

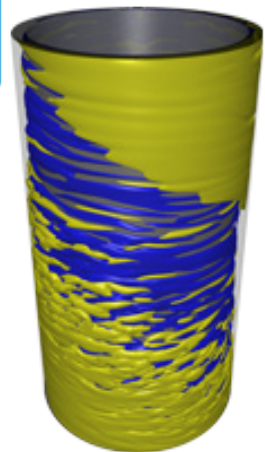
22nd International Couette-Taylor Workshop

ICTW 2023

Barcelona, Spain | 28 - 30 June 2023

PROGRAMME

22nd
International
Couette Taylor
Workshop



**22nd International Couette-Taylor
Workshop**

ICTW 2023

PROGRAMME

**Barcelona, Spain
28 - 30 June 2023**

A publication of:

**International Centre for Numerical
Methods in Engineering (CIMNE)**

Barcelona, Spain

CIMNE 



Printed by: Artes Gráficas Torres S.L., Huelva 9, 08940 Cornellà de Llobregat,
Spain

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FOREWORD

Welcome to the 22nd edition of the International Couette Taylor Workshop (ICTW23), hosted in Barcelona (28th-30th June 2023), by Universitat Politècnica de Catalunya. In this edition, we celebrate the centennial of the publication of G.I. Taylor's paper entitled 'Stability of a Viscous Liquid contained between Two Rotating Cylinders', Phil. Trans. Roy. Soc. A, 223 (1923) VIII. One century later, this paper remains a cornerstone on which hydrodynamic stability theory has greatly developed.

Since the 1st edition of the ICTW, held in Leeds (UK) in 1979, this meeting has gathered researchers from all around the world representing a wide range of disciplines including physics, mathematics and engineering. Although the first workshops were exclusively dedicated to the Taylor-Couette flow, the research topics covered at the ICTW meetings have progressively expanded during the last three decades to include many other subjects such as non-linear dynamics, bifurcation theory, and instabilities arising in centrifugal, thermal convection, magnetohydrodynamic and shear flows. In this special edition, we count with nearly 80 contributions by fluid dynamicists from all over the world, including three plenary talks given by three of the most influential researchers in the field of hydrodynamic instability, namely Laurette Tuckerman (CNRS, France), Edgar Knobloch (UC Berkeley, US), and Dwight Barkley (University of Warwick, UK).

Universitat Politècnica de Catalunya (UPC) is honored to host ICTW for the second time in its long history, the first time twenty years past, organized by Francisco Marqués and Alvaro Meseguer. The organizing committee heartfully acknowledges the financial support of the Generalitat de Catalunya (SGR-AGAUR), Ajuntament de Barcelona and UPC. Conference registration fees have been kept affordable for young researchers and others in need of financial support partly thanks to the aforementioned funding.

We welcome you to Barcelona and we hope that ICTW2023 will be fruitful, brimming with great talks, insightful discussions, groundbreaking research, collaborative endeavors, and memorable experiences.

The local ICTW23 committee
Arantxa Alonso, Jezabel Curbelo, Francisco Marques, Fernando Mellibovsky
and Alvaro Meseguer

ACKNOWLEDGEMENTS

The Conference organizers acknowledge the Support towards the organization of the ICTW 2023 Conference to the following organizations:



Universitat Politècnica de Catalunya
(Department of Physics)



Universitat Politècnica de Catalunya
(Department of Mathematics)



The Royal Society Publishing



Ajuntament de Barcelona



Fundación BBVA - Conference partially supported by a 2022 Leonardo Grant for Researchers and Cultural Creators, BBVA Foundation

ORGANIZING COMMITTEE

Scientific Committee:

- Sebastian Altmeyer (Universitat Politècnica de Catalunya, Spain)
- Marc Avila (ZARM, University of Bremen, Germany)
- Kengo Deguchi (Monash University, Australia)
- Yohann Duguet (LISN-CNRS, Université Paris-Saclay, France)
- Christoph Egbers (BTU Cottbus, Germany)
- Björn Hof (Institute of Science and Technology, Austria)
- Rainer Hollerbach (University of Leeds, UK)
- Patrice Le Gal (Aix-Marseille University, IRPHE, France)
- Detlef Lohse (University of Twente, Enschede, Netherlands)
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- Eric Serre (Aix-Marseille Université, France)
- Laurette Tuckerman (Laboratoire de Physique et Mécanique des Milieux Hétérogènes, CNRS, ESPCI Paris, France)
- Ashley Willis (The University of Sheffield, UK)

Local Organizer Committee:

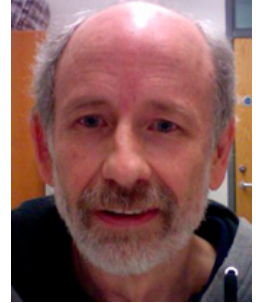
- Arantxa Alonso (Universitat Politècnica de Catalunya)
- Jezabel Curbelo (Universitat Politècnica de Catalunya)
- Francisco Marqués (Universitat Politècnica de Catalunya)
- Álvaro Meseguer (Universitat Politècnica de Catalunya)
- Fernando Mellibovsky (Universitat Politècnica de Catalunya)

INVITED SPEAKERS

Dwight Barkley

University of Warwick, UK

Theory for turbulent-laminar patterns in Couette flow



Edgar Knobloch

UC Berkeley, US

Instability-driven turbulence



Laurette Tuckerman

Laboratoire de Physique et Mécanique des Milieux Hétérogènes, CNRS, ESPCI Paris, France

Couette-Taylor flow: history of a paradigm



GENERAL SESSIONS

- General Session 1:** Taylor-Couette Flows 1
- General Session 2:** Geophysical Flows and Inertial Waves
- General Session 3:** Instabilities in Wall-bounded Shear and Boundary Layer Flows
- General Session 4:** Taylor-Couette flows: Turbulence
- General Session 5:** Thermal Convection 1
- General Session 6:** Stratified Flows
- General Session 7:** S7a - Thermal Convection 2 / S7b - Viscoelastic Flows
- General Session 8:** Miscelanea
- General Session 9:** Electro and magneto hydrodynamic flows
- General Session 10:** Taylor-Couette Flows 2
- General Session 11:** Coherent Flow Structures

PRACTICAL INFORMATION

Presentations

The Conference will provide computers for presentations.

The presenters should bring the presentation in a USB and upload it in the room's computer before the session starts.

Registration and Check in

All attendees are required to check in at the registration desk of the Conference Venue.

During the conference, participants are responsible to wear name badges at all times while in the conference area. Access will not be allowed to the coffee breaks and technical session areas if a name badge is not visible.

Conference Venue

The International Couette Taylor Workshop (ICTW23) will be held in the North Campus of the Universitat Politècnica de Catalunya in Barcelona.

Located in the A3 building of the North Campus, the Aula Màster has a capacity for 132 people comfortably assured. Arranged on a single level. Accessible for people with reduced mobility.

The Conference Venue is located at:

Aula Màster (edifici A3) del Campus Nord

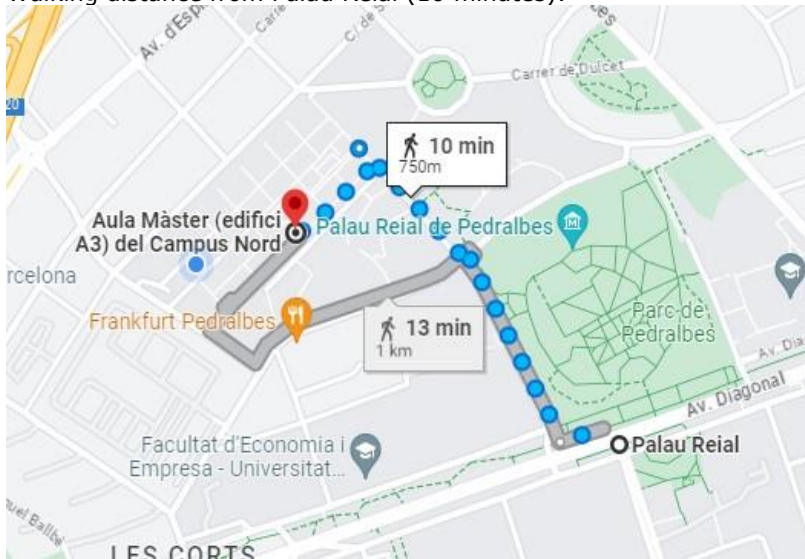
Carrer de Jordi Girona, 1
08034 Barcelona



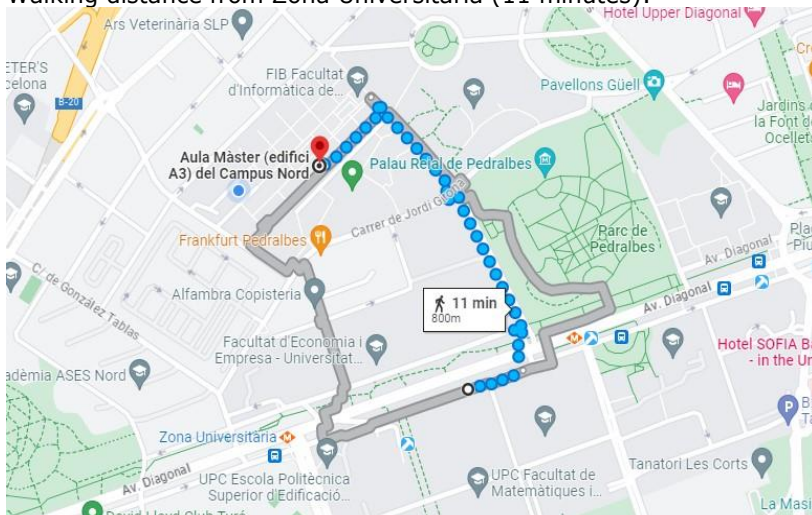
From Barcelona downtown:

The nearest metro stations to get to the conference venue are “Palau Reial” or “Zona Universitaria”, both in Line 3 (green line).

Walking distance from Palau Reial (10 minutes):



Walking distance from Zona Universitaria (11 minutes):



From the Barcelona El Prat Airport:

By Metro:

The fastest way to get to the Conference Venue from the airport by public transportation is to take Line 9 from T1 or T2 in Barcelona El Prat Airport.

Last stop of Line 9 is "Zona Universitaria".

By train:

Renfe Line 2 suburban train

From Airport to Estació de Sants.

<http://www.renfe.com/viajeros/cercanias/barcelona/>

In Estació de Sants you can take Line 3 to get to "Palau Reial".

By bus:

Airport stops:

Bus stops at Terminal T1 and T2 (A, B, C)

Downtown stops:

This line ends at Plaça Catalunya (city center). Once there, you may take L3 of the underground to "Palau Reial" or "Zona Universitaria" stations.

Timetable:

From Plaça Catalunya 05:00 to 00:30 every 10 minutes. From the Airport 06:05 to 01:05 every 10 minutes

<https://aerobusbarcelona.es/>

By Taxi:

Free Now APP

<https://www.free-now.com/es/>

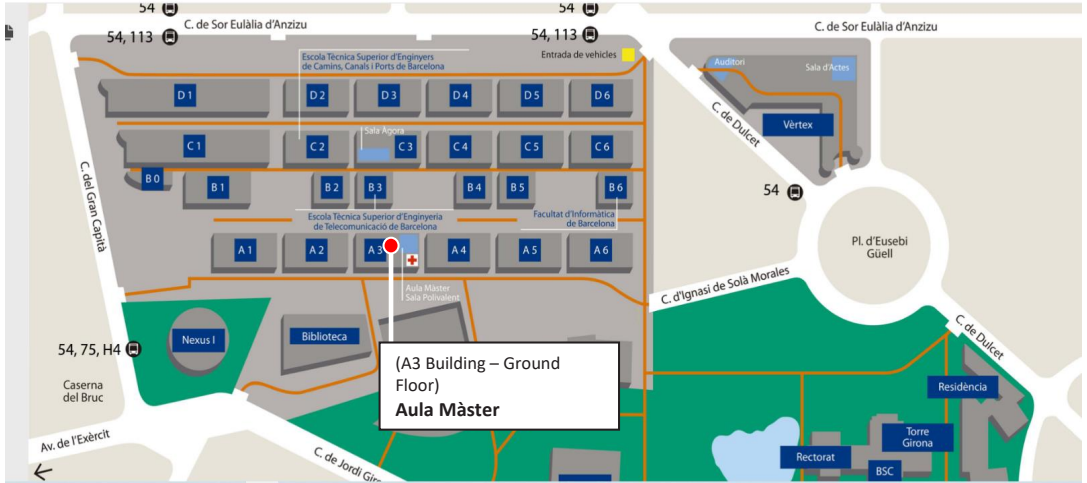
Telephones Barcelona Taxis:

+34 932 250 000

+34 933 033 033

Rooms location at the Conference Venue

Aula Master:



Secretariat Desk Timetable:

Wednesday June 28th: 8h00 to 17h30

Thursday June 29th: 8h00 to 17h30

Friday June 30th: 8h30 to 17h30

Internet Access

Wireless Internet access will be available.

SOCIAL PROGRAMME

The Conference Social Programme includes the Welcome Cocktail and the Gala Dinner.

The **Welcome Cocktail** will be held on Wednesday June 28th 2023, 20h30, at **Institut d'Estudis Catalans**, Carrer del Carme, 47, 08001 Barcelona.

Nearest metro station to Institut d'Estudis Catalans is "**Liceu**" (**Line 3**).



The **Gala Dinner** will be held on Thursday June 29th, 20h00, in **Hotel Casa Fuster** Restaurant located in Barcelona, Passeig de Gràcia, 132, 08008.



You can go to Hotel Casa Fuster by taxi or public transportations.

The easiest way to arrive to Hotel Casa Fuster by public transportation, is to take **metro line 3** stop "**Palau Reial**" to "**Diagonal**". Almost, is to take **bus 33** in Diagonal "**Jordi Girona – John Keynes**" to "**Diagonal – Pau Claris**".

Coffee breaks during Barcelona ICTW 2023 will take place at the Conference Venue, in the Telecos Square at Universitat Politècnica de Catalunya.



Wednesday June 28th – morning and afternoon coffee break

Thursday June 29th – morning and afternoon coffee break

Friday June 30th – morning and afternoon coffee break

Seated **lunches** from Wednesday June 28th to Friday June 30th will be served in Unity Restaurant at Universitat Politècnica de Catalunya, near the Conference Venue (Unity Sodexo - Campus Nord UPC, Carrer de Jordi Girona, 1-3 PI Telecos- Edifici, B4, 08034 Barcelona).

Emergency Calls:

Emergency: 112

Ambulance: 061

Fire Emergency: 080

Police: 092

CONFERENCE SECRETARIAT CONGRESS BUREAU

Phone: (+34) 93 405 46 94

Email: secretaria@cimne.upc.edu

Campus Nord UPC

Building C1 - Office C4

C/ Gran Capità, S/N

08034 Barcelona, Spain



TECHNICAL PROGRAMME OVERVIEW

Time	Wednesday	Time	Thursday	Friday
08:30	Registration	08:30	Registration	Registration
08:45		08:45		
09:00	Opening	09:00	Invited Lecture 2: Edgar Knobloch UC Berkeley (USA)	Invited Lecture 3: Dwight Barkley U Warwick (UK)
09:15		09:30		
09:30	Invited Lecture 1: Laurette Tuckerman ESPCI Paris (France)	09:30	S4 - Taylor-Couette flows: Turbulence	S8 - Miscelanea
10:00		09:45		
10:15	Coffee Break	10:15	Coffee break	
10:30		10:30		
10:40	S1 - Taylor-Couette Flows 1	10:45	S5 - Thermal Convection 1	S9 - Electro and magneto hydrodynamic flows
12:40		10:55		
12:55	Lunch Break	12:55	Lunch Break	
13:55		13:55		
14:10	S2 - Geophysical Flows and Inertial Waves	14:10	S6 - Stratified Flows	S10 - Taylor-Couette Flows 2
15:40		15:40		
15:55	Coffee Breaks	15:55	Coffee Breaks	
16:10		16:10		
16:25	S3 - Instabilities in Wall-bounded Shear and Boundary Layer Flows	16:25	S7a - Thermal Convection 2	S11 - Coherent Flow Structures
16:55		16:55		
17:10		S7b - Viscoelastic Flows	17:10	
17:55			17:55	
18:10		18:10	Closing	
18:25		18:25		
20:10	Richard Lueptow talk + Welcome Reception at Historical building of Institut d'Estudis Catalans	20:10	Gala Dinner	
22:10		22:10		

ICTW23 Technical Programme

Wednesday, 28/06/2023

Wed, 28/06/2023 08:00 - 09:00
REG 1 - Registration

Wed, 28/06/2023 09:00 - 09:30
OPC - Opening Ceremony
Chaired by: Prof. Francisco Marques

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Wed, 28/06/2023 09:30 - 10:15
PL I - Invited lecture: Couette-Taylor flow: history of a paradigm - Prof. Laurette Tuckerman
Chaired by: Dr. Alvaro Meseguer (Universitat Politècnica de Catalunya)

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Wed, 28/06/2023 10:15 - 10:40
CB - Coffee Break

Wed, 28/06/2023 10:40 - 12:55
WED 1 - Taylor-Couette flows I
Chaired by: Prof. Laurette Tuckerman (CNRS, ESPCI Paris)

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Different Flow State Transition Processes of Taylor–Couette–Poiseuille Flow Based on Taylor Vortex
Y. Matsukawa*, T. Tsukahara

A review on the transition mechanisms to turbulence in rotating disc boundary layers and cavities
E. Serre*, D. Martinand, B. Viaud

On Symmetry breaking of Taylor-Couette System
Y. Takeda*

The influence of rotation on heat and momentum transport in plane Couette and Taylor-Couette flow
G. Brethouwer*

Controlling secondary flows in Taylor-Couette flow using spanwise superhydrophobic surfaces
R. Ostilla-Mónico*, V. Jeganathan, T. Shannak, K. Alba

Study On Discrimination of Mode Development Process of Taylor Vortex Flow Using Various Physical Quantities
H. Furukawa*, T. Yamazaki

Scalings for eccentric Taylor-Couette–Poiseuille flow
K. Kato*, P. Alfredsson, R. Lingwood

Instability of spiral Poiseuille flow with either inner or outer cylinder rotation
P. Brockmann*, V. Vasanta Ram, S. Jakirlic, J. Hussong

Couplings between Taylor vortices and a concentration boundary layer via osmotic pressure
D. Martinand*, N. Tilton

Wed, 28/06/2023 12:55 - 14:10
LB - Lunch Break

Wed, 28/06/2023 14:10 - 15:55
WED 2 - Geophysical flows and inertial waves
Chaired by: Dr. Patrice Le Gal (CNRS)

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Parametrically forced rapidly rotating flows in cuboids
J. Lopez*

New laboratory experiments to study the large-scale circulation and climate dynamics
U. Harlander*, A. Sukhanovskii

On the Role of Arbitrary Pollution Effects on the Stability of Swirling Free-Surface Flows
L. MARTIN WITKOWSKI*, A. FAUGARET, Y. DUGUET, Y. FRAIGNEAU

AtmoFlow: Convection in spherical shell with atmospheric boundary conditions
P. Szabo*, Y. Gaillard, C. Egbers

Stability of oblique liquid curtains with surface tension
E. Benilov*

Instabilities around a Differentially Rotating Spheroid Embedded in a Rotating Stratified Fluid
A. Chauchat*, P. Meunier, M. Le Bars

A New class of higher order schemes for Navier-Stokes equations and application in rotating flows
K. Wu*

Wed, 28/06/2023 15:55 - 16:25
CB - Coffee Break

Wed, 28/06/2023 16:25 - 18:25

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WED 3 - Instabilities in wall-bounded shear and boundary layer flows

Chaired by: Dr. Ashley Willis (University of Sheffield)

How do laminar-turbulent patterns emerge from turbulent shear flow ?

Y. Duguet*, P. Kashyap, O. Dauchot

On New Linear Sub-Critical Oblique Modes - an Extension of Squires Theorem for Spatial Instabilities

M. Oberlack*, A. Yalcin, J. Laux

Dynamics of structures in transition to turbulence

J. Wesfreid*, B. Semin, T. Liu, R. Godoy-Diana

On assessing the control of transition to turbulence: the example of plane Couette flow

C. Beaume*, A. Pershin, T. Eaves, K. Li, S. Tobias

Excitation and evolution of compressible Gortler vortices triggered by elevated freestream vortical disturbances

D. Xu*, P. Ricco

Decomposition of the skin-friction coefficient of incompressible and compressible boundary layers

P. Ricco*, D. Xu, L. Duan, M. Skote

Subcritical Dynamics of Axisymmetric Rotor-Stator Flow

A. Gesla*, L. Martin Witkowski, Y. Duguet, P. Le Quéré

Reproducing Spatio-Temporal Intermittency of Turbulent Puffs with Domany–Kinzel Model

K. Kohyama*, T. Tsukahara

Wed, 28/06/2023 20:10 - 20:25

Sala Enric Prat de la Riba IEC (Insitut d'Estudis Catalans)

SPS - Taylor's 1923 Paper in the Philosophical Transactions - A Centennial Retrospective

Chaired by: Prof. Francisco Marques

Taylor's 1923 Paper in the Philosophical Transactions -- A Centennial Retrospective

R. Lueptow*, R. Hollerbach, E. Serre

Wed, 28/06/2023 20:25 - 22:30

Sala Enric Prat de la Riba IEC (Insitut d'Estudis Catalans)

WR - ICTW: Welcome reception

Thursday, 29/06/2023

Thu, 29/06/2023 08:00 - 09:00
REG 2 - Registration

Thu, 29/06/2023 09:00 - 09:45 Aula Master UPC
PL II - Invited lecture: Instability-driven turbulence - Prof. Edgar Knobloch
 Chaired by: Prof. Isabel Mercader (Universitat Politècnica de Catalunya)

Thu, 29/06/2023 09:45 - 10:30 Aula Master UPC
THU 4 - Taylor-Couette flows: turbulence
 Chaired by: Dr. José Eduardo Wesfreid (ESPCI/CNRS)

- On high Taylor number Taylor vortices in Taylor-Couette flow
K. Deguchi*
- Growing particles in Taylor-Couette turbulence
S. Huisman*, L. Blaauw, D. Lohse
- Heat transport and friction losses in rapid rotating electrical machinery
S. Merbold*, K. Jani, S. de Graaf, L. Enghardt, C. Egbers

Thu, 29/06/2023 10:30 - 10:55
CB - Coffee Break

Thu, 29/06/2023 10:55 - 12:55 Aula Master UPC
THU 5 - Thermal convection I
 Chaired by: Prof. Edgar Knobloch (UC Berkeley)

- Multiple states in turbulent large-aspect-ratio thermal convection: What determines the number of rolls?
O. Shishkina*, D. Lohse, Q. Wang, R. Verzicco
- Solitary-like and modulated wavepackets in the Couette-Taylor with a radial temperature gradient
C. Kang*, H. Yoshikawa, Z. Ntarmouchant, A. Prigent, I. Mutabazi
- A computational local reduced-order method for a Rayleigh-Bénard problem
H. Herrero*, J. Cortés, F. Pla
- Novel localized states in binary uid convection in slightly inclined rectangular cells
O. Batiste*, A. Alonso, I. Mercader
- GeoFlow vs. AtmoFlow: Numerical results
V. Travnikov*, C. Egbers
- Local instabilities of a circular Couette flow in a vertical annulus with a radial heating
O. Kirillov*, I. Mutabazi
- Rayleigh-Bénard convection rolls determine the shape evolution of an ice block melting from below
D. Lohse*, R. Yang, C. Howland, H. Liu, R. Verzicco

Thu, 29/06/2023 12:55 - 14:10
LB - Lunch Break

Thu, 29/06/2023 14:10 - 15:55 Aula Master UPC
THU 6 - Stratified flows
 Chaired by: Prof. Juan Lopez (ASU)

- On the wanderings of a ludion in a corral: in search of a quantum analogy
P. Le Gal*, B. Castillo Morales, S. Hernandez-Zapata, G. Ruiz Chavarria
- Superharmonic and Triadic Resonances in a Horizontally Oscillated Stratified Cavity
J. Yalim*, B. Wellert, J. Lopez
- Effect of thermal diffusion on instabilities of stratified shear flows
J. Park*, S. Mathis
- The stratified Keplerian turbulence
X. Zhu*, A. Bhadra
- Influence of heat transfers at the free surface of a thermally-driven rotating annulus
S. Abide*, I. Raspo, U. Harlander, S. Viazzo, A. Randriamampianina, G. Meletti
- A parameter study of strato-rotational low-frequency modulations: impacts on momentum transfer and energy distribution
G. Meletti*, S. Abide, U. Harlander, S. Viazzo
- Decay of Mechanically Driven Axial Counter-current in a High Speed Rotating Cylinder Using DSMC Simulation
S. Pradhan*

Thu, 29/06/2023 15:55 - 16:25
CB - Coffee Break

Thu, 29/06/2023 16:25 - 17:10

Aula Master UPC

THU 7a - Thermal convection II

Chaired by: Dr. Olga Shishkina (Max Planck Institute for Dynamics and Self-Organization)

A Schwarz Domain Decomposition Method with Legendre Collocation Applied to the Rayleigh-Bénard Convection Problem

D. Martínez*, H. Herrero, F. Pla

Convection in Salt Lakes

M. Threadgold*, C. Beaume, L. Goehring, S. Tobias

Asymptotic Ultimate Regime of Homogeneous Rayleigh-Bénard Convection on Logarithmic Lattices

B. Amaury*, D. Béréngère

Thu, 29/06/2023 17:10 - 18:25

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THU 7b - Viscoelastic flows

Chaired by: Prof. Björn Hof (IST Austria)

Coherent Structures in Elasto-Inertial Taylor Couette Flows

T. Boulaferis*, T. Lacassagne, N. Cagney, S. Balabani

Instability modes in viscoelastic Taylor-Couette flows with different rotation regimes

I. Mutabazi*

Transitions in Taylor-Couette flow of concentrated non-colloidal suspensions

C. Kang*, P. Mirbod

Drag modification by surfactant additives in high Reynolds-number Taylor-Couette turbulence

Y. Horimoto*, H. Okuyama, T. Hayama

Direct numerical simulation of viscoelastic turbulent Taylor-Couette flow

J. Song*, N. Liu, X. Lu, B. Khomami

Thu, 29/06/2023 20:10 - 23:00

Hotel Casa Fuster

GD - ICTW: Gala Dinner

Friday, 30/06/2023

Fri, 30/06/2023 08:00 - 09:00
REG 3 - Registration

Fri, 30/06/2023 09:00 - 09:45

PL III - Invited lecture: Theory for turbulent-laminar patterns in Couette flow - Prof. Dwight Barkley
 Chaired by: Dr. Fernando Mellibovsky (Universitat Politècnica de Catalunya)

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Fri, 30/06/2023 09:45 - 10:30

FRI 8 - Miscelanea
 Chaired by: Prof. Masato Nagata (Kyoto University)

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Receptivity of Compressible Boundary Layers on Flat and Concave Porous Surfaces

L. Fossa*, P. Ricco

Nonlinear instability of a wide-gap spherical Couette flow in the presence of weak noise

O. Krivososova, M. Grisevich, **O. Ivanov***, D. Zhilenko

Rotating spherical Shell Convection under the Influence of an imposed differential Rotation

F. Feudel*, U. Feudel

Fri, 30/06/2023 10:30 - 10:55

CB - Coffee Break

Fri, 30/06/2023 10:55 - 12:55

FRI 9 - Electro and magneto hydrodynamic flows
 Chaired by: Dr. Kengo Deguchi (Monash University)

Aula Master UPC

Experimental observation of the standard magnetorotational instability in a modified Taylor-Couette cell

Y. Wang*, E. Gilson, F. Ebrahimi, J. Goodman, H. Ji

MHD Turbulent Taylor-Couette Flow with End Walls in Axial Magnetic Field

H. Kobayashi*, T. Hasebe, T. Fujino, H. Takana

Thermomagnetic instability of a ferrofluid Couette flow under a magnetic field in Rayleigh-stable regimes

A. HIREMATH*, A. MEYER, I. MUTABAZI

Ferrofluidic wavy Taylor vortices under alternating magnetic field

S. Altmeyer*

Nonlinear Evolution of Magnetorotational Instability in a Magnetized Taylor-Couette Flow: Scaling Properties and Relation to Upcoming DRESDYN-MRI Experiment

A. Mishra*, G. Mamatsashvili, F. Stefani

Impact of varying nutation angles on precessional flow inside a cylinder

K. Vivaswat*, F. Stefani, T. Gundrum, F. Pizzi, A. Giesecke, M. Ratajczak

A Taylor-Couette experiment with inner rotating cylinder and applied dielectrophoretic force

A. Meyer*, J. Roller, R. Stöbel, V. Heuveline, C. Egbers

Numerical simulation of Taylor-Couette flow under dielectrophoretic force

J. Roller, **A. Meyer***, R. Stöbel, C. Egbers, V. Heuveline

Fri, 30/06/2023 12:55 - 14:10

LB - Lunch Break

Fri, 30/06/2023 14:10 - 15:55

FRI 10 - Taylor-Couette flows II

Chaired by: Prof. Richard Lueptow (Northwestern University)

Aula Master UPC

Nonlinear axisymmetric Taylor-Couette flow between counter-rotating cylinders in the narrow gap limit

M. Nagata*

Longitudinal instability in start-stop Taylor-Couette flow

A. Willis*, M. Burin

Self-sustained Coherent Structures Underlying Spiral Turbulence in Taylor-Couette Flow

B. Wang*, R. Ayats, K. Deguchi, F. Mellibovsky, A. Meseguer

Feigenbaum cascades and one dimensional map reduction in subcritical Taylor-Couette flow

R. Ayats*, B. Wang, K. Deguchi, F. Mellibovsky, A. Meseguer

Angular momentum transport in a very wide gap TC geometry $\eta = 0.1$.

M. Hamede*, S. Merbold, C. Egbers

The effects of salinity on bubbly drag reduction in turbulent Taylor-Couette flow

L. Blaauw*, D. Lohse, S. Huisman

Effects of large-scale circulation on two-fluid turbulent Taylor-Couette flows

N. Hori*, H. Liu, D. Lohse, R. Verzicco

Flow field statistics of the supercritical turbulent spiral in counter-rotating Taylor-Couette flow

F. Mellibovsky*, B. Wang, R. Ayats, A. Meseguer, K. Deguchi

Fri, 30/06/2023 15:55 - 16:25

CB - Coffee Break

Fri, 30/06/2023 16:25 - 18:25

Aula Master UPC

FRI 11 - Coherent flow structures

Chaired by: Mr. Dwight Barkley (University of Warwick)

The effect of curvature and centrifugal forces on the transition in pipe flow

B. Hof*, Y. Zhuang, V. Mukund

Robust methods for constructing periodic orbits in wall-bounded shear flows

O. Ashtari*, Z. Zheng, T. Schneider

Localized layers of turbulence in stratified horizontally sheared Poiseuille flow

P. Le Gal*, J. Labarbe, U. Harlander, S. Le Dizès, B. Favier

Direct path from turbulence to time-periodic solutions

G. Yalniz*, C. Paranjape, Y. Duguet, N. Budanur, B. Hof

Laminarising Turbulence by Minimising Transient Growth

S. Chu*, A. Willis, E. Marensi

Search for Unstable Relative Periodic Orbits in Plane Poiseuille Flow using Symmetry-Reduced Dynamic Mode Decomposition

M. Engel*, O. Ashtari, T. Schneider, M. Linkmann

Regularized four-sided Cavity Flows: A spectral Bifurcation Benchmark implemented in Julia

M. Waldeben*, Á. Meseguer, O. Batiste, A. Alonso

Fri, 30/06/2023 18:10 - 18:30

Aula Master UPC

CC - Closing Ceremony

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