

Dr.-Ing. André Stollenwerk

Contact



Group leader medical engineering

Email: [stollenwerk\[at\]embedded.rwth-aachen.de](mailto:stollenwerk[at]embedded.rwth-aachen.de)

Phone: +49 241 80 21166

Fax: +49 241 80 22150

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fingerprint: 3A96 900F 5EAC BAA7 34AF 5406 5870 67C2 0A1C 1267

Address: Ahornstr. 55, 52074 Aachen, Germany

Office: room 2308 (building H)

Teaching

Semester	Course	Type
WS 12/13	Development of a Digital Fabricator	Lab Course
WS 11/12	Development of a Digital Fabricator	Lab Course
SS 10	Electrical Foundations of Computer Science	Lab Course
WS 09/10	Hardware Programming	Lab Course
SS 09	Electrical Foundations of Computer Science	Lab Course
WS 08/09	Hardware Programming	Lab Course
SS 08	Electrical Foundations of Computer Science	Lab Course
WS 07/08	Hardware Programming	Lab Course

supervised thesis

- [Implementierung von eingebetteter stereoskopischer Triangulation für einen 3D-Scanner](#)
- [Entwicklung eines Versuchsaufbaus zur optischen Desinfektionsvalidierung](#)
- [Entwicklung eines dezentral implementierten Sicherheitskonzeptes für intensivmedizinische](#)

Anwendungen

- Auslegung einer pulsatilen Ansteuerungsstrategie für eine Blutpumpe
- Rezirkulationsmessung bei extrakorporaler Lungenunterstützung
- Modellierung und Analyse von konkurrierenden Sicherheitszielen in einer intensivmedizinischen Anwendung
- RTOS with Matlab/Simulink for a Medical Application
- Entwicklung eines Zeitsynchronisationsverfahrens für ein intensivmedizinisches, verteiltes System
- Entwicklung und Spezifikation eines CAN Protokolls für sicherheitskritische medizintechnische Anwendungen
- Funktionale Erweiterung des VMware vSphere Systems
- Integration von Hardwareabstraktion und Hardwareansteuerung im eingebetteten Echtzeitbetriebssystem ChibiOS
- Integration modellbasierter Sicherheitsmechanismen für die extrakorporale Lungenunterstützung in ein eingebettetes RTOS
- Erarbeitung und Integration von modellbasierten Sicherheitsmaßnahmen für eine intensivmedizinische Anwendung
- Entwicklung mobiler Multiplattform-Clients für ein Buchungssystem
- Entwicklung einer Metrik zur Bewertung verschiedener Hardwareplattformen für medizintechnische Anwendungen
- Erarbeitung einer mikrowellengeregelten chemischen Reaktionsführung
- Modellbasierte Diagnose eines Oxygenators für die Extrakorporale Membranoxygenierung
- Portierung einer Diagonalschleifensteuerung auf ein eingebettetes Betriebssystem mit Unterstützung modell-basierter Sicherheitsmaßnahmen
- Modellierung und Regelung des Blutflusses einer Diagonalschleife bei der extrakorporalen Oxygenierung
- Entwurf und Validierung einer auf den Wirkungsgrad optimierten Regelungsstrategie zur Ansteuerung einer piezoelektrisch betriebenen Pumpe für automobiler Anwendungen
- Thermodynamische Modellbildung eines Handdesinfektionsprozesses
- Tiefeninformationsabhängige Bildfusion in einer optischen Desinfektionsvalidierung
- Entwicklung und Umsetzung eines normgerechten Testkonzepts für die Bedienoberfläche eines Notfall-Beatmungsgeräts
- Erarbeitung einer Ansteuerungsautomatik für eine Unabhängige Energieversorgung

Publications

[BPS+24]

PDFBIB

Buglowski, M., Pfannschmidt, V., Stollenwerk, A., Schoberer, M., Huong Nguyen, T. B., Becker, S., and Braun, O., "Beatmungsgerät und Verfahren zur Atemgasversorgung", 2024.

Beatmungsgerät und Verfahren zur Atemgasversorgung

Bibtex entry :

```
@techreport { BPS+24,
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```

author = { Buglowski, Mateusz and Pfannschmidt, Valerie and
           Stollenwerk, André and Schoberer, Mark and Huong Nguyen,
           Thi Bich and Becker, Sabine and Braun, Oliver },
title = { Beatmungsger{\a}t und Verfahren zur Atemgasversorgung },
pages = { 29 Seiten : Illustrationen },
year = { 2024 },
typ = { PUB:(DE-HGF)23 },
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https://worldwide.espacenet.com/patent/search/family/087245644/publicat
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[PSK24]

[PDFBIB](#)

Pfannschmidt, V., Stollenwerk, A., and Kowalewski, S., "Physiologische Regelung der künstlichen Beatmung Frühgeborener", in *Proc. [58. Regelungstechnisches Kolloquium, Boppard]*, 2024.

Physiologische Regelung der künstlichen Beatmung Frühgeborener

Bibtex entry :

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@inproceedings { PSK24,
  author = { Pfannschmidt, Valerie and Stollenwerk, André and
            Kowalewski, Stefan },
  title = { Physiologische Regelung der k{"u"}nstlichen Beatmung
            Fr{"u"}hgeborener },
  booktitle = { [58. Regelungstechnisches Kolloquium, Boppard] },
  year = { 2024 },
  organization = { 58. Regelungstechnisches Kolloquium, Boppard
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  reportid = { RWTH-2024-02444 },
  cin = { 122810 / 120000 },
  url = {
https://www.iosb.fraunhofer.de/content/dam/iosb/iosbtest/documents/vera
nstaltungen/boppard-regelungstechnisches-
kolloquium/Abstracts_Boppard_2024.pdf },
}

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[BWH+23]

[PDFBIB](#)

Berg, F. J., Wiartalla, M. O., Hüllmann, M., Derks, A., Kowalewski, S., and Stollenwerk, A., "ASMO: a decentralized and verifiable interoperability platform in intensive care", *Proceedings on automation in medical engineering*, vol. 2, iss. 1, p. 2, 2023

ASMO: a decentralized and verifiable interoperability platform in intensive care

Bibtex entry :

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@article { BWH+23,  
  author = { Berg, Frederik Julius and Wiartalla, Marc Oliver and  
            H{"u}llmann, Moritz and Derks, Andreas and Kowalewski,  
            Stefan and Stollenwerk, André },  
  title = { ASMO: a decentralized and verifiable interoperability  
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  pages = { 2 Seiten },  
  volume = { 2 },  
  number = { 1 },  
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  doi = { 10.18154/RWTH-2023-03716 },  
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  reportid = { RWTH-2023-03716 },  
  cin = { 122810 / 120000 },  
  url = { https://doi.org/10.18416/AUTOMED.2023 },  
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[FFN+23]

[PDFBIB](#)

Fonck, S. A. M., Fritsch, S., Nottenkämper, G., and Stollenwerk, A., "Implementation of ResNet-50 for the Detection of ARDS in Chest X-Rays using transfer-learning", *Proceedings on automation in medical engineering*, vol. 2, iss. 1, p. 2, 2023

Implementation of ResNet-50 for the Detection of ARDS in Chest X-Rays using transfer-learning

Bibtex entry :

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@article { FFN+23,  
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url = { https://doi.org/10.18416/AUTOMED.2023 },
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[FLS+23]

[PDFBIB](#)

Fischbach, A., Lamberti, M., Simons, J. A., Wrede, E., Theißen, A., Winnersbach, P., Rossaint, R., Stollenwerk, A., and Bleilevens, C., "Early Blood Clot Detection Using Forward Scattering Light Measurements Is Not Superior to Delta Pressure Measurements", *Biosensors : open access journal*, vol. 13, iss. 12, p. [1]-13, 2023

Early Blood Clot Detection Using Forward Scattering Light Measurements Is Not Superior to Delta Pressure Measurements

Bibtex entry :

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@article { FLS+23,
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    k{"u}nstliche implantierbare Lungen - SmartLungControl

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[WBK+23]

PDFBIB

Wiertalla, M., Berg, F. J., Kühn, J., Buglowski, M., Bleilevens, C., Kowalewski, S., and Stollenwerk, A., "A fully automated normothermic machine perfusion system for kidney grafts supporting physiological motivated flow profiles", in *Proc. Current directions in biomedical engineering*, Berlin, 2023, vol. 9, De Gruyter, pp. 323-326.

A fully automated normothermic machine perfusion system for kidney grafts supporting physiological motivated flow profiles

Bibtex entry :

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@inproceedings { WBK+23,  
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  title = { A fully automated normothermic machine perfusion system  
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Entwicklung eines vollautomatisierten in vitro Teststands  
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Ersatzmethode zur Biokompatibilit{"a"}tstestung von  
Membranoxygenatoren und zur Transplantationssimulation  
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[WBO+23a]

PDFBIB

Wartalla, M. O., Berg, F. J., Ottersbach, F., Kühn, J., Buglowski, M., Kowalewski, S., and Stollenwerk, A., "A modular and verifiable software architecture for interconnected medical systems in intensive care", *Annals of computer science and information systems*, vol. 37, pp. 345-351, 2023

A modular and verifiable software architecture for interconnected medical systems in intensive care

Bibtex entry :

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@article { WBO+23a,
  author = { Wartalla, Marc Oliver and Berg, Frederik Julius and
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[BOP+22]

PDFBIB

Becker, S., Olivier, L., Pfannschmidt, V., Buglowski, M., Hütten, M., Wienhold, M., Orlikowsky, T., Stollenwerk, A., and Schoberer, M., "Closed-Loop Kontrolle des endtidalen CO₂ im Frühgeborenen Lämmer-Modell", in *Proc. Abstracts 48. Jahrestagung der Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin / Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin e. V. = 1, 1, 1*, Jena : Conventus Congressmanagement & Marketing GmbH,

2022,, Jena, 2022, Conventus Congressmanagement & Marketing GmbH, p. 92.

Closed-Loop Kontrolle des endtidalen CO₂ im Frühgeborenen Lämmer-Modell

Bibtex entry :

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@inproceedings { BOP+22,  
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mit adaptiver Anwenderunterstützung (NANNI) -  
Teilvorhaben: Erforschung neuer Modelle zur Diagnose von  
Fehlerzuständen (BMBF-13GW0292C) },  
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[BOP+22]

[PDFBIB](#)

Buglowski, M., Pfannschmidt, V., Becker, S., Braun, O., Hutten, M., Ophelders, D., Oprea, C., Pattai, S., Schoberer, M., and Stollenwerk, A., "Closed-Loop Control of Arterial CO₂ in Mechanical Ventilation of Neonates", in *Proc. 44th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) / pre-conference workshops & social events: Monday, July 11, 2022, conference dates: Tuesday, July 12-Friday, July 15, 2022 / conference chair: Christopher James (University of Warwick), conference co-chair: James Patton (University of Chicago) ; programm chair: Ron Summers (Collegium Basilea), [Piscataway, NJ], 2022, IEEE, pp. 4991-4995.*

Closed-Loop Control of Arterial CO₂ in Mechanical Ventilation of Neonates

Bibtex entry :

```
@inproceedings { BPB+22,
  author = { Buglowski, Mateusz and Pfannschmidt, Valerie and Becker,
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      dates: Tuesday, July 12-Friday, July 15, 2022 / conference
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      co-chair: James Patton (University of Chicago) ; programm
      chair: Ron Summers (Collegium Basilea) },
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  pages = { 4991-4995 },
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      2022-07-15 },
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[JS+22]

[PDFBIB](#)

Janisch, T., Stollenwerk, A., Siekmann, U., and Kopp, R., "Treatment of children with Hyperbaric Oxygenation (HBOT) : an Europe-wide survey", *Minerva pediatrica*, vol. 74, iss. 2, pp. 116-120, 2022

Treatment of children with Hyperbaric Oxygenation

(HBOT) : an Europe-wide survey

Bibtex entry :

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@article { JSS+22,
  author = { Janisch, Thorsten and Stollenwerk, André and Siekmann,
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  title = { Treatment of children with Hyperbaric Oxygenation (HBOT)
:
    an Europe-wide survey },
  journal = { Minerva pediatrics },
  publisher = { Edizioni Minerva Medica },
  pages = { 116-120 },
  volume = { 74 },
  number = { 2 },
  year = { 2022 },
  address = { Torino },
  issn = { 1827-1715 },
  doi = { 10.23736/S2724-5276.20.05741-2 },
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http://publications.rwth-aachen.de/record/787714/files/787714.pdf },
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[OBS+22]

[PDFBIB](#)

Olivier, L., Buglowski, M., Sabine, B., Hütten, M., Olikowsky, T., Stollenwerk, A., and Schoberer, M., "Work in progress: Detektion einer intensivierten invasiven Beatmung bei Neonaten mithilfe eines Fuzzylogik-Modells", in *Proc. Abstracts 48. Jahrestagung der Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin / Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin e. V.*, Jena, 2022, Conventus Congressmanagement & Marketing GmbH, p. 93.

Work in progress: Detektion einer intensivierten invasiven Beatmung bei Neonaten mithilfe eines Fuzzylogik-Modells

Bibtex entry :

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@inproceedings { OBS+22,
  author = { Olivier, Lena and Buglowski, Mateusz and Sabine, Becker
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[WSE+22]

[PDFBIB](#)

Walter, M., Stollenwerk, A., Eckstein, L., Kowalewski, S., and Leonhardt, S., "PV1000 – Interdisziplinäre Entwicklung eines Pandemie-Beatmungsgerätes", in *Proc. MT-2022 Tagungsband*, 2022, p. 169.

PV1000 – Interdisziplinäre Entwicklung eines Pandemie-Beatmungsgerätes

Bibtex entry :

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@inproceedings { WSE+22,
    author = { Walter, Marian and Stollenwerk, André and Eckstein, Lutz
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[FFK+21]

[PDFBIB](#)

Fonck, S., Fritsch, S. J., Kowalewski, S., Hensen, R., and Stollenwerk, A., "Algorithmic distinction of ARDS and Heart Failure in ICU data from medical embedded systems by using a computer model", *IFAC-PapersOnLine*, vol. 54, iss. 4, pp. 135-140, 2021

Algorithmic distinction of ARDS and Heart Failure in ICU data from medical embedded systems by using a computer model

Bibtex entry :

```
@article { FFK+21,  
  author = { Fonck, Simon and Fritsch, Sebastian Johannes and  
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  title = { Algorithmic distinction of ARDS and Heart Failure in ICU  
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  journal = { IFAC-PapersOnLine },  
  publisher = { Elsevier },  
  pages = { 135-140 },  
  volume = { 54 },  
  number = { 4 },  
  year = { 2021 },  
  address = { Frankfurt ; M{"u"}nchen [u.a.] },  
  issn = { 2405-8963 },  
  organization = { 4. IFAC Conference on Embedded Systems,  
Computational  
Intelligence and Telematics in Control, Valenciennes  
(France), 2021-07-05 - 2021-07-07 },  
  doi = { 10.1016/j.ifacol.2021.10.023 },  
  typ = { PUB:(DE-HGF)16 },  
  reportid = { RWTH-2021-10204 },  
  cin = { 122810 / 120000533000-2533000-2 },  
  url = {  
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[LKL+21]

[PDFBIB](#)

Lamberti, M., Kopp, R., Lübke, C., Leonhardt, S., Walter, M., and Stollenwerk, A., "Safety and Automation Concepts for Artificial Impantable Lungs - SmartLungControl", *Biomedical engineering*, vol. 66, iss. s1, 2021

Safety and Automation Concepts for Artificial Impantable Lungs - SmartLungControl

Bibtex entry :

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@article { LKL+21,
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[MBF+21]

[PDFBIB](#)

Marx, G., Bickenbach, J., Fritsch, S. J., Kunze, J. B., Maassen, O., Deffge, S., Kistermann, J., Haferkamp, S. D., Lutz, I., Voellm, N. K., Lowitsch, V., Polzin, R., Sharafutdinov, K., Mayer, H., Kuepfer, L., Burghaus, R., Schmitt, W., Lippert, J., Riedel, M., Barakat, C., Stollenwerk, A., Fonck, S., Putensen, C., Zenker, S., Erdfelder, F., Grigutsch, D., Kram, R., Beyer, S., Kampe, K., Gewehr, J. E., Salman, F., Juers, P., Kluge, S., Tiller, D., Wisotzki, E., Gross, S., Homeister, L., Bloos, F., Scherag, A., Ammon, D., Mueller, S., Palm, J., Simon, P., Jahn, N., Loeffler, M., Wendt, T., Schuerholz, T., Groeber, P., and Schuppert, A., "Algorithmic surveillance of ICU patients with acute respiratory distress syndrome (ASIC) : protocol for a multicentre stepped-wedge cluster randomised quality improvement strategy", *BMJ open*, vol. 11, iss. 4, pp. 1-7, 2021

Algorithmic surveillance of ICU patients with acute respiratory distress syndrome (ASIC) : protocol for a multicentre stepped-wedge cluster randomised quality improvement strategy

Bibtex entry :

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@article { MBF+21,  
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Dorothee and Lutz, Irina and Voellm, Nora Kristiana and  
Lowitsch, Volker and Polzin, Richard and Sharafutdinov,  
Konstantin and Mayer, Hannah and Kuepfer, Lars and Burghaus,  
Rolf and Schmitt, Walter and Lippert, Joerg and Riedel,  
Morris and Barakat, Chadi and Stollenwerk, André and Fonck,  
Simon and Putensen, Christian and Zenker, Sven and  
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Homeister, Lorenz and Bloos, Frank and Scherag, André and  
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[PSS+21]

PDFBIB

Preuss, R., Smieschek, M., Stollenwerk, A., Kowalewski, S., and Heinrichs, T.,
"Behälterreinigungsmaschine", 2021.

Behälterreinigungsmaschine

Bibtex entry :

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@techreport { PSS+21,  
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[BBF+20]

[PDFBIB](#)

Buglowski, M., Bleilevens, C., Fabry, G., Kowalewski, S., and Stollenwerk, A., "Flussgesteuerte pH-Regulierung in einem automatisierten Nierenperfusionssystem", *Proceedings on automation in medical engineering*, vol. 1, iss. 1, 2020

Flussgesteuerte pH-Regulierung in einem automatisierten Nierenperfusionssystem

Bibtex entry :

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@article { BBF+20,  
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    Entwicklung eines vollautomatisierten in vitro Teststands
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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 :

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@article { KGE+20,
  author = { K{n}nig, Georg and Grochowski, Marco and Eckert,
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[SRT+20]

[PDFBIB](#)

Smieschek, M., Rakel, S., Thönnessen, D., Derks, A., Stollenwerk, A., and Kowalewski, S., "A Remote Test Environment for a Large-Scale Microcontroller Laboratory Course", in *Proc. Cyber physical systems : model-based design : 9th international workshop, CyPhy 2019 and 15th international workshop, WESE 2019, New York City, NY, USA, October 17-18, 2019 : revised selected papers / Roger Chamberlain, Martin Edin Grimheden, Walid Taha (eds.)*, Cham, 2020 in *Lecture Notes in Computer Science*, Springer, pp. 231-246.

A Remote Test Environment for a Large-Scale Microcontroller Laboratory Course

Bibtex entry :

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@inproceedings { SRT+20,
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}
```

[SS20]

[PDFBIB](#)

Stollenwerk, A. and Smieschek, M., "Eingabe und Übertragung von Instandhaltungsinformationen für das Condition Monitoring - Digitalisierung von Offline-Informationen", , Düsseldorf / Berlin, VDI/VDE 3711, 2020.

Eingabe und Übertragung von Instandhaltungsinformationen für das Condition Monitoring - Digitalisierung von Offline-Informationen

Bibtex entry :

```
@techreport { SS20,
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Instandhaltungsinformationen
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[Sto20]

[PDFBIB](#)

Stollenwerk, A., "An Embedded Graduate Lab Course with Spirit", in *Proc. Cyber physical systems : model-based design : 9th international workshop, CyPhy 2019 and 15th international workshop, WESE 2019, New York City, NY, USA, October 17-18, 2019 : revised selected papers / Roger Chamberlain, Martin Edin Grimheden, Walid Taha (eds.)*, Cham, 2020 in *Lecture Notes in Computer Science*, Springer, pp. 247-263.

An Embedded Graduate Lab Course with Spirit

Bibtex entry :

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@inproceedings { Sto20,
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http://publications.rwth-aachen.de/record/783168/files/783168.pdf },
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[FDG+19]

PDFBIB

Fabry, G., Doorschodt, B. M., Grzanna, T., Boor, P., Elliott, A. R., Stollenwerk, A., Tolba, R. H., Rossaint, R., and Bleilevens, C., "Cold Preflush of Porcine Kidney Grafts Prior to Normothermic Machine Perfusion Aggravates Ischemia Reperfusion Injury", *Scientific reports*, vol. 9, p. 9, 2019

Cold Preflush of Porcine Kidney Grafts Prior to Normothermic Machine Perfusion Aggravates Ischemia Reperfusion Injury

Bibtex entry :

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@article { FDG+19,
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Membranoxygenatoren und zur Transplantationssimulation
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[KBS+19]

[PDFBIB](#)

Kühn, J., Buglowski, M., Stollenwerk, A., Kowalewski, S., Walter, M., Leonhardt, S., Petran, J., Kopp, R., Rossaint, R., and Janisch, T., "Fault Identification in a Blood Pump Using Neural Networks", in *Proc. World Congress on Medical Physics and Biomedical Engineering 2018 : June 3-8, 2018, Prague, Czech Republic (Vol.2)* / edited by Lenka Lhotska, Lucie Sukupova, Igor Lacković, Geoffrey S. Ibbott, Singapore, 2019 in IFMBE Proceedings, Springer Singapore, pp. 27-32.

Fault Identification in a Blood Pump Using Neural Networks

Bibtex entry :

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@inproceedings { KBS+19,
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Membranoxygenatoren und zur Transplantationssimulation
(BMBF-031L0134B) },

}

[PAS+19]

[PDFBIB](#)

Pomprapa, A., Ahmed, W., Stollenwerk, A., Kowalewski, S., and Leonhardt, S., "Deep Learning of Arrhythmia Analysis Based on Convolutional Neural Network", *International journal of bioelectromagnetism : IJBEM*, vol. 21, iss. 1, pp. 48-58, 2019

Deep Learning of Arrhythmia Analysis Based on Convolutional Neural Network

Bibtex entry :

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@article { PAS+19,
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  journal = { International journal of bioelectromagnetism : IJBEM },
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[SKS+19]

[PDFBIB](#)

Smieschek, M., Kobsik, G., Stollenwerk, A., Kowalewski, S., Orlikowsky, T., and Schoberer, M., "Aided Hand Detection in Thermal Imaging Using RGB Stereo Vision", in *Proc. Biomedical engineering ranging from wellness to intensive care : 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) : 41st EMB Conference : July 23-27, Berlin / IEEE, EMB ; conference editorial board chair: Riccardo Barbieri, Milan, Italy, Piscataway, NJ, 2019, IEEE, pp. 6314-6317.*

Aided Hand Detection in Thermal Imaging Using RGB

Stereo Vision

Bibtex entry :

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@inproceedings { SKS+19,
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[KSK+18]

[PDFBIB](#)

Kühn, J., Stollenwerk, A., Kowalewski, S., Fabry, G., Grzanna, T., Doorschodt, B., Tolba, R. H., Rossaint, R., and Bleilevens, C., "A long-term setup for kidney perfusion." 2018.

A long-term setup for kidney perfusion

Bibtex entry :

```
@inproceedings { KSK+18,
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    (Mock Loop) - Ein k{"u"}nstlicher Kreislauf als
    Ersatzmethode zur Biokompatibilit{"a"}tstestung von
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[PAS+18]

[PDFBIB](#)

Pomprapa, A., Ahmed, W., Stollenwerk, A., Kowalewski, S., Uguz, D. U., and Leonhardt, S., "Arrhythmia Analysis in a Non-contact cECG Chair using Convolutional Neural Network", in *Proc. Proceedings of the 11th International Conference on Bioelectromagnetism : 23-25 May 2018, Aachen, Germany / Organizing Committee for ICBEM 2018 in Aachen: Prof. Steffen Leonhardt, RWTH Aachen University, Germany, Prof. Jaakko Malmivuo, Technische Universität Berlin, Germany, Dr. Marian Walter, RWTH Aachen University, Germany, Benjamin Hentze, RWTH Aachen University, Germany Markus Lüken, RWTH Aachen University, Germany ; Scientific Committee for ICBEM 2018 in Aachen: Prof. Catherine Disselhorst-Klug, RWTH Aachen University, Germany [und 27 weitere], Aachen, 2018, p. 4.*

Arrhythmia Analysis in a Non-contact cECG Chair using Convolutional Neural Network

Bibtex entry :

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@inproceedings { PAS+18,
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    Malmivuo, Technische Universität{"a"}t Berlin, Germany, Dr.
    Marian Walter, RWTH Aachen University, Germany, Benjamin
    Hentze, RWTH Aachen University, Germany Markus L{"u"}ken,
    RWTH Aachen University, Germany ; Scientific Committee for
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[PAS+18a]

[PDFBIB](#)

Pomprapa, A., Ahmed, W., Sayani, M. S., Stollenwerk, A., Kowalewski, S., and Leonhardt, S., "Classification of Obstructive Sleep Apnea Using Machine Learning", *American journal of respiratory and critical care medicine*, vol. 197, iss. Abstract Issue, p. 1, 2018

Classification of Obstructive Sleep Apnea Using Machine Learning

Bibtex entry :

```
@article { PAS+18a,
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journal = { American journal of respiratory and critical care
medicine },
publisher = { American Thoracic Society },
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organization = { International Conference of the American-Thoracic-
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https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2018.197.
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[PAS+18b]

PDFBIB

Pomprapa, A., Ahmed, W., Stollenwerk, A., Kowalewski, S., Uguz, D. U., and Leonhardt, S., "Arrhythmia Analysis in a Non-contact cECG Chair using Convolutional Neural Network", *International journal of bioelectromagnetism : IJBEM*, vol. 20, iss. 1, pp. 47-50, 2018

Arrhythmia Analysis in a Non-contact cECG Chair using Convolutional Neural Network

Bibtex entry :

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@article { PAS+18b,
  author = { Pomprapa, Anake and Ahmed, Waqar and Stollenwerk, André
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[PSA+18]

PDFBIB

Pomprapa, A., Sayani, M. S., Anwar, T., Stollenwerk, A., Kowalewski, S., von Platen, P. H., and Leonhardt, S., "Apnea Detection in a Contactless Multisensor System using Deep Learning Algorithm", in *Proc. [13th Russian-German Conference on Biomedical Engineering (RGC), RGC, 2018-05-23 - 2018-05-25, Aachen, Germany]*, 2018.

Apnea Detection in a Contactless Multisensor System using Deep Learning Algorithm

Bibtex entry :

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@inproceedings { PSA+18,
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and Stollenwerk, André and Kowalewski, Stefan and von
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[SBK18]

[PDFBIB](#)

Stollenwerk, A., Buglowski, M., and Kühn, J., "Mock loop for bubble generation in a centrifugal blood pump for fault simulation", *Current Directions in Biomedical Engineering*, vol. 4, iss. 1, pp. 33-36, 2018

Mock loop for bubble generation in a centrifugal blood pump for fault simulation

Bibtex entry :

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@article { SBK18,
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}

[SHS+18]

[PDFBIB](#)

Smieschek, M., Hinrichs, T., Stollenwerk, A., Kowalewski, S., and Preuß, R., "A New Condition Indicator for Slow-Rotating Roller Chains based on the Angle and Torque of the Driving Motor", in *Proc. 2018 IEEE 14th International Conference on Automation Science and Engineering (CASE) : 20-24 Aug. 2018 / general chair: Birgit Vogel-Heuser (Technical University of Munich) ; publisher: IEEE, Piscataway, NJ, 2018, IEEE, pp. 642-644.*

A New Condition Indicator for Slow-Rotating Roller Chains based on the Angle and Torque of the Driving Motor

Bibtex entry :

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@inproceedings { SHS+18,
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[WSA+18]

[PDFBIB](#)

Winter, A., Stäubert, S., Ammon, D., Aiche, S., Beyan, O. D., Bischoff, V., Daumke, P., Decker, S. J., Funkat, G., Gewehr, J. E., de Greiff, A., Haferkamp, S. D., Hahn, U., Henkel, A., Kirsten, T., Klöss, T., Lippert, J., Löbe, M., Lowitsch, V., Maassen, O., Maschmann, J., Meister, S., Mikolajczyk, R., Nüchter, M., Pletz, M. W., Rahm, E., Riedel, M., Saleh, K., Schuppert, A., Smers, S.,

Stollenwerk, A., Uhlig, S., Wendt, T., Zenker, S., Fleig, W., Marx, G., Scherag, A., and Löffler, M., "Smart Medical Information Technology for Healthcare (SMITH) : Data Integration based on Interoperability Standards", *Methods of information in medicine*, vol. 57, iss. S 01, p. e92-e105, 2018

Smart Medical Information Technology for Healthcare (SMITH) : Data Integration based on Interoperability Standards

Bibtex entry :

```
@article { WSA+18,  
  author = { Winter, Alfred and St{"a"}ubert, Sebastian and Ammon,  
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[BHK+17]

[PDFBIB](#)

Brendle, C., Hackmack, K. -F., Kühn, J., Wardeh, M. N., Janisch, T., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Leonhardt, S., Walter, M., and Misgeld, B. J. E., "Closed-loop control of extracorporeal oxygen and carbon dioxide gas transfer", *Control engineering practice*, vol. 59, pp. 173-182, 2017

Closed-loop control of extracorporeal oxygen and carbon dioxide gas transfer

Bibtex entry :

```
@article { BHK+17,
  author = { Brendle, Christian and Hackmack, K.-F. and Kühn, Jan
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[BMK+17]

[PDFBIB](#)

Brendle, C., Mülders, T., Kühn, J., Janisch, T., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Misgeld, B. J. E., Leonhardt, S., and Walter, M., "Physiological closed-loop control of mechanical ventilation and extracorporeal membrane oxygenation", *Biomedical engineering = Biomedizinische Technik*, vol. 62, iss. 2, pp. 199-212, 2017

Physiological closed-loop control of mechanical ventilation and extracorporeal membrane oxygenation

Bibtex entry :

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@article { BMK+17,
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[KBS+17]

[PDFBIB](#)

Kühn, J., Brendle, C., Stollenwerk, A., Schweigler, M., Kowalewski, S., Janisch, T., Rossaint, R., Leonhardt, S., Walter, M., and Kopp, R., "Decentralized safety concept for closed-loop controlled intensive care : Supervision of a blood pump during extracorporeal circulation", *Biomedical engineering = Biomedizinische Technik*, vol. 62, iss. 2, pp. 213-224, 2017

Decentralized safety concept for closed-loop controlled intensive care : Supervision of a blood pump during extracorporeal circulation

Bibtex entry :

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@article { KBS+17,
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title = { Decentralized safety concept for closed-loop controlled
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```

[SKS+17]

[PDFBIB](#)

Stollenwerk, A., Kopp, R., Sehl, F., and Janisch, T., "Tauchcomputerunterstützung durch vernetzte Smart Wearables", *Caisson : Mitteilungen der GTÜM e.V.*, vol. 32, iss. 4, 2017

Tauchcomputerunterstützung durch vernetzte Smart Wearables

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@article { SKS+17,
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[SSK+17]

[PDFBIB](#)

Smieschek, M., Stollenwerk, A., Kowalewski, S., Orlikowsky, T., and Schoberer, M., "Unterstützte Handerkennung in Thermographiebildern zur Validierung der hygienischen Händedesinfektion", in *Proc. Bildverarbeitung für die Medizin 2017 : Algorithmen - Systeme - Anwendungen : Proceedings des Workshops vom 12. bis 14. März 2017 in Heidelberg / Klaus Hermann Maier-Hein, Thomas M. Deserno, Heinz Handels, Thomas Tolxdorff (Herausgeber)*, Berlin, Heidelberg, 2017 in Informatik aktuell, Springer Berlin Heidelberg, pp. 147-152.

Unterstützte Handerkennung in Thermographiebildern zur Validierung der hygienischen Händedesinfektion

Bibtex entry :

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@inproceedings { SSK+17,  
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bis 14. M{\a}rz 2017 in Heidelberg / Klaus Hermann  
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[SSM+17]

[PDFBIB](#)

Stollenwerk, A., Sehl, F., Marx, G., Kowalewski, S., and Janisch, T., "Enrichment of a diving computer with body sensor network data", in *Proc. 2017 IEEE 14th International Conference on Wearable and Implantable Body Sensor Networks (BSN) : 9-12 May 2017 / sponsors: IEEE, EMB*, Piscataway, NJ, 2017, IEEE, pp. 169-172.

Enrichment of a diving computer with body sensor network data

Bibtex entry :

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@inproceedings { SSM+17,  
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[BHK+16]

[PDFBIB](#)

Brendle, C., Hackmack, K. -F., Kühn, J., Wardeh, M. N., Janisch, T., Kopp, R., Rossaint, R., Stollenwerk, A., Kowalewski, S., Misgeld, B. J. E., Leonhardt, S., and Walter, M., "Continuous gas transfer monitoring during extracorporeal membrane oxygenation", *Biomedical signal processing and control*, vol. 31, pp. 321-330, 2016

Continuous gas transfer monitoring during extracorporeal membrane oxygenation

Bibtex entry :

```

@article { BHK+16,
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[KBS+16]

[PDFBIB](#)

Kopp, R., Bensberg, R., Stollenwerk, A., Arens, J., Grottke, O., Walter, M., and Rossaint, R., "Automatic Control of Veno-Venous Extracorporeal Lung Assist : Presented in part at the 13th Congress of DIVI held December 4-6, 2013 in Leipzig, Germany", *Artificial organs*, vol. 40, iss. 10, pp. 992-998, 2016

Automatic Control of Veno-Venous Extracorporeal Lung Assist : Presented in part at the 13th Congress of DIVI held December 4-6, 2013 in Leipzig, Germany

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@article { KBS+16,
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[KSB+16]

[PDFBIB](#)

Kühn, J., Stollenwerk, A., Brendle, C., Janisch, T., Walter, M., Rossaint, R., Leonhardt, S., Kowalewski, S., and Kopp, R., "Sensor Supervision and Control Value Limitations in Networked Intensive Care", in *Proc. [Gemeinsamer Tagungsband der Workshops der Tagung Software Engineering 2016 (SE-WS 2016), Wien, 23.-26. Februar 2016 / Edited by: Wolf Zimmermann,*

Lukas Alperowitz, Bernd Brügge, Jörn Fahsel, Andrea Herrmann, Anne Hoffmann, Andreas Krall, Dieter Landes, Horst Lichter, Dirk Riehle, Ina Schaefer, Constantin Scheuermann, Alexander Schlaefer, Sibylle Schupp, Andreas Seitz, Andreas Steffens, André Stollenwerk, Rüdiger Weißbach], Aachen, Germany, 2016 in CEUR Workshop Proceedings, RWTH Aachen, pp. 187-194.

Sensor Supervision and Control Value Limitations in Networked Intensive Care

Bibtex entry :

```
@inproceedings { KSB+16,
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      Edited by: Wolf Zimmermann, Lukas Alperowitz, Bernd
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[KVS+16]

[PDFBIB](#)

Kühn, J., Vaitl, L., Stollenwerk, A., Brendle, C., Walter, M., Leonhardt, S., Kowalewski, S., Rossaint, R., Kopp, R., and Janisch, T., "Eingebettete Rezirkulationsmessung für eine ECLA-Therapie", in *Proc. AUTOMED 2016 : Workshop : Wismar, 22.-23. September 2016 / DGBMT -*

Deutsche Gesellschaft für Biomedizinische Technik im VDE ; Editoren: Prof. Dr.-Ing. habil. Olaf Simanski, Dr. Olaf Hagendorf, Jörg Zucknik, Wismar, 2016, Hochschule Wismar, Fakultät für Ingenieurwissenschaften, Fachgebiet Automatisierungstechnik/Mechatronik, p. 2.

Eingebettete Rezirkulationsmessung für eine ECLA-Therapie

Bibtex entry :

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@inproceedings { KVS+16,
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Technik im VDE ; Editoren: Prof. Dr.-Ing. habil. Olaf
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[SS]+16]

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[SSS16a]

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[WBK+16]

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[ZAB+16]

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Andreas and Steffens, Andreas and Stollenwerk, André and
Wei{\ss}bach, R{\u}diger },
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[dMK+15]

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[KSB+15]

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[KSK+15]

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[KSS+15]

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[KWS+15]

[PDFBIB](#)

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[SKW+15]

[PDFBIB](#)

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[SLR+15]

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[SKB+14]

[PDFBIB](#)

Stollenwerk, A., Kühn, J., Brendle, C., Walter, M., Arens, J., Wardeh, M. N., Kowalewski, S., and Kopp, R., "Model-based supervision of a blood pump", in *Proc. Proceedings of the 19th World Congress of the International Federation of Automatic Control, Cape Town, South Africa, 2014, 24-29 August 2014 : Promoting automatic control for the benefit of humankind*, Laxenburg, 2014 in IFAC-PapersOnLine, IFAC, pp. 6593-6598.

Model-based supervision of a blood pump

Bibtex entry :

```
@inproceedings { SKB+14,
  author = { Stollenwerk, André and K{"u}hn, Jan and Brendle,
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[PMS+13]

[PDFBIB](#)

Pomprapa, A., Misgeld, B., Sorgato, V., Stollenwerk, A., Walter, M., and Leonhardt, S., "Robust Control of End-Tidal CO₂ using the H_∞ Loop-Shaping Approach", *Acta polytechnica = Journal of advanced engineering*, vol. 53, pp. 895-900, 2013

Robust Control of End-Tidal CO₂ using the H_∞ Loop-Shaping Approach

Bibtex entry :

```
@article { PMS+13,
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url = {
http://publications.rwth-aachen.de/record/231825/files/231825.pdf },
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```

[Sto13]

[PDFBIB](#)

Stollenwerk, A., "Ein modellbasiertes Sicherheitskonzept für die extrakorporale Lungenunterstützung", PhD Thesis, Aachen, 2013.

Ein modellbasiertes Sicherheitskonzept für die extrakorporale Lungenunterstützung

Bibtex entry :

```
@phdthesis { Sto13,
author = { Stollenwerk, André },
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[WBS+13]

[PDFBIB](#)

Walter, M., Brendle, C., Stollenwerk, A., Kopp, R., Arens, J., Bensberg, R., and Leonhardt, S., "Patient oriented closed loop control of extracorporeal lung assist", in *Proc. Journal of critical care*, New York, NY, 2013, vol. 28, Elsevier, p. e8-e9.

Patient oriented closed loop control of extracorporeal lung assist

Bibtex entry :

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@inproceedings { WBS+13,  
  author = { Walter, Marian and Brendle, Christian and Stollenwerk,  
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[WSB+13]

[PDFBIB](#)

Walter, M., Stollenwerk, A., Bensberg, R., Kopp, R., and Leonhardt, S., "Smart ECLA—closed loop control of O2 and CO2 for management of extracorporeal lung assist", *Journal of critical care*, vol. 28, p. e41-e42, 2013

Smart ECLA—closed loop control of O2 and CO2 for management of extracorporeal lung assist

Bibtex entry :

```
@article { WSB+13,  
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url = { http://publications.rwth-aachen.de/record/231618 },
}
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[KRS12]

PDFBIB

Kowalewski, S., Rumpe, B., and Stollenwerk, A., "Cyber-Physical Systems - eine Herausforderung an die Automatisierungstechnik?", in *Proc. Automation 2012 : der 13. Branchentreff der Mess- und Automatisierungstechnik / VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik ; Kongress 'Automation 2012' ; 13 (Baden-Baden) ; 2011.06.13-14 Branchentreff der Mess- und Automatisierungstechnik, Düsseldorf, 2012* in VDI-Berichte, VDI-Verl., pp. 113-116.

Cyber-Physical Systems - eine Herausforderung an die Automatisierungstechnik?

Bibtex entry :

```
@inproceedings { KRS12,
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[WBB+12]

[PDFBIB](#)

Walter, M., Brendle, C., Bensberg, R., Kopp, R., Arens, J., Stollenwerk, A., and Leonhardt, S., "Closed loop physiological ECMO control", in *Proc. 5th European Conference of the International Federation for Medical and Biological Engineering : 14 - 18 September 2011, Budapest, Hungary ; [EMBE] / Ákos Jobbágy (ed.)*, [Berlin], 2012 in IFMBE Proceedings, Springer, pp. 319-322.

Closed loop physiological ECMO control

Bibtex entry :

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@inproceedings { WBB+12,
  author = { Walter, Marian and Brendle, Christian and Bensberg, Ralf
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[WBS+12]

[PDFBIB](#)

Walter, M., Brendle, C., Stollenwerk, A., Kopp, R., Arens, J., Bensberg, R., and Leonhardt, S., "Patient oriented closed loop control of extracorporeal lung assist", in *Proc. 11th International Conference on Complexity in Acute Illness (ICCAI)*, Ottawa, Canada, September 6 - 9, 2012, 2012, pp. 51-51.

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Bibtex entry :

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@inproceedings { WBS+12,
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http://www.scai-med.org/meetings/2012Iccai/2012iccaiprogram.pdf },
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[BBS+11]

[PDFBIB](#)

Beckschulze, E., Brauer, J., Stollenwerk, A., and Kowalewski, S., "Analyzing Embedded Systems Code for Mixed-Critical Systems Using Hybrid Memory Representations", in *Proc. 2011 14th IEEE International Symposium on Object/Component/Service-Oriented Real-Time Distributed Computing workshops (ISORCW) : 28 - 31 March 2011, Newport Beach, California, USA ; proceedings*, Piscataway, NJ, 2011, IEEE, pp. 33-40.

Analyzing Embedded Systems Code for Mixed-Critical Systems Using Hybrid Memory Representations

Bibtex entry :

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@inproceedings { BBS+11,
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[BBS+11a]

[PDFBIB](#)

Brendle, C., Bensberg, R., Stollenwerk, A., Arens, J., and Walter, M., "Patient Orientated Automation of the Therapy with the Extracorporeal Membrane Oxygenation (ECMO)", in *Proc. 45. Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik*, 2011, DGBMT.

Patient Orientated Automation of the Therapy with the Extracorporeal Membrane Oxygenation (ECMO)

Bibtex entry :

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@inproceedings { BBS+11a,
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```

[KBW+11]

[PDFBIB](#)

Kopp, R., Bensberg, R., Walter, M., Arens, J., Rossaint, R., and Stollenwerk, A., "Automation of extracorporeal membrane oxygenation using a combined safety and control concept", in *Proc. Intensive care medicine*, Berlin [u.a.], 2011, vol. 37, Springer, pp. 230-230.

Automation of extracorporeal membrane oxygenation

using a combined safety and control concept

Bibtex entry :

```
@inproceedings { KBW+11,  
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```

[KS11]

[PDF](#)BIB

Kowalewski, S. and Stollenwerk, A., "Supporting Evolving Requirements in CPS by Abstraction Layers in the Architecture", in *Proc. Workshop on Architectures for Cyber-Physical Systems, Chicago, IL, USA, 2011*.

Supporting Evolving Requirements in CPS by Abstraction Layers in the Architecture

Bibtex entry :

```
@conference { KS11,  
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[SGA+11]

[PDFBIB](#)

Stollenwerk, A., Gathmann, F., Arens, J., Bensberg, R., Walter, M., Kopp, R., and Kowalewski, S., "Safety Aware Pump-Control for a Rotary ECMO Blood Pump", in *Proc. The international journal of artificial organs*, Milano [u.a.], 2011, vol. 34, Wichtig, pp. 617-617.

Safety Aware Pump-Control for a Rotary ECMO Blood Pump

Bibtex entry :

```
@inproceedings { SGA+11,
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[SGB+11]

[PDFBIB](#)

Stollenwerk, A., Gathmann, F., Bensberg, R., Walter, M., Arens, J., Kopp, R., and Kowalewski, S., "A model-based safety concept for a rotary blood pump", *Biomedizinische Technik = Biomedical engineering*, vol. 56, iss. S1, 2011

A model-based safety concept for a rotary blood pump

Bibtex entry :

```
@article { SGB+11,
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and Walter, Marian and Arens, Jutta and Kopp, R{"u}dger and
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Biomedizinische Technik, Freiburg (Germany), 2011-09-27 -
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[SGW+11]

[PDFBIB](#)

Stollenwerk, A., Göbe, F., Walter, M., Arens, J., Kopp, R., and Kowalewski, S., "Smart Data Provisioning for Model-Based Generated Code in an Intensive Care Application", in *Proc. 3rd Joint Workshop On High Confidence Medical Devices, Software, and Systems & Medical Device Plug-and-Play Interoperability : HCMDSS/MDPnP 2011 ; in conjunction with CPSweek 2011 ; April 11, 2011 Chicago, USA*, Chicago, 2011, HCMDSS/MDPnP 2011 ; in conjunction with CPSweek 2011 ; April 11, 2011 Chicago, USA, p. 8.

Smart Data Provisioning for Model-Based Generated Code in an Intensive Care Application

Bibtex entry :

```
@inproceedings { SGW+11,
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Interoperability : HCMDSS/MDPnP 2011 ; in conjunction with
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}

```

[WBA+11]

PDFBIB

Walter, M., Brendle, C., Arens, J., Stollenwerk, A., Kopp, R., Bensberg, R., and Leonhardt, S., "Physiological target control in long term extracorporeal oxygenation", in *Proc. The international journal of artificial organs*, Milano [u.a.], 2011, vol. 34 in 2011, Wichtig, pp. 625-625.

Physiological target control in long term extracorporeal oxygenation

Bibtex entry :

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@inproceedings { WBA+11,
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  year = { 2011 },
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[AdM+10]

[PDF](#)[BIB](#)

Arens, J., de Brouwer, P., Mager, I., Kopp, R., Walter, M., Stollenwerk, A., Schmitz-Rode, T., and Steinseifer, U., "A dynamic study on the hemolytic effect of negative pressure on blood", in *Proc. ASAIO journal*, Hagerstown, Md., 2010, vol. 56, Lippincott, pp. 96-96.

A dynamic study on the hemolytic effect of negative pressure on blood

Bibtex entry :

```
@inproceedings { AdM+10,
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[SDK10]

[PDF](#)[BIB](#)

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A Modular, Robust and Open Source Microcontroller Platform

Bibtex entry :

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@inproceedings { SDK10,
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[SJA+10]

[PDFBIB](#)

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Bibtex entry :

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  title = { Model Based Diagnosis for Extracorporeal Membrane
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[SJW+10]

[PDFBIB](#)

Stollenwerk, A., Jörgens, J., Walter, M., Arens, J., Kopp, R., and Kowalewski, S., "Modellbasierte Fehlerdiagnose eines Membranoxygenators", *Proceedings : Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik (DGBMT) im VDE*, vol. 55, iss. S 1, pp. 174-177, 2010

Modellbasierte Fehlerdiagnose eines Membranoxygenators

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[SLW+10]

[PDFBIB](#)

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Sicherheitskonzept für eine intensivmedizinische Anwendung am Beispiel der EMCO

Bibtex entry :

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[WLK+10]

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Automatisierung und Fehlerdiagnose bei der extrakorporalen Membranoxygenierung

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@article { WLK+10,
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[WLK+10a]

[PDFBIB](#)

Walter, M., Leonhardt, S., Kopp, R., Arens, J., Weyer, S., and Stollenwerk, A., "A physiological model for extracorporeal oxygenation controller design", *Conference proceedings of the ... annual international conference of the IEEE Engineering in Medicine and Biology Society*, vol. 2010, pp. 434-437, 2010

A physiological model for extracorporeal oxygenation controller design

Bibtex entry :

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@article { WLK+10a,
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[KWA+09]

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Bibtex entry :

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@article { KWA+09,
  author = { Kopp, R{\u}dger and Walter, Marian and Arens, Jutta and
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@inproceedings { LWW+09,
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R{"u}dger },
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[10. Branchentreff der Mess- und Automatisierungstechnik] /
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[SJK09]

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An undergraduate embedded software laboratory for the masses

Bibtex entry :

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@inproceedings { SJK09,
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url = { http://publications.rwth-aachen.de/record/100434 },
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@conference { SL09,
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[SWW+09]

[PDFBIB](#)

Stollenwerk, A., Walter, M., Wartzek, T., Kopp, R., Arens, J., and Kowalewski, S., "A safety and control concept for extracorporeal membrane oxygenation", *The international journal of artificial organs*, vol. 32, iss. 7, pp. 428-428, 2009

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@article { SWW+09,
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[WLK+09]

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Walter, M., Leonhardt, S., Kopp, R., Kashefi, A., Wartzek, T., and Stollenwerk, A., "Automation of long term extracorporeal oxygenation systems", in *Proc. ECC 09 : Proceedings of the European Control Conference 2009 ; the 10th in the EUCA Series ; 23-26 August 2009, Budapest, Hungary / General Chair: László Keviczky ...*, Budapest, 2009, EUCA.

Automation of long term extracorporeal oxygenation systems

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@inproceedings { WLK+09,
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[WWS+09]

[PDFBIB](#)

Wartzek, T., Walter, M., Stollenwerk, A., Kopp, R., Kashefi, A., and Leonhardt, S., "Automatisierung der extrakorporalen Membranoxygenierung", in *Proc. Automatisierungstechnische Verfahren für die Medizin : 8. Workshop ; Tagungsband / Thomas*

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Automatisierung der extrakorporalen Membranoxygenierung

Bibtex entry :

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@inproceedings { WWS+09,
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[SSG+09]

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Stache, N. C., Stollenwerk, A., Gedicke, J., Olowinsky, A., Knepper, A., and Aach, T., "Automatic Calibration of a Scanner-Based Laser Welding System", *Journal of Laser Applications*, vol. 21, iss. 1, pp. 10-15, 2009, invited paper

Automatic Calibration of a Scanner-Based Laser Welding System

Bibtex entry :

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@article { SSG+09,
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[SSG+07]

[PDF](#)[BIB](#)

Stache, N. C., Stollenwerk, A., Gedicke, J., Olowinsky, A., Knepper, A., and Aach, T., "Automatic Calibration of a Scanner-Based Laser Welding System", in *Proc. International Congress on the Applications of Lasers and Electro-Optics (ICALEO)*, Orlando, Florida, USA, 2007, Laser Institute of America, pp. 223-229, best paper award.

Automatic Calibration of a Scanner-Based Laser Welding System

Bibtex entry :

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@inproceedings { SSG+07,
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