

Mathias Obster, M.Sc. RWTH

| Research Assistant
obster[at]embedded[dot]rwth-aachen[dot]de

Phone: +49 241 80 21155
Fax: +49 241 80 22150

Address: Ahornstr. 55, 52074 Aachen
Office: Room 2313 (building H)



Research Topics

- Soft PLCs
- Execution and Simulation of PLC Programs on RTAndroid
- IEC 61131
- IDEs for PLC Programs on mobile devices

Open theses

The following list might not be complete. You can ask me for further topic suggestions for a bachelor thesis or a master thesis. Own suggestions are possible as well.

- Master: [Inkrementelle Analyse für Steuerungscode](#)

Teaching

Semester	Titel	Art
Summer term 13	Praktikum Systemprogrammierung	P
Winter term 13/14	Praktikum Systemprogrammierung	P
Summer term 14	Praktikum Systemprogrammierung	P
	SPOS xt: Exploring embedded applications	P
	Sicherheit industrieller Steuerungssysteme	S

Summer Celebration 2014

Graduate celebration for Computer Science students of the RWTH Aachen. This year it is organized by the chair of Computer Science 11. <http://www.sommerfest-informatik.de>

- Contact person
- Planning, organisation and running the celebration

Publications

[Obs20]

PDFBIB

Obster, M., "Unterstützung der SPS-Programmierung durch statische Analyse während der Programmeingabe", PhD Thesis, Aachen, 2020.

Unterstützung der SPS-Programmierung durch statische Analyse während der Programmeingabe

Bibtex entry :

```
@phdthesis { Obs20,
  author = { Obster, Mathias },
  othercontributors = { Kowalewski, Stefan and Frey, Georg },
  title = { Unterst{"u}tzung der SPS-Programmierung durch statische
    Analyse w{"a}hrend der Programmeingabe },
  publisher = { RWTH Aachen University },
  school = { RWTH Aachen University },
  pages = { 1 Online-Ressource (xi, 118 Seiten) : Illustrationen },
  series = { Aachener Informatik-Berichte },
  year = { 2020 },
  address = { Aachen },
  doi = { 10.18154/RWTH-2021-01742 },
  typ = { PUB:(DE-HGF)11 },
  reportid = { RWTH-2021-01742 },
  cin = { 122810 / 120000 },
  url = {
http://publications.rwth-aachen.de/record/812214/files/812214.pdf },
}
```

[OK17]

PDFBIB

Obster, M. and Kowalewski, S., "A live static code analysis architecture for PLC software", in *Proc. 2017 22nd IEEE International Conference on Emerging Technologies and Factory Automation : September 12-15, 2017, Limassol, Cyprus / ABB, IEEE, IES, University of Cyprus, Piscataway, NJ, 2017, IEEE*, p. 4.

A live static code analysis architecture for PLC software

Bibtex entry :

```
@inproceedings { OK17,
  author = { Obster, Mathias and Kowalewski, Stefan },
```

```

    title = { A live static code analysis architecture for PLC software
},
    booktitle = { 2017 22nd IEEE International Conference on Emerging
        Technologies and Factory Automation : September 12-15, 2017,
        Limassol, Cyprus / ABB, IEEE, IES, University of Cyprus },
    publisher = { IEEE },
    pages = { 4 Seiten },
    year = { 2017 },
    address = { Piscataway, NJ },
    organization = { 22. IEEE International Conference on Emerging
Technologies
        and Factory Automation, Limassol (Cyprus), 2017-09-12 -
        2017-09-15 },
    doi = { 10.1109/ETFA.2017.8247707 },
    typ = { PUB:(DE-HGF)7 },
    reportid = { RWTH-2018-223453 },
    cin = { 122810 / 120000 },
    url = { http://publications.rwth-aachen.de/record/722219 },
}

```

[UVS+17]

PDFBIB

Ulewicz, S., Vogel-Heuser, B., Simon, H., Bohlender, D., Obster, M., and Kowalewski, S., "A priori test coverage estimation for automated production systems : Using generated behavior models for coverage calculation", in *Proc. 2017 22nd IEEE International Conference on Emerging Technologies and Factory Automation : September 12-15, 2017, Limassol, Cyprus / ABB, IEEE, IES, University of Cyprus*, Piscataway, NJ, 2017, IEEE, p. 4.

A priori test coverage estimation for automated production systems : Using generated behavior models for coverage calculation

Bibtex entry :

```

@inproceedings { UVS+17,
    author = { Ulewicz, Sebastian and Vogel-Heuser, Birgit and Simon,
        Hendrik and Bohlender, Dimitri and Obster, Mathias and
        Kowalewski, Stefan },
    title = { A priori test coverage estimation for automated
production
        systems : Using generated behavior models for coverage
        calculation },
    booktitle = { 2017 22nd IEEE International Conference on Emerging
        Technologies and Factory Automation : September 12-15, 2017,
        Limassol, Cyprus / ABB, IEEE, IES, University of Cyprus },
    publisher = { IEEE },
    pages = { 4 Seiten },
    year = { 2017 },
    address = { Piscataway, NJ },
    organization = { 22. IEEE International Conference on Emerging

```

Technologies

```
and Factory Automation, Limassol (Cyprus), 2017-09-12 -  
2017-09-15 },  
doi = { 10.1109/ETFA.2017.8247704 },  
typ = { PUB:(DE-HGF)7 },  
reportid = { RWTH-2018-223451 },  
cin = { 122810 / 120000 },  
url = { http://publications.rwth-aachen.de/record/722217 },  
}
```

[KKO+15]

[PDFBIB](#)

Kowalewski, S., Kalkov, I., Obster, M., and Thönnessen, D., "Echtzeiterweiterung für Android: SPS inside", *IEE - Elektrische Automatisierung + Antriebstechnik*, pp. 58-61, 2015

Echtzeiterweiterung für Android: SPS inside

Bibtex entry :

```
@article { KKO+15,  
  author = { Kowalewski, Stefan and Kalkov, Igor and Obster, Mathias  
and  
  Th{"o"}nnessen, David },  
  title = { Echtzeiterweiterung f{"u"}r Android: SPS inside },  
  journal = { IEE - Elektrische Automatisierung + Antriebstechnik },  
  publisher = { IEE },  
  pages = { 58-61 },  
  year = { 2015 },  
  issn = { 1434-2898 },  
  typ = { PUB:(DE-HGF)16 },  
  reportid = { RWTH-CONV-236305 },  
  cin = { 122810 / 120000 },  
  url = { http://publications.rwth-aachen.de/record/752275 },  
}
```

[OKK14]

[PDFBIB](#)

Obster, M., Kalkov, I., and Kowalewski, S., "Development and Execution of PLC Programs on Real-Time Capable Mobile Devices", in *Proc. 2014 IEEE [International Conference on] Emerging Technologies and Factory Automation (ETFA 2014) : Barcelona, Spain, 16 - 19 September 2014 / [co-sponsored by Universitat Politècnica de Catalunya - Barcelona Tech (UPC); IEEE Industrial Electronics Society]*, Piscataway, NJ, 2014, IEEE, p. 8.

Development and Execution of PLC Programs on Real-Time Capable Mobile Devices

Bibtex entry :

```
@inproceedings { OKK14,  
  author = { Obster, Mathias and Kalkov, Igor and Kowalewski, Stefan
```

```
},
  title = { Development and Execution of PLC Programs on Real-Time
           Capable Mobile Devices },
  booktitle = { 2014 IEEE [International Conference on] Emerging
                Technologies and Factory Automation (ETFA 2014) : Barcelona,
                Spain, 16 - 19 September 2014 / [co-sponsored by Universitat
                Politècnica de Catalunya - Barcelona Tech (UPC); IEEE
                Industrial Electronics Society] },
  publisher = { IEEE },
  pages = { 8 Seiten },
  year = { 2014 },
  address = { Piscataway, NJ },
  organization = { 2014 IEEE [International Conference on] Emerging
                  Technologies and Factory Automation, Barcelona (Spain),
                  2014-09-16 - 2014-09-19 },
  doi = { 10.1109/ETFA.2014.7005218 },
  typ = { PUB:(DE-HGF)7 },
  reportid = { RWTH-CONV-206433 },
  cin = { 120000 / 122810 },
  url = { http://publications.rwth-aachen.de/record/444615 },
}
```

From:

<https://www.embedded.rwth-aachen.de/> - Informatik 11 - Embedded Software

Permanent link:

<https://www.embedded.rwth-aachen.de/doku.php?id=en:lehrstuhl:mitarbeiter:obster>

Last update: **2016/06/09 14:30**

