SOCIAL EVENTS

Monday, 20 September, 19:00

Dinner at Trófea Grill

which is an all-inclusive buffet restaurant with a wide variety of dishes, including traditional Hungarian food, grilled meat and vegetables prepared according to your choice and taste, dessert, alcoholic and non-alcoholic drinks, etc.

Address: Király utca 30-32

Scan the QR code to see a map how to get there:

Wednesday, 22 September, 13:00

Sightseeing tour in Budapest

The Hungarian capital is famous for its historic downtown and the hospitality of its inhabitants. During a morning walk we try to present both. Depending on the weather conditions, we will visit the Buda as well as the Pest side of the Danube, and look down at the city from the castle.

Recommended: good shoes for walking, a bottle of water, camera, and pen for writing postcards ☺

VENUE

Alfréd Rényi Institute of Mathematics

The institute was founded by a government decree in 1950 as the Institute for Applied Mathematics of the Hungarian Academy of Sciences. Its first director was Alfréd Rényi, who headed the Institute till his early death in 1970.

Address: Reáltanoda utca 13-15

Scan the QR code to see a map how to get there:

The workshop is held in the **Great Lecture Hall** (first floor). There is a large blackboard and a projector with laptop to support your presentation.

Workshop on DAAD Project Coupled Systems and Innovative Time Integrators

20-21 September 2021
Alfréd Rényi Institute of Mathematics
Budapest

INFORMATION

&

PROGRAMME

PROGRAMME

MONDAY

10:30	**Eszter Sikolya**	Stochastic reaction-diffusion equations on networks
11:20	break	
11:40	**Emese Kővári**	Application of the Shannon entropy in the planar four-body problem
12:30	lunch	
14:00	**Imre Fekete**	Local error estimation and step size control in adaptive linear multistep methods
14:50	break	
15:10	**Merlin Schmitz**	Exponential integrators: An introduction
16:00	discussion	
19:00	dinner at Trófea Grill	Király utca 30–32

TUESDAY

9:00	**Balázs Kovács**	L_2 error estimates for wave equations with dynamic boundary conditions
9:50	break	
10:10	**Michelle Muniz**	Stochastic Runge-Kutta-Munthe-Kaas schemes for stochastic differential equations on manifolds
11:00	**Tim Binz**	Operators with dynamic boundary conditions on
12:00	lunch	
14:00	discussion	

Coupled Systems and Innovative Time Integrators

The project is financed by the German–Hungarian bilateral grant nr. 308019 of German Academic Exchange Service (DAAD) and Tempus Public Foundation (TKA).

Coupled systems and the underlying equations provide the mathematically tractable model for many phenomena that occur in physics, biology, chemistry, social sciences or economics. Hence the efficient numerical treatment of such problems is at the basis of our civilization and therefore has been attracting an increasing amount of attention parallel to the technological development.

We carry out the mathematical study of three mathematical procedures for the numerical solution of such coupled problems: 1) Operator splitting 2) Magnus integrators 3) Exponential Runge–Kutta methods. We further develop these, and provide the theoretical basis for thier applicability.

With the help of the combination of the developed methods we model 3 problems of extremely high importance: 1) (plastic) contamination of Arctic 2) urban smog 3) early phase of planet formation.

http://www-amna.math.uni-wuppertal.de/~ehrhardt/Projects/CSITI.html