checkbox"/> Masterarbeit   | <input checked="" type="checkbox"/> experimentell |