



Participant Profile

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



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

1. Contact details and personal information

Name:	Prof. Sanjay Mathur	Phone:	0681-9300338
Role/function¹:	Head, Division of CVD Technology	Fax:	0681-9300279
Institution:	Institut for New Materials	E-Mail:	sanjay.mathur@inm-gmbh.de
Department:	Nanomaterials and Thin Film Systems	Website:	www.inm-gmbh.de
Address:	Im Stadtwald, Gebäude D2.2	Organisation type²:	Research Institution
Postcode and City:	66123 Saarbrücken		

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:	<input checked="" type="checkbox"/> 1 Material Technologies <input type="checkbox"/> 2 Biotechnology, Genomics and Food <input type="checkbox"/> 3 Energy <input type="checkbox"/> 4 Information and Communication Technologies <input type="checkbox"/> 5 Environmental Protection, Climate Change and Sustainable Development
Areas of activity:	<input checked="" type="checkbox"/> research <input checked="" type="checkbox"/> technology development <input type="checkbox"/> demonstration <input type="checkbox"/> training <input type="checkbox"/> dissemination <input type="checkbox"/> 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 Inorganic chemistry, Materials Engineering, Nanotechnology, Nanodevices Sensors Technology implementation
Expertise, technologies and infrastructures available in your institution:	Research activities / expertise: The research group is involved in the synthesis and characterization of inorganic nanostructures by different chemical routes. The emphasis of the on-going projects spans from fundamental to applied aspects of chemical nanotechnology. The group has developed new concepts for the molecule-based growth of nanoparticles, nanowires and nanostructured coatings for applications targeting bio-medical (drug delivery, implant integration), sensors (gas and humidity), protective (barrier and corrosion-resistant coatings) and functional surfaces (photo-catalytic, hydrophobic, hydrophilic). Methods: CVD techniques for deposition of thin films. Key technologies: Synthesis, and Processing of Nanostructured Materials by Chemical Vapour Deposition and Sol-Gel technologies Infrastructures: All state-of-the-art analytical and characterization facilities are available at Leibniz Institute for New Materials. Key publications: <ul style="list-style-type: none">○ S. Mathur and H. Shen in <i>Encyclopedia of Nanoscience and Nanotechnology</i>[®], Ed. by H. S. Nalwa, American Scientific Publisher, Vol. 4, p.131, 2004.



Participant Profile

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



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

- Sanjay Mathur, Michael Veith, Thomas Ruegamer, Eva Hemmer and Hao Shen, *Chem. Mater.* 16(7), 1304 (2004)
- S. Mathur and H. Shen in *Encyclopedia of Nanoscience and Nanotechnology*[®], Ed. by H. S. Nalwa, American Scientific Publisher, Vol. 4, p.131, 2004.
- S. Mathur, H. Shen, M. Veith, R. Rapalaviciute and T. Agne, *J. Am. Ceram. Soc.* 89 (6), 2027-2033 (2006)
- S. Mathur, V. Sivakov, H. Shen, S. Barth, A. Nilsson and P. Kuhn, *Thin Solid Films* 502, 88-93 (2006)
- Sanjay Mathur, Sven Barth and Hao Shen, *Chem. Vap. Dep.* 11 (1), 11-16 (2005)
- Sanjay Mathur, Michael Veith, Hao Shen, Stefan Hufner and Mohammad H. Jilavi, *Chem. Mater.* 14 (2), 568 (2002)
- Sanjay Mathur, Michael Veith, Thomas Ruegamer, Eva Hemmer and Hao Shen, *Chem. Mater.* 16(7), 1304 (2004)
- Sanjay Mathur, Hao Shen, Vladimir Sivakov and Ulf Werner, *Chem. Mater.* 16, 2449 (2004)
- Sanjay Mathur, Hao Shen, Rasa Rapalaviciute, Aivaras Kareiva and Nicole Donia, *Mater. Chem.* 14, 1-7 (2004)
- Sanjay Mathur, Jessica Altmayer and Hao Shen, *Z. Anorg. Allg. Chem.* 630, 2042-2048 (2004)
- Sanjay Mathur, Sven Barth and Hao Shen, *Chem. Vap. Dep.* 11 (1), 11-16 (2005)
- S. Mathur, V. Sivakov, H. Shen, S. Barth, A. Nilsson and P. Kuhn, *Thin Solid Films* 502, 88-93 (2006)



Participant Profile

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



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

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

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

Present projects

X CellPROM (Partner, Integrated Project)

Other international
collaborations:

NATO Collaborative Linkage Grant (Collaboration with Norway, Lithuania, Poland and Romania)

VolksWagen Foundation (Collaboration with Brazil)

Name(s) and
contact details of
potential partners:

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:

Prof. Arzum Erdem, Ege University

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).

Fundamental to the development of nanoscience and nanotechnology is the availability of high-purity materials exhibiting specific properties, tailored shape and microstructure. To achieve chemical homogeneity down to the nanometer scale (lattice engineering) is an overarching task that renders the conventional material processing methods rather imprecise. Given the practical implications of *nano*-matter, there is a substantial need to develop synthetic pathways for a controlled growth of nanomaterials.

My presentation will discuss the potential of chemical strategies in materials innovations, and highlight the opportunities and bottlenecks associated in exploiting the commercial potential of chemical nanotechnologies.

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:

Internationales Buero des BMBF
s.krummacher@fz-juelich.de;
Christian.schache@dlr.de

TÜBITAK-Marmara Research Center
Sunullah.Ozbek@mam.gov.tr;
Artac.Turker@mam.gov.tr