NEWSLETTER

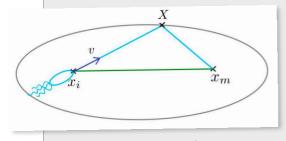## *of the* Work Group Mathematical Fluid Mechanics

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Newsletter no. 9 (2022)

I had a paper accepted jointly with Yunguang Lu

The paper *Silu Yin, Xianting Wang, Yun-guang Lu, Christian Klingenberg: "Global solutions of the Cauchy Problem to Euler-Poisson equations of two-carrier types", Applied Mathematics Letters (2022)* has been accepted for publication. Existence is shown for this one space dimensional system by using the vanishing viscosity method.

Kathrin plans routes for bacteria

Kathrin Hellmuth submitted the paper *Kathrin Hellmuth, Christian Klingenberg, "Route planning for bacteria",* to *Snapshots of modern mathematics from Oberwolfach* . This is a forum to explain mathematical ideas to a general public.

a bacterium plans its route from x_i to x_m

Glimm's lecture drew a large audience

On Friday, April 22, *James Glimm* (he is 88 years old) spoke in our *Oberseminar* via Zoom. You can see a video of his lecture *here*. He drew an audience of 115 persons, coming from China, India, Russia, Europe and the Americas.

Our Zoom Oberseminar will now take a break. Maybe it will be back in the fall.

Our workgroup at the Würzburger Residenzlauf

After a 3 year break due to the Covid-19 restrictions a new edition of the *Würzburger Residenzlauf* took place on May 1, 2022. Among 51 participants from the faculty for Mathematics and Computer Science were *Marlies Pirner* and *Claudius Birke* from our work group. *Lena Baumann* was there as a supporter as well. In the 10 km competition Claudius succeeded as the first of all faculty members in 41:24 minutes, Marlies became 34st in 60:21 minutes. Congratulations!

Claudius, Lena and Marlies
after the 10 km
Würzburger Residenzlauf

Upcoming scientific conferences

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

- 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

- May 11 - 13, 2022: *High-order Time Discretization Methods for PDEs*, on the island of Capri, Italy, organized by Lorenzo Pareschi, Giovanni Russo and others

- May 16 - 20, 2022: *The Boltzmann Equations: in the trail of Torsten Carlemann*, near Stockholm, Sweden

- May 23 - 29, 2022: *Sharing Higher-order Advanced Research Know-how on Finite Volume (SHARK-FV)* in Portugal, organized by Raphael Loubère und Stephane Clain

- June 12 - 18, 2022: *Summer School on "Methods and models of kinetic theory"* organized by Marzia Bisi (Parma) among others

- 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

- June 19 - 24, 2022 *"Numerical methods for kinetic equations"* a **summer school** by *Eric Sonnendrücker* and *Lukas Einkemmer* in the alps in Italy

- June 27 - July 1, 2022: *Hyperbolic balance laws & beyond*, in Magdeburg, organized by Helzel and Lukacova

- July 18 - 22, 2022: *When Kinetic Theory meets Fluid Mechanics*, in Zürich, organized among others by Alexis Vasseur

- July 25 - 29, 2022: *2nd IST Austrian Summer School in Analysis and PDEs*, with Felix Otto and László Székelyhidi as lecturers

- Aug. 22 - 26, 2022: *10th International Conference on Numerical Methods for Multi-Material Fluid Flow (MULTIMAT 2021)* in Zürich, organized by Remi Abgrall and others

- Sept. 12 - 14, 2022: *Nils Henrik Risebro birthday conference* in Oslo, organized among others by Fjordholm, Holden, Mishra

- Sept. 26 - 30, 2002: *Horizons in non-linear PDEs*, a **summer school** in Ulm, organized by Emil Wiedemann and others

- Oct. 9 - 14, 2022: *Computation of hyperbolic and related PDEs: A conference in honor of Remi Abgrall*, organized by Sid Mishra at ETH Zurich on Monte Verità (Ascona, Switzerland)

- Sept.. 19 - 23, 2022: *12th European Conference on Mathematical and Theoretical Biology* in Heidelberg, organized by Anna Marciniak (Heidelberg) and others

- Nov. 14 - 18, 2022: *Kinetic Theory*, in Luminy (near Marseille, France), organized by José Carillo, Markus Schmittchen and others

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Summerschool in Austria

In late July there will be a summer school on Analysis and PDEs, *see here*. Among others Felix Otto and László Székelyhidi will lecture.

My calendar

See *my schedule* on the right. There will be no seminar talks and no cake meetings for the next two Fridays. Claudius Birke will join me for the workshop in Portugal, called *SHARK*.

Farah will begin a job in industry in June

Farah Kanbar, having finished her PhD with us, will take up a job with *Expleo*. - We wish her good luck!

Mai	
16 Mo	20
17 Di	
18 Mi	
19 Do	
20 *i visit Emil Wiedemann in Ulm*	
21 Sa	
22 So	
23 Mo	21
24 Di	
25 Mi	
26 Do Christi Himmelfahrt	
27 Fr	
28 Sa	
29 So	
30 Mo	22
31 Di	

SHARK Portugal