



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center
Gebze, Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

1. Contact details and personal information

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¹ **Role/function** e.g. working group leader, managing director, postdoc, PhD etc.

² **Organisation type** e.g. university, research institution, small and medium enterprise (SME), industry etc.

Working Group:

- 1 Material Technologies
 2 Biotechnology, Genomics and Food
 3 Energy
 4 Information and Communication Technologies
 5 Environmental Protection, Climate Change and Sustainable Development

Areas of activity:

- research
 technology development
 demonstration
 training
 dissemination
 other:

Keywords characterising your area of research:

Please choose the appropriate key words (max. 5) from the following list:
<http://www.cordis.lu/fp6/keywords>

06.03.08.12.00.00.00 Hydrogen Energy Technologies

Expertise, technologies and infrastructures available in your institution:

Research activities / expertise:

Methods:

Key technologies:

Infrastructures:

Key publications:

- 1. Electrochemical Hydrogen Pump for Recirculation of Hydrogen in a Fuel Cell Stack**, Barbir F., Gorgun H., *Journal of Applied Electrochemistry*, in press.
- 2. In-situ Simultaneous Measurements of Temperature and Water Partial Pressure in a PEM Fuel Cell Under Steady State and Dynamic Cycling**, S. Basu, M. Renfro, H. Gorgun, B.M. Cetegen, *Journal of Power Sources*, Volume 159, Issue 2, 22 September 2006, Pages 987-994.
- 3. Dynamic Modelling of a Proton Exchange Membrane (PEM) Electrolyzer**, Gorgun H., *International Journal of Hydrogen Energy*, Vol: 31 No: 1 pp. 29-38, 2006.
- 4. Thin Inclusion Approach for Modelling of Heterogeneous Conducting Materials**, Lavrov N., Smirnova A, Gorgun H., Sammes N., *Journal of Power Sources*, in press.



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5. **An Algorithm for Estimation of Membrane Water Content in PEM Fuel Cells**, Gorgun H., Arcak M., Barbir F., *Journal of Power Sources*, Vol:157 No:1 pp 389-394.
6. **Modeling of PEMFC Performance Using Dynamic Approach**, Smirnova A, Gorgun H., Sammes N., *Journal of Fuel Cell Science and Technology*, submitted.
7. **An Observer Based Approach to Fault Diagnostics in Fuel Cell Power Systems**, Gorgun H., Arcak M., *International Journal of Electrical Power and Energy Systems*, submitted.
8. **Control-Oriented Modelling of Fuel Processing Reactors in Fuel Cell Power Systems**, Gorgun H., *Istanbul University-Journal of Electrical & Electronics Engineering* Vol: 5 No: 1 pp. 1279-1286, 2005
9. **Relationship Between Pressure Drop and Cell Resistance as a Diagnostic Tool in PEM Fuel Cells**, Barbir F., Gorgun H., Xinting W., *Journal of Power Sources* Vol: 141 No: 1 pp. 96-101, 2005
10. **Observer Designs for Fuel Processing Reactors in Fuel Cell Power Systems**, Gorgun H., Arcak M., Varigonda S., Bortoff S.A., *International Journal of Hydrogen Energy*, Vol: 30 No: 4 pp. 447-457, 2005.
11. **A Nonlinear Observer Design for Fuel Cell Hydrogen Estimation**, Arcak M., Gorgun H., Pedersen L.M., Varigonda S. *IEEE Transactions on Control Systems Technology* Vol:12 No: 1 pp: 101-110, 2004



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2. Past and present research collaborations

Are you familiar
with the European
Framework
Programme?

Yes

No

- with Framework Programme 5
 with Framework Programme 6
 with Framework Programme 7

EU-projects you are
involved in:

Past projects

Present projects

Other international
collaborations:

Name(s) and
contact details of
potential partners:

Programme title / contract number / title / acronym / your function
(coordinator / partner / contractor)

If you would like to suggest the participation of particular partners from the
partner country based on existing contacts or collaboration experience,
you are welcome to indicate their names and contact details below:

3. Presentation at the Workshop

I will give a presentation at the workshop (approx. 10 min.) to present my institution, my expertise, and my collaboration interests. The contents of my presentations is summarised below (max. 1 page).

The content of my presentation will be on fuel cells and controls and electrical aspects of the fuel cells.

I agree with the publication of my data on the Workshop website!

PLEASE FILL IN THIS FORM UNTIL 22 SEPT. 2006 AND RETURN IT TO:

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Christian.schache@dlr.de

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