

# Marco Grochowski, M.Sc. RWTH

## Contact

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## Office Hour

On Appointment

## Teaching

Semester	Titel	Art
Wintersemester 18/19	<a href="#">Cyber-Physische Systeme in Medizintechnik und Mobilität</a>	S
	<a href="#">Modellbasiertes Testen &amp; Analyse eingebetteter Software</a>	S
	<a href="#">Formale und semiformale Methoden für eingebettete Software</a>	S
	<a href="#">Proseminar: Grundlagen eingebetteter Systeme</a>	S
	<a href="#">Praktikum Systemprogrammierung (Versuch 1)</a>	P
Sommersemester 18	<a href="#">Entwicklung NXT gesteuerter LEGO-Fahrzeuge mit Java</a>	P
	<a href="#">Formale und semiformale Methoden für eingebettete Software</a>	S
	<a href="#">Praktikum Systemprogrammierung (Versuch 1)</a>	P

## Publications

[BBG+20]

PDFBIB

Buchsbaum, M. S. K., Brecher, C., Grochowski, M., and Kowalewski, S., "Identifikation von Informationen zur Beschreibung der Systemgrenzen eines sicheren, cyber-physischen Automatisierungssystems", in *Proc. Beschreibungsmittel, Methoden, Werkzeuge und Anwendungen : EKA 2020 : 05.-06. Mai 2020 : 16. Fachtagung mit Workshop, Magdeburg, Magdeburg, 2020*, Otto-von-Guericke-Universität Magdeburg; Universitaetsbibliothek, p. 10.

## Identifikation von Informationen zur Beschreibung der Systemgrenzen eines sicheren, cyber-physischen Automatisierungssystems

### Bibtex entry :

```
@inproceedings { BBG+20,  
  author = { Buchsbaum, Melanie Sarah Katharina and Brecher,  
Christian  
  and Grochowski, Marco and Kowalewski, Stefan },  
  title = { Identifikation von Informationen zur Beschreibung der  
Systemgrenzen eines sicheren, cyber-physischen  
Automatisierungssystems },  
  booktitle = { Beschreibungsmittel, Methoden, Werkzeuge und  
Anwendungen :  
EKA 2020 : 05.-06. Mai 2020 : 16. Fachtagung mit Workshop,  
Magdeburg },  
  publisher = { Otto-von-Guericke-Universit{"a}t Magdeburg;  
Universitaetsbibliothek },  
  pages = { 10 p. },  
  year = { 2020 },  
  address = { Magdeburg },  
  organization = { Beschreibungsmittel, Methoden, Werkzeuge und  
Anwendungen :  
EKA 2020, Magdeburg (Germany), 2020-05-05 - 2020-05-06 },  
  typ = { PUB:(DE-HGF)7 },  
  reportid = { RWTH-2020-05987 },  
  cin = { 417200 / 417310 / 080067 / 122810 / 120000 },  
}
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[GKB+20]

PDFBIB

Grochowski, M., Kowalewski, S., Buchsbaum, M. S. K., and Brecher, C., "Befähigung der Testautomatisierung für ein cyber-physisches Produktionssystem", in *Proc. Entwurf komplexer Automatisierungssysteme : Beschreibungsmittel, Methoden, Werkzeuge und Anwendungen : EKA 2020 : 05.-06. Mai 2020 : 16. Fachtagung mit Workshop; Magdeburg*, Magdeburg, 2020, Otto-von-Guericke-Universität Magdeburg; Universitaetsbibliothek, p. 10.

## Befähigung der Testautomatisierung für ein cyber-physisches Produktionssystem

### Bibtex entry :

```
@inproceedings { GKB+20,  
  author = { Grochowski, Marco and Kowalewski, Stefan and Buchsbaum,  
Melanie Sarah Katharina and Brecher, Christian },  
  title = { Bef{"a}higung der Testautomatisierung f{"u}r ein  
cyber-physisches Produktionssystem },
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booktitle = { Entwurf komplexer Automatisierungssysteme :
  Beschreibungsmittel, Methoden, Werkzeuge und Anwendungen :
  EKA 2020 : 05.-06. Mai 2020 : 16. Fachtagung mit Workshop;
  Magdeburg },
publisher = { Otto-von-Guericke-Universit{"a}t Magdeburkg;
  Universitaetsbibliothe },
pages = { 10 p. },
year = { 2020 },
address = { Magdeburg },
organization = { Entwurf komplexer Automatisierungssysteme :
  Beschreibungsmittel, Methoden, Werkzeuge und Anwendungen :
  EKA 2020, Magdeburg (Germany) },
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[GSB+20]

PDFBIB

Grochowski, M., Simon, H., Bohlender, D., Kowalewski, S., Löcklin, A., Müller, T., Jazdi, N., Zeller, A., and Weyrich, M., "Formale Methoden für rekonfigurierbare cyber-physische Systeme in der Produktion", *Automatisierungstechnik*, vol. 68, iss. 1, pp. 3-14, 2020

## Formale Methoden für rekonfigurierbare cyber-physische Systeme in der Produktion

### Bibtex entry :

```

@article { GSB+20,
  author = { Grochowski, Marco and Simon, Hendrik and Bohlender,
  Dimitri
  and Kowalewski, Stefan and L{"o}cklin, Andreas and
  M{"u}ller, Timo and Jazdi, Nasser and Zeller, Andreas and
  Weyrich, Michael },
  title = { Formale Methoden f{"u}r rekonfigurierbare cyber-
  physische
  Systeme in der Produktion },
  journal = { Automatisierungstechnik },
  publisher = { De Gruyter },
  pages = { 3-14 },
  volume = { 68 },
  number = { 1 },
  year = { 2020 },
  address = { Berlin },
  issn = { 2196-677X },
  doi = { 10.1515/auto-2019-0115 },
  typ = { PUB:(DE-HGF)16 },
  reportid = { RWTH-2019-12214 },
  cin = { 122810 / 120000 },
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```

[KGE+20]

[PDFBIB](#)

König, G., Grochowski, M., Eckert, M., Jakobczak, F., Stollenwerk, J., Kowalewski, S., and Loosen, P., "Apparat zur automatisierten Justage optischer Systeme", *DGaO-Proceedings*, vol. 2020, 2020

## Apparat zur automatisierten Justage optischer Systeme

**Bibtex entry :**

```
@article { KGE+20,  
  author = { K{"o"}nig, Georg and Grochowski, Marco and Eckert,  
  Marvin  
    and Jakobczak, F. and Stollenwerk, Jochen and Kowalewski, S.  
    and Loosen, Peter },  
  title = { Apparat zur automatisierten Justage optischer Systeme },  
  journal = { DGaO-Proceedings },  
  volume = { 2020 },  
  year = { 2020 },  
  address = { Erlangen-N{"u"}rnberg: Dt. Gesellschaft f{"u"}r  
angewandte  
  Optik },  
  issn = { 1614-8436 },  
  organization = { 121. Jahrestagung der deutschen Gesellschaft  
f{"u"}r  
  angewandte Optik, Bremen (Germany), 2020-06-02 - 2020-06-06 },  
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  cin = { 418910 / 080067 / 122810 / 120000 },  
  url = { http://www.dgao-proceedings.de },  
}
```

[GKB+19]

[PDFBIB](#)

Grochowski, M., Kowalewski, S., Buchsbaum, M. S. K., and Brecher, C., "Applying Runtime Monitoring to the Industrial Internet of Things", in *Proc. 2019 24th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA) : Paraninfo Building, University of Zaragoza, Zaragoza, Spain, 10-13 September, 2019 : proceedings / organized by: University of Zaragoza, Spain ; sponsored by: the Institute of Electrical and Electronics Engineers (IEEE), IEEE Industrial Electronics Society (IES), Aragón Institute for Engineering Research (I3A), Spain, Piscataway, NJ, 2019, IEEE.*

## Applying Runtime Monitoring to the Industrial Internet of Things

**Bibtex entry :**

```
@inproceedings { GKB+19,  
  author = { Grochowski, Marco and Kowalewski, Stefan and Buchsbaum,
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Melanie Sarah Katharina and Brecher, Christian },
title = { Applying Runtime Monitoring to the Industrial Internet of
Things },
booktitle = { 2019 24th IEEE International Conference on Emerging
Technologies and Factory Automation (ETFA) : Paraninfo
Building, University of Zaragoza, Zaragoza, Spain, 10-13
September, 2019 : proceedings / organized by: University of
Zaragoza, Spain ; sponsored by: the Institute of Electrical
and Electronics Engineers (IEEE), IEEE Industrial
Electronics Society (IES), Aragón Institute for Engineering
Research (I3A), Spain },
publisher = { IEEE },
year = { 2019 },
address = { Piscataway, NJ },
organization = { 24th IEEE International Conference on Emerging
Technologies
and Factory Automation, Zaragoza (Spain), 2019-09-10 -
2019-09-13 },
doi = { 10.1109/ETFA.2019.8869447 },
typ = { PUB:(DE-HGF)7 },
reportid = { RWTH-2019-09795 },
cin = { 122810 / 080067 / 417200 / 120000 / 417310 },
url = {
http://publications.rwth-aachen.de/record/770889/files/770889.pdf },
illkey = { EXC 2023: Internet of Production (IoP) (390621612) },
}

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[GKB+19a]

[PDFBIB](#)

Grochowski, M., Kowalewski, S., Buchsbaum, M. S. K., and Brecher, C., "Applying Passive Testing to an Industrial Internet of Things Plant", in *Proc. VALID 2019 : the Eleventh International Conference on Advances in System Testing and Validation Lifecycle : November 24-28, 2019, Valencia, Spain / IARIA ; VALID 2019 editors: Jos van Rooyen (Identify - Software Quality Services, the Netherlands), Samuele Buro (University of Verona, Italy), Marco Campion (University of Verona, Italy), Michele Pasqua (University of Verona, Italy)*, [Wilmington, DE, USA], 2019, IARIA, pp. 31-37.

## Applying Passive Testing to an Industrial Internet of Things Plant

### Bibtex entry :

```

@inproceedings { GKB+19a,
author = { Grochowski, Marco and Kowalewski, Stefan and Buchsbaum,
Melanie Sarah Katharina and Brecher, Christian },
title = { Applying Passive Testing to an Industrial Internet of
Things
Plant },
booktitle = { VALID 2019 : the Eleventh International Conference on
Advances in System Testing and Validation Lifecycle :

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```
November 24-28, 2019, Valencia, Spain / IARIA ; VALID 2019
editors: Jos van Rooyen (Identify - Software Quality
Services, the Netherlands), Samuele Buro (University of
Verona, Italy), Marco Campion (University of Verona, Italy),
Michele Pasqua (University of Verona, Italy) },
publisher = { IARIA },
pages = { 31-37 },
year = { 2019 },
address = { [Wilmington, DE, USA] },
organization = { VALID 2019, The Eleventh International Conference
on
Advances in System Testing and Validation Lifecycle,
Valencia (Spain), 2019-11-24 - 2019-11-28 },
typ = { PUB:(DE-HGF)7 },
reportid = { RWTH-2019-11004 },
cin = { 122810 / 417200 / 080067 / 120000 / 417310 },
url = {
http://thinkmind.org/index.php?view=article&articleid=valid_2019_2_30_4
0023 },
}
```

[GSA+18]

[PDFBIB](#)

Grochowski, M., Schweigler, M., Alrifaae, B., and Kowalewski, S., "A GPS-aided Inertial Navigation System for Vehicular Navigation using a Smartphone", *IFAC-PapersOnLine*, vol. 51, iss. 10, pp. 121-126, 2018

## A GPS-aided Inertial Navigation System for Vehicular Navigation using a Smartphone

### Bibtex entry :

```
@article { GSA+18,
author = { Grochowski, Marco and Schweigler, Martin and Alrifaae,
Bassam and Kowalewski, Stefan },
title = { A GPS-aided Inertial Navigation System for Vehicular
Navigation using a Smartphone },
journal = { IFAC-PapersOnLine },
pages = { 121-126 },
volume = { 51 },
number = { 10 },
year = { 2018 },
address = { Laxenburg },
issn = { 2405-8963 },
organization = { 3rd IFAC Conference on Embedded Systems,
Computational
Intelligence and Telematics in Control, Farod (Portugal),
2018-06-06 - 2018-06-08 },
doi = { 10.1016/j.ifacol.2018.06.247 },
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typ = { PUB:(DE-HGF)16 },
reportid = { RWTH-2018-227583 },
cin = { 122810 / 120000 },
url = { http://publications.rwth-aachen.de/record/731577 },
}
```

[SGT+18]

PDFBIB

Schweigler, M., Grochowski, M., Tamrakar, S., and Kowalewski, S., "Ground Surface Pattern Recognition with Hidden Markov Models for Low Cost Positioning Improvement", in *Proc. 8th International Conference on Pattern Recognition Systems (ICPRS 2017) : 11-13 July 2017*, [Stevenage], 2018, IET, pp. 1-6.

## Ground Surface Pattern Recognition with Hidden Markov Models for Low Cost Positioning Improvement

### Bibtex entry :

```
@inproceedings { SGT+18,
  author = { Schweigler, Martin and Grochowski, Marco and Tamrakar,
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  title = { Ground Surface Pattern Recognition with Hidden Markov
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    for Low Cost Positioning Improvement },
  booktitle = { 8th International Conference on Pattern Recognition
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    (ICPRS 2017) : 11-13 July 2017 },
  publisher = { IET },
  pages = { 1-6 },
  year = { 2018 },
  address = { [Stevenage] },
  organization = { 8th International Conference of Pattern
    Recognition Systems,
    Madrid (Spain), 2017-07-11 - 2017-07-13 },
  doi = { 10.1049/cp.2017.0166 },
  typ = { PUB:(DE-HGF)7 },
  reportid = { RWTH-CONV-236283 },
  cin = { 122810 / 120000 },
  url = { http://publications.rwth-aachen.de/record/752258 },
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