Overview of TANGO
Thermoacoustic and aeroacoustic nonlinearities in green combustors with orifice structures
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1. TANGO in a nutshell
2. Research in TANGO
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4. Tutorials by female researchers of TANGO
1. TANGO in a nutshell

Thermo-acoustic and Aero-acoustic Nonlinearities in Green combustors with Orifice structures

Funded by the European Commission
Total budget: €3.74M
Coordinator: Keele University
Duration: November 2012 – November 2016
Website: www.scm.keele.ac.uk/Tango
Partner organisations

Academic
1. Keele University
2. KTH Stockholm
3. TU Munich
4. TU Eindhoven
5. IIT Madras

Industrial
6. IfTA GmbH
7. LMS/Siemens
8. Ansaldo Energia
9. Bekaert
2. Research in TANGO
15 research positions (mostly PhD)

Work package 1: Aeroacoustics
Work package 2: Fundamental thermoacoustics
Work package 3: Applied thermoacoustics
Project 1.1:
Cold-flow combustor – measurements
PhD student: Luck Peerling
Supervisor: Dr Susann Boij, KTH

Project 1.2:
Laminar combustor – numerical
PhD student: Wei Na
Supervisor: Prof. Gunilla Efraimsson, KTH

Project 1.3:
Perforated plates with flow – numerical
PhD student: Jonathan Tournadre
Supervisor: Dr Paula Martinez, Siemens
Project 2.1:
Combustor with laminar V-flame – experimental
PhD student: Prabodh Ranjan
Supervisor: Prof. R. I. Sujith, IIT Madras

Project 2.2:
Combustor with laminar V-flame – analytical
PhD student: Nalini Mukherjee
Supervisor: Prof. Maria Heckl, Keele University

Project 2.3:
Combustor with turbulent flame – experimental
PhD student: Nitin Babu George
Supervisor: Prof. R. I. Sujith, IIT Madras
Project 2.4:
Combustor with turbulent flame – numerical
PhD student: Alp Albayrak
Supervisor: Prof. Wolfgang Polifke, TU Munich

Project 2.5:
Nonlinear effects in combustors – analytical
Postdoc: Dr Alessandra Bigongiari
Supervisor: Prof. Maria Heckl, Keele University

Project 3.1:
Development of instability warning system
PhD student: Driek Rouwenhorst
Supervisor: Dr Jakob Hermann, IfTA (Munich)
Project 3.2: Passive control by micro-perforated plates
PhD student: **Muttalip Askin Temiz**
Supervisor: **Prof. Ines Lopez, TU Eindhoven**

Project 3.3: Combustor with heat exchanger – analytical
PhD student: **Aswathy Surendran**
Supervisor: **Prof. Maria Heckl, Keele University**

Project 3.4: Combustor with heat exchanger – numerical
PhD student: **Lin Strobio Chen**
Supervisor: **Prof. Wolfgang Polifke, TU Munich**
Project 3.5:
Combustor with heat exchanger – experimental
PhD student: **Naseh Hosseini**
Supervisor: **Dr Joan Teerling, Bekaert**

Project 3.6:
Industrial gas turbine – analytical
PhD student: **Javier Crespo Anadón**
Supervisor: **Dr Giovanni Campa, Ansaldo**

Project 3.7:
Industrial gas turbine – numerical
PhD student: **Dmytro Iurashev**
Supervisor: **Dr Giovanni Campa, Ansaldo**
3. Training in TANGO

Scientific workshops (past)

Non-normal and nonlinear effects
TU Munich, 18 – 21 June 2013

Experimental methods in thermoacoustics
IIT Madras, 5 – 7 February 2014

Aeroacoustics in confined flows of low Mach number
KTH Stockholm, 22 – 23 May 2014

Analytical methods in thermoacoustics
Keele University, 16 – 17 September 2014

Sound/structure interaction
TU Eindhoven, 1 – 2 April 2015
Scientific workshops (future)

Industrial aspects of thermoacoustics
Ansaldo Energia, Genova, 17 – 18 September 2015

Nonlinear thermoacoustics
TU Munich, Spring 2016

Perforated plates and their use in silencers
Generic workshops

Outreach and Communication – Part 1
Deutsches Museum, Munich, 23 September 2013

Gender issues
KTH, Stockholm, 21 May 2014

Entrepreneurship – Part 1
TU Eindhoven/Sorama, 31 March - 1 April 2015

Entrepreneurship – Part 2
Ansaldo/IfTA, Genova, 16 September 2015

Outreach and Communication – Part 2
Deutsches Museum, Munich, spring 2016
4. Tutorials by female researchers of TANGO

Gunilla Efraimsson
Linearized Navier-Stokes solvers for in-duct aero-acoustics

Paula Martinez
Source models in linearized approaches to computational aeroacoustics

Susann Boij
Acoustic wave propagation through orifices in ducts

Ines Lopez
Acoustic absorption of micro-perforated plates (MPP)

Maria Heckl
Thermoacoustic instabilities in combustors
Thank you!

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