



**Deutsche Gesellschaft für Luft- und Raumfahrt  
Lilienthal Oberth e.V.**



**Short Course**

**Gas Turbine Performance**

**Stuttgart, Germany 24 – 28 September 2007**



<http://www.dglr.de/veranstaltungen>

## TARGET AUDIENCE

The DGLR Short Course is arranged for graduate engineers, equivalent professionals and/or managers. It is equally suitable for specialists in search of a broader perspective and for newcomers to the field.

## AIM

The Short Course gives an insight into state of the art methods in Gas Turbine Performance and covers a selected range of key topics associated with practical experience in this field. The course contents enables the delegates to understand company specific methods on a firm and sound technical basis.

## CONTENT

The Short Course in Gas Turbine Performance will cover following topics:

Thermodynamic Basics  
Performance Maps  
Cycle Choice  
Steady State Performance  
Ratings  
Margins  
Trimming  
Transient Performance  
Controls  
Test Analysis  
Monitoring  
Instrumentation and Testing

## LEARNING OBJECTIVES

On completion of the Short Course, delegates will have a better understanding of

- how to choose the thermodynamic cycle of a gas turbine
- steady state and transient gas turbine performance
- the methods in steady state and transient gas turbine performance analysis
- testing and instrumentation associated with gas turbine performance modelling

## COURSE LEADER

### Prof. Dr.-Ing. Stephan Staudacher

Director of the Institute of Aircraft Propulsion Systems, Faculty of Aerospace Engineering and Geodesy, Stuttgart University  
<http://www.ila.uni-stuttgart.de>.

## COURSE INSTRUCTORS

### Dr. Joachim Kurzke

World wide known specialist in gas turbine performance and the father of GasTurb

### Dr. Klaus-Jürgen Schmidt

Departmental Head of Performance, MTU Aero Engines

### Dr. Wolfgang Berns

CEO FTI Systems, various former positions in performance and controls of turbojet engines and power plants

### Dr. Michael Bauer

Group leader new technologies, test data analysis and monitoring, MTU Aero Engines.

### Dr. Roland Fiola

Departmental Head of Performance, Systems and Reliability, Rolls-Royce Deutschland

## VENUE

Institute of Aircraft Propulsion Systems  
Stuttgart University  
Pfaffenwaldring 6  
70569 Stuttgart

## COSTS

The costs for the DGLR Short Course will be 800 €. Members of DGLR may attend with a reduced fee of 700 €. The fee includes lunch, coffee/tea and biscuits during the breaks. A registration form is available at:

[http://www.dglr.de/veranstaltungen/ankuendigungen/dglr\\_short\\_course](http://www.dglr.de/veranstaltungen/ankuendigungen/dglr_short_course)

Monday 24th September Day 1

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Thermodynamic basics of gas turbine performance	J. Kurzke
How Performance Programs work	J. Kurzke
Design Point and Cycle Choice	J. Kurzke

Tuesday 25th September Day 2

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Steady State Performance and Non-dimensional	K.-J. Schmidt
Margins	K.-J. Schmidt
Pass Off Testing and Trimming	K.-J. Schmidt

Wednesday 26th September Day 3

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Transient Performance	W. Berns
Gas Turbine Controls	W. Berns
Control Systems	W. Berns

Thursday 27th September Day 4

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Steady State Analysis	M. Bauer
Rake Checking	M. Bauer
Model Based Test Analysis (ANSYN)	M. Bauer
Monitoring	M. Bauer

Friday 28th September Day 5

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Transient Analysis	R. Fiola
Instrumentation	R. Fiola
Rig Testing	R. Fiola
Engine Testing	R. Fiola

**CERTIFICATE**

After successful participation of the DGLR Short Course each delegate will receive a DGLR certificate signed by the president of the DGLR Prof. Dr.-Ing. Joachim Szodruch and Course Leader Prof. Dr.-Ing Stephan Staudacher