



26-30 June, 2011



Algarve, PORTUGAL

DSL

**7th INTERNATIONAL CONFERENCE ON
DIFFUSION IN SOLIDS AND LIQUIDS**

ORGANISING COMMITTEE

Prof. A. Öchsner (chair)
Technical University of Malaysia - UTM, Malaysia

Prof. G. Murch (co-chair)
The University of Newcastle, Australia

Prof. A. Shokuhfar (co-chair)
K.N. Toosi University of Technology, Iran

Prof. J. Delgado (co-chair)
University of Porto, Portugal

**Abstract Submission Deadline
10 DECEMBER, 2010**

<http://dsl2011-algarve.com>





DESIGN GENERATION AND EVOLUTION OF FLOW SYSTEMS (SS1)

ORGANIZER:

Prof. Antonio F. Miguel
University of Evora,
Portugal

INVITED TALKS:

**CONSTRUCTAL DESIGN OF CAVITIES
INSERTED INTO A CYLINDRICAL SOLID BODY**
Prof. L. Rocha,
Brazil

**GAS DIFFUSION IN CEMENT-BASED
MATERIALS: FROM EXPERIMENTS TO
MODELLING OF POROUS ARCHITECTURE**
Dr. F. Frizon,
France

**THE DELIVERY OF AEROSOLS THROUGH
CONSTRUCTAL T-SHAPED STRUCTURES**
Prof. M. Aydin,
Turkey

PUBLICATION:

Papers submitted to dsl-2011 and accepted after review process will be published in:

SPECIAL JOURNAL ISSUE: DEFECT AND DIFFUSION FORUM,

by Trans Tech. Publications / www.ttp.net/1012-0386.html

THE JOURNAL OF NANO RESEARCH, (Selected Papers)
by Trans Tech. Publications /

<http://www.ttp.net/1661-9897.html>

JOURNAL OF BIOMEDICAL NANOTECHNOLOGY
(Selected Papers)

www.aspbs.com/jbn

JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY
(Selected Papers)

www.aspbs.com/jnn

FLUID MECHANICS RESEARCH (Selected Papers)

<http://www.begellhouse.com/journals/71cb29ca5b40f8f8.html>

INTERNATIONAL JOURNAL OF ENERGY RESEARCH
(Selected Papers)

[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1099-114X](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1099-114X)

COMPUTATIONAL THERMAL SCIENCES (Selected Papers)

<http://www.begellhouse.com/journals/648192910890cd0e>

Natural and engineered flow systems are not amorphous - they have configurations (designs). Design is essential to both systems: the "better" design ensures natural flow systems to persist in time; the strategic engineering of flow architectures are essential to prevent high maintenance cost, reduced safety, increased environmental pollution, excessive energy consumption and poor reliability. In the late 1990s, it was clearly recognized by Adrian Bejan (J.A. Jones Distinguished Professor at Duke University) that there is a connection between configuration and dynamics, in describing the evolution of the systems in space and in time. Configuration-generating phenomenon of "design" can be understood by considering the flow (that carries fluid, heat, mass), the physical mechanisms that are relevant and actively involved, and where the stream is located in the available space. According to him, the generation of flow configuration can be reasoned based on an evolutionary principle of increase of flow access in time (the constructal law). This fundamental contribution gives the possibility to learn where to expect opportunities for finding more effective configurations, and drives design thinking to science and away from art. This special session is devoted to highlight the recent advances in "Design generation and evolution of flow systems".

THUS, WE INVITE RESEARCHERS TO SUBMIT THEIR LATEST WORK ON:

Natural phenomena of design

Strategic engineering of flow system design (e.g., compact flow systems, dendritic structures, smart materials, nanomaterials, etc.)

Design of bioengineering systems

Constructal Theory

Biomimetics

Contact

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