

Preprints and Open Access in Mathematics



Let me introduce myself: a short bio

- 2003: Diploma in Mathematics, TU Darmstadt
- 2007: PhD in Mathematics, TU Kaiserslautern
- 2011: Habilitation in Mathematics, TU Kaiserslautern
- since 2011: Full Professor at School of Business Informatics and Mathematics, University of Mannheim



Photo: Emilie Orgler

Research Interests

- Mathematical Modeling
- Numerical Simulation
- Control and Optimization with application to



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Traffic flow and mobility

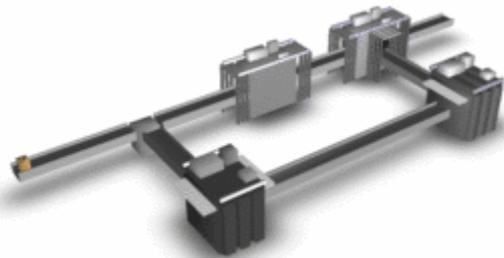


Photo: Patrick Schindler

Manufacturing Systems



Photo: handelsblatt.de

Energy systems: power
grids and gas networks

DFG Deutsche
Forschungsgemeinschaft

Prof. Dr. Simone Göttlich
20.10.2020

DAAD

Deutscher Akademischer Austauschdienst
German Academic Exchange Service



Bundesministerium
für Bildung
und Forschung

Publications

- (Co-)Author of more than 100 refereed publications
(2 Books, 71 journal articles, 11 book sections and 23 conference items)



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 - discuss resulting open problems or ongoing activities
 - provide a unique identifier for possible citations

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Preprints

- **Benefits of arXiv:**

- formal check before release
- time stamps and unique citations due to arxiv identifier
- export citation (adapted once the article is published)
- upload of revisions


We gratefully acknowledge support from the Simons Foundation and member institutions.

arXiv.org > math > arXiv:2008.11987
Search... All fields Search

Mathematics > Probability

[Submitted on 27 Aug 2020]

Microscopic and Macroscopic Traffic Flow Models including Random Accidents

[Simone Göttlich](#), [Thomas Schillinger](#)

We introduce microscopic and macroscopic stochastic traffic models including traffic accidents. The microscopic model is based on a Follow-the-Leader approach whereas the macroscopic model is described by a scalar conservation law with space dependent flux function. Accidents are introduced as interruptions of a deterministic evolution and are directly linked to the traffic situation. Based on a Lax-Friedrichs discretization convergence of the microscopic model to the macroscopic model is shown. Numerical simulations are presented to compare the above models and show their convergence behaviour.

Comments: 32 pages, 6 figures
 Subjects: **Probability (math.PR)**, Numerical Analysis (math.NA)
 MSC classes: 35L65, 90B20, 65M06
 Cite as: [arXiv:2008.11987 \[math.PR\]](#)
 (or [arXiv:2008.11987v1 \[math.PR\]](#) for this version)

Submission history
 From: [Thomas Schillinger \[view email\]](#)
[v1] Thu, 27 Aug 2020 08:32:41 UTC (443 KB)

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Prof. Dr. Simone Göttlich

20.10.2020

Preprints: some remarks

- **arXiv-Overlay-Journals:** combine the reputation of arXiv with peer review process (e.g. Discrete Analysis, The Open Journal of Astrophysics, Logical Methods in Computer Science)
- **Perelman's proof of the Poincaré conjecture** (one of the seven Millennium problems) was only published on arXiv. He was awarded by the Fields medal and the Clay Mathematics Millennium Prize (and refused both).
- **Other popular preprint servers** (in mathematics): the French research archive HAL (Hyper Articles en Ligne), Optimization Online or the MADOC publication series
- Recent study by DFG and others on „*Preprints – Science in real time*“: <https://knowledgeexchange.info/event/preprints>

Open Access

- What is OA?
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- Pros and Cons: alternative way to publish against business model



Photo: PLOS

Open Access

- **Article processing charges (APC):** Typically range from \$1000-\$2000 and are either covered by the DEAL agreement or internal funding (<https://www.bib.uni-mannheim.de/en/open-access-publishing-fund/>)



The screenshot shows the website for the Open Access Publishing Fund. At the top, there are search options for 'Catalog search' and 'Website search'. Below this is a navigation breadcrumb: 'Teaching & research / Publishing and open access / Open Access Publishing Fund'. The main heading is 'Open Access Publishing Fund'. A key message states: 'Are you planning to publish an article in an open access journal? Then you can apply for funding from the university's open access publishing fund to cover the publication fee – also known as article processing charge (APC)'. Below this, it explains that the fund is financed by the Ministry of Science, Research and the Arts Baden-Württemberg, the Mannheim Centre for European Social Research (MZES) and the university library. The page is divided into sections: 'Conditions for funding' and '1. Who can apply for funding?'. The first section states that applicants must be primarily employed by the University of Mannheim or be a doctoral candidate. The second section, '2. Which open access journals are eligible?', states that articles must be published in genuine open access journals, fully accessible on the web free of charge. It mentions the 'Directory of Open Access Journals (DOAJ)'. A note indicates that hybrid open access journals cannot be funded. Finally, it states that journals must apply quality assurance procedures recognized by the scientific community, usually peer review. On the left side of the screenshot, there is a sidebar with navigation links: 'MY LIBRARY ACCOUNT', 'AVAILABLE SEATS', 'SEAT BOOKING', 'OPENING HOURS', 'INFORMATION & ADVICE', and 'CHAT (Mon-Fri 10am-6pm)'. Below these is an 'InfoCenter' with contact information: phone number +49 621 181 2948, email info(at)bib.uni-mannheim.de, and address Schloss Schneckenhof, D 68131 Mannheim, Germany. At the bottom of the sidebar are social media icons for Facebook, Twitter, YouTube, RSS, and News, and the 'OPEN LIBRARY' logo.

Thank you for listening!



Illustration: Davide Bonazzi/Salzman Art (<https://science.sciencemag.org/content/357/6358/1344>)

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