UNIVERSITÀ DEGLI STUDI FIRENZE

DIEF
DEPARTMENT OF INDUSTRIAL ENGINEERING

ART 2018

Summer School on
Advanced Research in Turbomachinery (ART)

2-6 July 2018
Florence, Italy

ART 2018

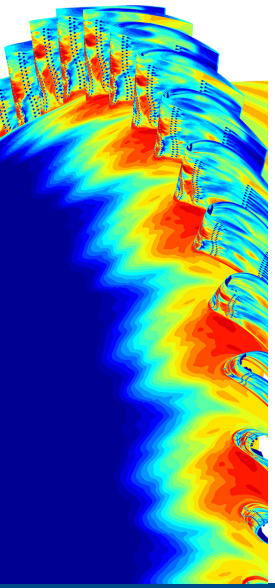
An event organized by the Department of Industrial Engineering (DIEF) of the University of Florence

The school will take place in the Historic Centre of Florence (UNESCO World Heritage Site)

Lectures, organized in both plenary and parallel sessions, will be held by Professors and Researchers from DIEF, who are presently working in the corresponding fields of research

Relevant advances in the field of Turbomachinery research will be addressed, including:

- turbomachinery aerodynamics
- aeroelasticity and aeroacoustics
- heat transfer
- two-phase flows
- radial machinery and turbochargers
- uncertainty quantification
- secondary air systems
- hydraulic machines
- wind energy



The school will include a tour of the factory and premises of *Baker Hughes, a GE Company*

With the support of:

EUROTURBO
european turbomachinery society

AIM SEA
Associazione Italiana delle Macchine a fluido e dei Sistemi per l'Energia e l'Ambiente

Keynote Speakers:

Prof. **T. Arts** (Von Karman Institute)

Dr. **L.Y.M. Gicquel** (CERFACS)

Prof. **R.I. Issa** (Imperial College of London)

Sponsored by:

ANSYS

Avio Aero
A GE Aviation Business

CENTAUR Grid Generator

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Welcome to the 2018 Summer School on "Advanced Research in Turbomachinery" (ART)

The school is aimed at providing young engineering professionals with an overview on some of the most relevant issues of the present turbomachinery research.

For each topic, the current state of the art is first presented, both from a theoretical and a technical point of view. Concrete examples of applied research are then presented, with special focus on the latest developments and breakthrough technologies.

Registration fees[1]

Early bird registration *(before May 14th, 2018)*	€ 540
Standard registration *(from May 14th to June 25th [2], 2018)*	€ 590
Accompanying person [3]	€ 100

[1] The Registration includes:

1) Access to all the plenary and parallel sessions during the 5-day school
2) Conference kit and digital proceedings
3) Welcome cocktail, coffee breaks and lunches (see program)
4) Social dinner
5) "Mathematics in architecture" - Guided walk through Florence city center

[2] Please note that - due to organizing issues - no registration will be accepted after June 25th , 2018 @ 22:00 p.m. CEST

[3] The registration includes only: welcome cocktail, lunches, social dinner and the "Mathematics in architecture" cocktail

Cancellation policy

Before **May 14th, 2018**	90% of the registration fee will be reimbursed
From **May 14th** to **June 11th, 2018**	50% of the registration fee will be reimbursed
After **June 4th, 2018**	no reimbursement

Technical program [4]

	Mon, July 2nd	Tue, July 3rd		Wed, July 4th		Thu, July 5th	Fri, July 6th	
08:45 - 09:15	Welcome reception	Keynote K3		Session W-A1		Session H-A1	Session F-A1	Session F-B1
09:15 - 09:45								
09:45 - 10:15	Opening							
10:15 - 10:45	Keynote K1	Coffee break		Coffee break		Coffee break	Coffee break	
10:45 - 11:15		Session T-A2	Session T-B2	Session W-A2	Session W-B2	Session H-A2	Session F-A2	Session F-B2
11:15 - 11:45								
11:15 - 12:15								
12:15 - 14:00	Lunch	Lunch		Lunch		Lunch	Closing ceremony	
14:00 - 14:30	Keynote K2	Session T-A3	Session T-B3	Session W-A3	Session W-B3	Guided tour to Baker Hughes		
14:30 - 15:00								
15:00 - 15:30								
15:30 - 16:00	Coffee break	Coffee break		Coffee break				
16:00 - 16:30	Session M-A4	Session T-A4	Session T-B4	Session W-A4	Session W-B4			
16:30 - 17:00								
17:00 - 17:30								

General interest (A+B) | Technical session | Lunches | Tour

Side events

Monday, July 2nd	**@ 17:30**	Welcome and networking cocktail
Tuesday, July 3rd	**@ 18:30**	"Mathematics in architecture" - Guided walk through Florence city center
Wednesday, July 4th	**@ 17:45**	Guided tour of the "Opera del Duomo" museum (not included)
Thursday, July 5th	**@ 20:30**	Social dinner

[4] *The technical program is subject to change. The final program will be released before the registration opening.*

Keynotes and technical sessions[4]

Session #	Speaker	Title
	Keynotes	
K1	Prof. T. Arts	Status and perspectives in gas turbine aero-thermal investigations
K2	Prof. R.I. Issa	Multi-fluid modelling of dispersed two-phase flow
K3	Dr. L.Y.M. Gicquel	The use of LES in turbomachinery design
	Technical sessions	
	Monday, July 2nd 2018	
M-A4	Dr. A. Bianchini	Recent developments in wind turbine technology and research
	Tuesday, July 3rd 2018	
T-A2	Dr. M. Checcucci	Centrifugal compressors design
T-A3	Prof. G. Ferrara	Turbocharger design
T-A4	Prof. D. Fiaschi	Radial turboexpanders: the case of ORC cycles
T-B2	Dr. S. Puggelli	Advanced two-phase flow modelling
T-B3	Dr. T. Fondelli-D. Massini	Heat rejection and windage losses in lubricated gearboxes
T-B4	Dr. F. Mazzelli	Stationary compression systems and ejectors
	Wednesday, July 4th 2018	
W-A1	Dr. A. Andreini	Gas turbine combustors
W-A2	Dr. L. Pinelli	Turbomachinery noise: numerical methods and applications
W-A3	Dr. F. Taddei	Turbomachinery noise: measurements and data analysis
W-A4	Dr. F. Poli	Turbomachinery aeromechanics: aerodynamically induced vibrations
W-B2	Dr. R. Da Soghe	Secondary air systems
W-B3	Dr. L. Mazzei	Conjugate heat transfer modelling
W-B4	Dr. S. Salvadori	Unsteady component interaction
	Thursday, July 5th 2018	
H-A1	Dr. M. Marconcini	Transition modelling in turbomachinery
H-A2	Dr. S. Salvadori	Verification, validation and uncertainty quantification
	Friday, July 6th 2018	
F-A1	Dr. L. Ferrari	Dynamic pressure measurements in turbomachinery applications
F-A2	Dr. A. Picchi	Experimental methods for gas turbine heat transfer investigation
F-B1	Prof. R. Pacciani	Numerical modeling of transition in turbomachinery
F-B2	Dr. M. Checcucci	Centrifugal pumps design and performance

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