

# Conference Schedule

September 4th, 2023 (Monday)

9:30-9:45

Opening

Time

Chair

Speaker

Report Title

9:45-10:30

Zaijiu Shang

Alexander  
Ostermann

Splitting methods for PDEs: analysis and  
applications

10:30-11:00

Tea break + Photograph

11:00-11:45

Zaijiu Shang

Alexander  
Ostermann

Boundary corrected Strang splitting

11:45-14:00

Lunch, Fourth floor of Wuke Restaurant (物科餐厅四楼)

Time

Chair

Speaker

Report Title

14:00-14:45

Yifa Tang

Chengming Huang

Fractional polynomial collocation for third-kind  
Volterra integral equations with singularities

14:45-15:30

Yifa Tang

Dongling Wang

Completely monotonicity-preserving schemes for  
convolutional integrals and their applications

15:30-16:00

Tea Break

16:00-16:45

Yifa Tang

Chunmei Su

A convexity-preserving and perimeter-decreasing  
parametric finite element method for the  
area-preserving curve shortening flow

16:45-17:30

Yifa Tang

Ruili Zhang

Symplectic methods for the guiding center  
dynamics of charged particle

18:00

Banquet, Fourth floor of Wuke Restaurant (物科餐厅四楼)

September 5th, 2023 (Tuesday)

Time

Chair

Speaker

Report Title

9:30-10:15

Chengming Huang

Brynjulf Owren

Nonlinear stability of numerical methods on  
Riemannian manifolds: Part I

10:15-10:45

Tea Break

10:45-11:30

Chengming Huang

Brynjulf Owren

Nonlinear stability of numerical methods on  
Riemannian manifolds: Part II

11:30-14:00

Lunch, Fourth floor of Wuke Restaurant (物科餐厅四楼)

| Time                            | Chair   | Speaker             | Report Title  |
|---------------------------------|---|---------------------|---|
| 14:00-14:45                     | Zaijiu Shang                                    | Xinyuan Wu          | Structure-Preserving Exponential-type Runge-Kutta Integrators   |
| 14:45-15:30                     | Zaijiu Shang                                    | Bin Wang            | Geometric two-scale integrators for highly oscillatory system   |
| 15:30-16:00                     | Tea Break                                       |                     |   |
| 16:00-16:45                     | Zaijiu Shang                                    | Xiaofei Zhao        | Numerical methods for disordered NLS  |
| September 6th, 2023 (Wednesday) |   |                     |   |
| Time                            | Chair   | Speaker             | Report Title  |
| 9:30-10:15                      | Xinyuan Wu                                      | Elena Celledoni     | An introduction to shape analysis and deep learning for optimal reparametrizations of shapes: Part I  |
| 10:15-10:45                     | Tea Break                                       |                     |   |
| 10:45-11:30                     | Xinyuan Wu                                      | Elena Celledoni     | An introduction to shape analysis and deep learning for optimal reparametrizations of shapes: Part II |
| 11:30-14:00                     | Lunch, Fourth floor of Wuke Restaurant (物科餐厅四楼) |                     |   |
| Time                            | Chair   | Speaker             | Report Title  |
| 14:00-14:45                     | Yifa Tang                                       | Alexander Ostermann | Integration of NLS with low regularity initial data   |
| 14:45-15:15                     | Tea Break                                       |                     |   |
| 15:15-16:00                     | Yifa Tang                                       | Alexander Ostermann | Bourgain techniques for error estimates at low regularity   |
| 16:00-16:45                     | Yifa Tang                                       | Lun Ji              | Low regularity time integration of NLS via discrete Bourgain spaces                                   |
| September 7th, 2023 (Thursday)  |   |                     |   |
| Time                            | Chair   | Speaker             | Report Title  |
| 9:30-10:15                      | Wansheng Wang                                   | Brynjulf Owren      | An introduction to deep learning techniques via a dynamical systems approach: Part I                  |
| 10:15-10:45                     | Tea Break                                       |                     |   |
| 10:45-11:30                     | Wansheng Wang                                   | Brynjulf Owren      | An introduction to deep learning techniques via a dynamical systems approach: Part II                 |

| 11:30-14:00                  | Lunch, Fourth floor of Wuke Restaurant (物科餐厅四楼) |                 |  |
|------------------------------|---|-----------------|--|
| Time                         | Chair   | Speaker         | Report Title   |
| 14:00-14:45                  | Bin Wang  | Wansheng Wang   | Efficient stability-preserving numerical methods for nonlinear coercive problems in vector space |
| 14:45-15:30                  | Bin Wang  | Jian Liu        | Dynamics and Numerical Methods for Energetic particles in Fusion Devices                         |
| 15:30-16:00                  | Tea Break                                       |                 |  |
| 16:00-16:45                  | Bin Wang  | Jing Gao        | Asymptotic computation for the multivariate highly oscillatory integral over a simplex           |
| September 8th, 2023 (Friday) |   |                 |  |
| Time                         | Chair   | Speaker         | Report Title   |
| 9:30-10:15                   | Ruili Zhang                                     | Elena Celledoni | Deep learning from the point of view of numerical analysis: Part I                               |
| 10:15-10:45                  | Tea Break                                       |                 |  |
| 10:45-11:30                  | Ruili Zhang                                     | Elena Celledoni | Deep learning from the point of view of numerical analysis: Part II                              |
| 11:30-14:00                  | Lunch, Fourth floor of Wuke Restaurant (物科餐厅四楼) |                 |  |
| 14:00-15:00                  | Free Discussion                                 |                 |  |