



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

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Postcode and City:	35100 IZMIR		

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 checked="" 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 PHOTOCHEMISTRY, SOLAR CHEMISTRY, PHOTOVOLTAICS, NANOTECHNOLOGY



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**Expertise,
technologies and
infrastructures
available in your
institution:**

**SOLAR ENERGY
INSTITUTE**

Research activities / expertise: Chemistry, Dyes and Surface Coatings, Pigments, Dye materials, Chemistry of Dyes, Energy, Material Science, Optoelectronic devices, Photochemistry of Organic Compounds, Superconductive Materials, Nanoscience and nanotechnology, Organic electronic Materials, Organic solar cells, Organic Field effect Transistors, OFET, Organic Light Emitting Diodes, OLED, Photocatalysis

Methods: Sol gel/vacuum vapour Thin Film, organic synthesis, spectroscopic analysis,

Key technologies: Nanotechnology, Solar photodegradation/photosynthesis

Infrastructures:

<u>Laboratory Name</u>	<u>Donanımı</u>
<u>Synthesis I</u>	*Rotary Evapoartors *Vacuum pumps *Cryostat *Xe ve Na lamps *Photoreactors *Organic synthesis lab. Basic equipments *Melting point aparatus
<u>Synthesis II</u>	*Ultrasonic bath *MPLC *Vacuum ovens *Analytical Balances *Autoclave
<u>Molecular Structure determination</u>	*FTIR *TGA *HPLC *GC-MS *DSC
<u>Spectroscopy</u>	*UV-Vis Spektrophotometer *Fluoresans Spektrophotometer *Time resolved ve PDL 800-B lazer/LED puls lamp spectrofluorometer
<u>Thin Film</u>	*Dr. Blade coater *Dip coater *Serigraphy apparatus *Rotary coater *Vacumda vapor coater *Oven *Cyclic Voltammetry Apparatus *Glass blowing equipment *Solar Simulator *Mini Laminator *Radiometers *Autoclaves *Dark Box *Illuminator *Glove Box
<u>Solar Garden</u>	*Solar Concentrator (automatic focusing optic eye, at 100-500 suns capacitate)

Key publications:

- L.Chen, L.A. Lucia, E.R. Gaillard, H. Icil, S. Icli, D.G. Whitten, Photooxidation of a Conjugated Diene Initiated by Oxygen Interception of an Exciplex, Amplification via Radical Chain Reactions in the Perylene Diimide-Photosensitized Oxidation of a –Terpinene, Jour. Phys. Chem.102, 9095-9098, 1998.
- B. Dindar, S. İcli, Unusual photoreactivity of ZnO under concentrated sun light, J. Photochem. Photobiol: A Chem., 140, 263-268, 2001.
- H. Dincalp, S. İcli, Photosynthesis of rose oxide under concentrated sunlight in the absence of singlet oxygen, J. Photochem. Photobiol: A Chem., 141,147-151, 2001.
- K. Ertekin, C. Karapire, S. Alp, B. Yenigül, S. Icli, Photophysical and photochemical characteristics of azlactone dye molecule as an optical pH sensor in sol-gel matrix; a new fluorescent pH indicator, Dyes & Pigments, 56, 125-133, 2003.
- N. Avcıbası, A. Gilbert, S. Icli, Photochemical reactions of a-terpinene and acenaphthene under concentrated sunlight, Turk. J. Chem, 27, 1-7, 2003.
- C. Karapire, C. Timur, S. Icli, A comparative study on photophysical and photochemical properties of perylenediimides in liquid phase, PVC and Sol-Gel host matrices, Dyes & Pigments, 56, 135-143, 2003.
- Review: Sıddık İcli, Canan Karapire, Photochemical Aromatic Substitution, , Editor W. Horspool, CRC Handbook of Photochemistry and Photobiology, 2nd Ed., 37, 1-14, 1995-2001, CRC Press, Boca Raton, USA, 2003
- Y. Posokhov , H. Biner, S. Icli, Spectral-luminescent and solvatochromic properties of anticancer drug camptothecin, J. Photochem.



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- Photobiol: A Chem., 158, 13-20, 2003.
9. • S. Alp, K. Ertekin, M. Horn, S. Icli, Photostability studies of synthesised fluorophorepyrrolo[3,4-c]pyrrol-1,4-diones, *Dyes & Pigments*, 60, 103-110, 2004.
 10. • C. Karapire, C. Zafer, S. Icli, Studies on photophysical-photoelectrochemical properties of synthesized hydroxy perylene diimides in nanostructured titania thin films, *Synthetic Metals*, 145, 51-60, 2004.
 11. • O. Seven, B. Dindar, S. Aydemir, D. Metin, M.A. Ozinel, S. Icli, Solar photocatalytic disinfection of a group of bacteria and fungi aqueous suspensions with TiO₂, ZnO and Sahara desert dust, *J. Photochem. Photobiol: A Chem.*, 165, 103-107, 2004.
 12. • C. Karapire, M. Kus, G. Türkmen, C. Trevithick, C. S. Foote, S. Icli, Photooxidation studies with perylene diimides in solution, PVC and Sol-Gel thin films under concentrated sun light, *Solar Energy*, 78, 5-17 (2005).
 13. • H. Dinçalp, S. Icli, Photoinduced electron transfer-catalyzed processes of sulfoamino perylene diimide in aqueous phases, *Solar Energy*, 80, 332-346 (2006).
 14. • C. Zafer, C. Karapire, N. S. Sariciftci, S. Icli, Characterization of N, N'-bis-2-(1-hydroxy-4-methylpentyl)-3, 4, 9, 10-perylene bis (dicarboximide) sensitized nanocrystalline TiO₂ solar cells with polythiophene hole conductors, *Solar Energy Materials and Solar Cells*, 88, 11-21 (2005).
 15. • M. Kus, W. Gernjak, P. F. Ibanez, S. R. Malato, S. Icli, A Comparative Study of Supported TiO₂ as Photocatalyst in Water Decontamination at Solar Pilot Plant Scale, *J. Solar Energy and Engineering.*, 128, 331-337 (2006).
 16. • S. Erten, S. Alp S. Icli, Photooxidation quantum yield efficiencies of naphthalene diimides under concentrated sun light in comparisons with perylene diimides, *J. Photochem. Photobiol: A Chem.*, 175, 214-220 (2005).
 17. • Th. B. Singh, S. Günes and N. S. Sariciftci, S. Erten, C. Zafer and G. Türmen, B. Kuban, Y. Teoman, S. Icli, Fabrication and Characterization of soluble derivatives of Perylene and Naphthalene diimide based Organic Field-Effect Transistors, *Organic Electronics*, in print.
 18. • S. Erten, E. Eren, S. Icli, "Dye sensitized solar cell based on 1,8-naphthalene benzamidine comprising carboxyl group", *European Physical Journal: Applied Physics*, in print.
 19. • C. Zafer, M. Kus, G. Turkmen, H. Dincalp, S. Demic, B. Kuban, Y. Teoman, S. Icli, "Improvements of DSSC efficiencies with perylenemonoimide dyes", *Solar Energy Materials and Solar Cells*, in print.
 20. • M. Kus, S. Demic, C. Zafer, G. Saygili, H. Bilgili, S. Icli, "Spectrophotocatalytic and Electrochemical Characterization of Perylene Derivatives Adsorbed on Nanoporous Metaloxide Films", *European Physical Journal: Applied Physics*, in print.
 21. • S. Erten, S. Gunes, F. Megdadi, R. Koeppel, N.S. Sariciftci, S. Icli, "Donor-Acceptor Heterojunction Solar Cell based on Perylene Bisbenzimidazole, *European Physical Journal: Applied Physics*, in print.



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2. Past and present research collaborations

Are you familiar
with the European
Framework
Programme?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> with Framework Programme 5 <input type="checkbox"/> with Framework Programme 6 <input type="checkbox"/> with Framework Programme 7	

EU-projects you are
involved in:

Past projects

Present projects

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

Other international
collaborations:

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:**

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).

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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