

# NEWSLETTER

## of the Work Group Mathematical Fluid Mechanics

*Newsletter no. 20 (2021)*

### Birthdays

#### Birthdays in late July and August

Several member of our work group have had their birthday in the past weeks:

- Claudius Birke,
- Sandra Warnecke,
- Simon Markfelder
- Julian Meusel.

Congratulations!

#### New Master-thesis students:

##### Kaja Jurak & Yu-Chen Cheng

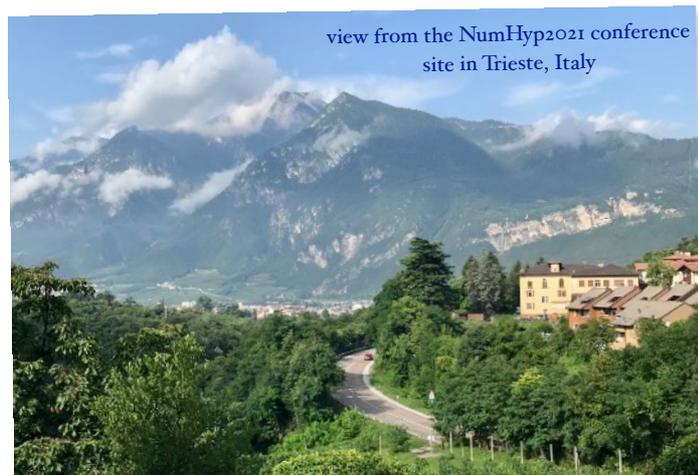
Kaja Jurak began her Master thesis with us. She will work on Bayesian approaches to modeling.

Also Yu-Chen Cheng began her Master thesis with us. She will work on numerics of conservation laws.

#### Hybrid workshop this week:

##### *Research Trends in Conservation Laws*

Rinaldo Colombo and Gabriella Puppo are organizing a hybrid workshop on conservation laws this Wednesday to Friday, [see here](#). Online attendance is free, just ask for the link.



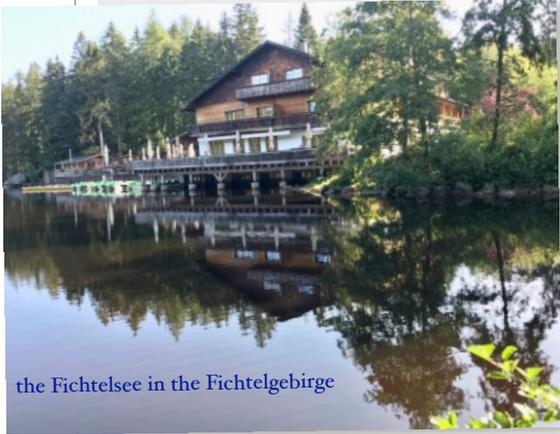
#### last July: NumHyp2021 workshop

In late July I traveled to Trieste, Italy to attended a workshop organized by Michael Dumbser, *Numerical methods for hyperbolic problems, NumHyp 2021*. About 40 persons attended in person plus an additional 40 persons online. It was wonderful to again be with a big group of mathematicians in person.

You find the list of lectures [here](#), the book of abstracts [here](#).

#### Emphasis semester at the Newton Institute

Jan. - June 2022 the Newton Institute at Cambridge University is organizing an emphasis semester on kinetic problems, [see here](#). There will be four workshops during this period.



## My summer vacation

I spent my summer vacation first in Bayreuth, attending operas at the [Bayreuth Festival](#), and afterwards in the nearby Fichtelgebirge lodging next to a mountain lake, with hiking and swimming there. Besides the impressive opera performances I really got to rest a lot, which was wonderful.

## Paper accepted for publication

The paper [J. Haack, C. Hauck, C. Klingenberg, M. Pirner, S. Warnecke, "A consistent BGK model with velocity-dependent collision frequency for gas mixtures"](#), [Journal of Statistical Physics 2021](#) has been accepted for publication. This is the first paper resulting from a scientific plan Cory Hauck and myself had at the Hyperbolic Conference Hyp2018 in the USA.

## I have become editor of a new journal

[Gui-Qiang Chen](#) (from Oxford University) and [Tong Yan](#) (who is chief editor of the journal Kinetic and Related Models) are starting a new PDE journal, [Communications in Mathematical Analysis and Applications](#) (CMAA), to be published by Global Science Press. They have made me an editor of this journal.

## Upcoming scientific conferences

Go ahead and click the links to check where you might want to participate.

### 2021:

- Sept. 8 - 10: [Research Trends in Conservation Laws](#) in Rome (hybrid), organized among others by Rinaldo Colombo and Gabriella Puppo
- Sept. 12 - 18: [Hirschegg Workshop On Conservation Laws](#) in Kleinwalsertal in Austria, organized among others by Gerald Warnecke

### 2022:

- Jan. 10 - 14, 2022: [Workshop on tissue growth and movement](#), at the Poincaré Institute in Paris, co-organized by Perthame
- Jan. 10 - June 24, 2022: [Frontiers in kinetic theory: connecting microscopic to macroscopic scales - KineCon 2022](#), a one semester program organized at the Newton Institute at Cambridge University with 5 one week workshops in this time
- March 7 - 11, 2022: [Perspectives on Multiphase Fluid Dynamics, Continuum Mechanics and Hyperbolic Balance Laws](#) in Luminy near Marseille, France, organized among others by Dumbser and Warnecke
- March 14 - 18, 2022: [SIAM Conference on Analysis of Partial Differential Equations](#) in Berlin, organized by Sid Mishra and Emil Wiedemann
- May 16 - 20, 2022: [The Boltzmann Equations: in the trail of Torsten Carlemann](#), near Stockholm, Sweden
- April 4 - 8, 2022: [HIGH ORDER NONLINEAR NUMERICAL METHODS FOR EVOLUTIONARY PDES: THEORY AND APPLICATIONS \(HONOM\)](#) in Braga, Portugal, organized by Raphael Loubère und Stephane Clain
- April 10 - 15, 2022: [Structure preserving discretizations](#), in Oberwolfach, organized by Bruno Despres, Michael Dumbser, myself
- May 25 - 29, 2022: [Sharing Higher-order Advanced Research Knowledge on Finite Volume \(SHARK-FV\)](#) in Portugal, organized by Raphael Loubère und Stephane Clain (still in its planning stage)
- June 5 - 9, 2022: [ECCOMAS congress](#) (ECCOMAS = European Community on Computational Methods in Applied Sciences), in Oslo
- June 20 - 25: [HYP2022: 18th International Conference on Hyperbolic Problems, Theory, Numerics, Applications](#) - Part 2 (formerly HYP 2020), in Malaga, Spain, organized by Carlos Pares
- July 18 - 22, 2022: [When Kinetic Theory meets Fluid Mechanics](#), Zürich
- Sept. 5 - 9, 2022: [10th International Conference on Numerical Methods for Multi-Material Fluid Flow \(MULTIMAT 2021\)](#) in Zürich, organized by Remi Abgrall