

**PROGRAMA**  
**SEMANA CIENTIFICA**

**CON MOTIVO DE LA JUBILACION FORZOSA**

**DE**

**DON MANUEL GARCIA VELARDE**

**CATEDRATICO DE FISICA**

**Y DIRECTOR DEL INSTITUTO PLURIDISCIPLINAR  
DE LA UNIVERSIDAD COMPLUTENSE DE MADRID**

**SEPTIEMBRE 12-16, 2011**

**ALL EVENTS AT  
INSTITUTO PLURIDISCIPLINAR,**

**Paseo Juan XXIII, n. 1**

**(Phone 91-3943242)**

**EXCEPT ON TUESDAY 13**

**AT**

**FUNDACION RAMON ARECES**

**c/ Vitruvio, 5**

**(Phone 91-5158980)**

IP-UCM, MADRID, SEPTEMBER 12-16, 2011

# A WEEK OF SCIENCE

TO CELEBRATE THE  
70<sup>th</sup> BIRTHDAY (SEPT. 7<sup>th</sup>, real; 14<sup>th</sup>, legal; 2011) OF  
PROF. MANUEL G. VELARDE

(<http://www.ucm.es/info/fluidos>)

AND AT HIS REQUEST TO ALSO CELEBRATE THE  
BIRTHDAY OF HIS COLLEAGUES AND FRIENDS

PROF. IVAN B. IVANOV (SEPT. 6<sup>th</sup>),  
PROF. GREGOIRE NICOLIS (SEPT. 11<sup>th</sup>),  
MAESTRO TOMAS MARCO (SEPT. 12<sup>th</sup>),  
PROF. JOHN J. KOZAK (SEPT. 14<sup>th</sup>), and  
PROF. WERNER EBELING (SEPT. 15<sup>th</sup>),  
DR. BENOIT SCHEID (SEPT. 15<sup>th</sup>) and  
DON RAFAEL GARCIA SERRANO (SEPT. 16<sup>th</sup>)

## **SCIENTIFIC COMMITTEE:**

M. ADLER (MARNE-LA-VALLEE)  
P. ARENA (CATANIA)  
J. BRAGARD (PAMPLONA)  
A. CASTELLANOS (SEVILLA)  
A. P. CHETVERIKOV (SARATOV)  
P. COLINET (BRUSSELS)  
J. S. DEHESA (GRANADA)  
E. DEL RIO (UPM, MADRID)  
V. FAIREN (UNED, MADRID)  
G.-X. HUANG (SHANGHAI)  
R. G. RUBIO (UCM, MADRID) (Chair)  
S. KALLIADASIS (IMPERIAL COLLEGE, LONDON)  
A. A. NEPOMNYASHCHY (HAIFA)  
J. M. REDONDO (BARCELONA)  
Yu. S. RYAZANTSEV (MADRID) (co-Chair)  
V. M. STAROV (LOUGHBOROUGH)  
U. THIELE (LOUGHBOROUGH)  
A. WIERSCHEM (ERLANGEN)

## OUTLINE

### MONDAY SEPTEMBER 12

MULTIFLOW TRAINING DAYS-SYMPOSIUM ON FLUID PHYSICS AND RELATED NONLINEAR PHENOMENA AT INTERFACES AND IN OTHER GEOMETRIES

P. COLINET (Brussels, Belgium) (co-Chair)

V. M. STAROV (Loughborough, UK) (co-Chair)

U. THIELE (Loughborough, UK) (co-Chair)

J. PLUMET (Vice-Rector for Research)

### TUESDAY SEPTEMBER 13

MULTIFLOW TRAINING DAYS -SYMPOSIUM ON WETTING AND SPREADING DYNAMICS

**SPONSORED BY** RAMON ARECES FOUNDATION AND SPRINGER-VERLAG IN COLLABORATION WITH MULTIFLOW CONSORTIUM (EU) AND ESA

**Presentation of special issue of EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS-DISCUSSION AND DEBATE on WETTING AND SPREADING PHENOMENA AND PROBLEMS, coordinated by Prof. Manuel G. VELARDE.**

### WEDNESDAY SEPTEMBER 14 (morning)

(Continued) MULTIFLOW TRAINING DAYS-SYMPOSIUM ON FLUID PHYSICS AND RELATED NONLINEAR PHENOMENA AT INTERFACES AND IN OTHER GEOMETRIES

### WEDNESDAY SEPTEMBER 14 (afternoon)

SYMPOSIUM (AND ROUND TABLE) ON SOLITONS, SOLECTRONS AND SOME NOVEL ASPECTS OF ELECTRIC TRANSPORT

W. EBELING (Berlin, Germany) (Chair)

### WEDNESDAY SEPTEMBER 14 (evening)

SCIENCE AS PART OF CULTURE (WITH MUSIC RECITAL)

AGAPE/BANQUET- 9.00 pm

### THURSDAY SEPTEMBER 15 (morning)

MULTIFLOW TRAINING DAYS-(Continued) SYMPOSIUM ON FLUID PHYSICS AND RELATED NONLINEAR PHENOMENA AT INTERFACES AND IN OTHER GEOMETRIES

Yu. S. RYAZANTSEV (Madrid, Spain) (Chair)

SYMPOSIUM (AND ROUND TABLE) ON COMPLEX SYSTEMS

G. NICOLIS (Brussels, Belgium) (Chair)

### THURSDAY SEPTEMBER 15 (afternoon)

SYMPOSIUM (AND ROUND TABLE) ON BIOPHYSICS, NEURODYNAMICS AND ROBOTS

P. ARENA (Catania, Italy) (co-Chair)

A. FERRUS (Madrid, Spain) (co-Chair)

### THURSDAY SEPTEMBER 15 (evening)

(Continued) SCIENCE AS PART OF CULTURE (WITH MUSIC RECITAL)

### FRIDAY SEPTEMBER 16 (morning and afternoon)

MULTIFLOW TRAINING DAYS ON COMPUTATIONAL METHODOLOGIES-SYMPOSIUM ON GEOPHYSICAL AND ASTROPHYSICAL FLOWS AND RELATED PROBLEMS

A. FERRIZ (Orense, Spain) (co-Chair)

E. G. MOROZOV (Moscow, Russia) (co-Chair)

J. M. REDONDO (Barcelona, Spain) (co-Chair)

## LUNES SEPTIEMBRE/MONDAY SEPTEMBER 12

### MULTIFLOW TRAINING DAYS-SYMPOSIUM ON FLUID PHYSICS AND RELATED NONLINEAR PHENOMENA AT INTERFACES AND IN OTHER GEOMETRIES

**Co-Chair : P. COLINET** (Brussels, Belgium)

**Co-Chair : V. M. STAROV** (Loughborough, UK)

**Co-Chair : U. THIELE** (Loughborough, UK)

**J. PLUMET** (Vice-Rector for Research)

<b>Monday, Sept. 12th</b>	
<b>Time</b>	
09:45-10:00	Welcome
	<b>Session 1 : Drops and bubbles</b>
10:00-10:15	Michèle Adler (Paris)
10:15-10:30	Véronique Pimienta (Toulouse)
10:30-10:45	Philippe Brunet (Paris)
10:45-11:00	Vladimir Sobolev (Moscow)
11:00-11:15	Yuri S. Ryazantsev (Madrid)
11:15-11:45	<b>Break</b>
	<b>Session 2 : Contact lines and wetting</b>
11:45-12:00	Frédéric Doumenc (Orsay)
12:00-12:15	Alexey Rednikov (Brussels)
12:15-12:30	Laurent Limat (Paris)
12:30-12:45	Miguel A. Cabrerizo-Vílchez (Granada)
12:45-13:00	Sergey Semenov (Loughborough)
13:00-15:30	<b>Lunch and discussions</b>
15:30-16:00	<b>Keynote : Charles Maldarelli (NY)</b>
	<b>Session 3 : Instabilities</b>
16:00-16:15	Ranga Narayanan (Gainesville)
16:15-16:30	Alexander A. Nepomnyashchy (Technion)
16:30-16:45	Michael Besthorn (Cottbus)
16:45-17:15	<b>Break</b>
17:15-17:45	<b>Keynote : Jens Feder (Oslo)</b>
	<b>Session 4 : Waves and thin films I</b>
17:45-18:00	Eugene Benilov (Limerick)
18:00-18:15	Sandep Saha (Orsay)
18:15-18:30	Andreas Wierschem (Erlangen)
18:30-18:45	Hender López (Loughborough)

**Chair : P. COLINET**

**Session 1: Drops and bubbles**

1. **M. Adler** (Paris): "Impact of drops of surfactant solutions on a small target"
2. **V. Pimienta**, M. Brost, N. Kovalchuk, S. Bresch and O. Steinbock (Toulouse): "Metamorphosis of an oil droplet on a surfactant solution"
3. **Ph. Brunet**, M. Baudoin and O. Bou Matar (Paris): "Unstationary dynamical wetting of a drop put in motion by surface acoustic waves"
4. **V. Sobolev** (Moscow): "Influence of the ionic charge on the effect of solution sliding on hydrophobic surfaces"
5. **Yu. S. Ryazantsev** (Madrid): "Marangoni effect and autonomous motion of a drop"

**Chair : U. THIELE**

**Session 2: Contact lines and wetting**

1. **F. Doumenc** (Orsay): "A model coupling the liquid and gas phases for a totally wetting evaporative meniscus"
2. **A. Rednikov** (Brussels): "Some divergence-free cases of moving contact lines with phase change"
3. I. Peters, J. Snoeijer, A. Daerr, **L. Limat** (Paris): "Voinov description of a 3D contact line point singularity"
4. F. J. Montes Ruiz-Cabello, M. A. Rodríguez-Valverde, **M. A. Cabrerizo-Vílchez** (Granada): "New advances in the measurement of the most-stable contact angle"
5. **S. Semenov**, Victor M. Starov and Ramon G. Rubio (Loughborough, Madrid): "Computer simulations of an evaporating sessile water droplet in the presence of contact angle hysteresis"

**Chair : V. M. STAROV**

**Keynote lecture : Ch. Maldarelli** (NY): "Continuum and molecular dynamics studies of the self-propulsion of Janus particles driven by a catalytic surface reaction"

**Session 3: Instabilities**

1. L. E. Johns and **R. Narayanan** (Gainesville): "The Nature of Branching in Miscible Displacement"
2. **A. A. Nepomnyashchy** (Technion) and S. Shklyaev (Caltech): "Influence of adsorption kinetics on a longwave Marangoni convection in a binary mixture"
3. **M. Bestehorn**, I. D. Borcia (Cottbus): "Thin Film Lubrication Dynamics of a Binary Mixture"

**Chair : A. A. NEPOMNYASHCHY**

**Keynote lecture : J. Feder** (Oslo): "Stagnation point diffusion"

**Session 4: Waves and thin films I**

1. **E. Benilov** (Limerick): "Hydraulic jumps in a viscous liquid layer on a sloping plate and inside a horizontal rotating cylinder"
2. **S. Saha**, Laurent Talon and Dominique Salin (Orsay): "Particle-laden viscous gravity currents"
3. **A. Wierschem** (Erlangen): "Impact of substrate undulations on film flows"
4. **H. López** (Loughborough): "Study of the deposition pattern over an dragged incline plate"

MARTES SEPTIEMBRE/TUESDAY SEPTEMBER 13

## JORNADA/ONE-DAY MEETING

FUNDACION RAMON ARECES-SPRINGER-  
VERLAG.

En colaboración con el Consorcio/In collaboration with  
MULTIFLOW (Unión Europea, EU) y/and FASES  
(Agencia Espacial Europea, ESA)

POR QUE Y COMO MOJAN LOS LIQUIDOS.  
LO QUE SABEMOS Y LO QUE AUN NO ENTENDEMOS.

WETTING AND SPREADING SCIENCE, *QUO  
VADIS?*

Presentación del número especial de la revista/Presentation of  
special issue of EUROPEAN PHYSICAL JOURNAL -SPECIAL  
TOPICS- DISCUSSION AND DEBATE sobre/on WETTING AND  
SPREADING PHENOMENA AND PROBLEMS, coordinado por el/edited by  
Prof. Manuel G. VELARDE (IP-UCM).

### 10.00 am: PRESENTACION/GENERAL INTRODUCTION

Raimundo Pérez-Hernández (F. ARECES)

Federico Mayor Zaragoza (F. ARECES)

Christian Caron (SPRINGER-VERLAG)

### 10.30 am-2.00 pm

10.30-10.45 Manuel G. Velarde (Instituto Pluridisciplinar, Universidad  
Complutense, Madrid): **Introducción/Introduction**

10.45-11.15 Terence D. Blake (Laboratory of Surface and Interfacial Physics,  
University of Mons, Mons, Bélgica): **Algunos problemas pendientes/A few  
problems still to investigate**

11.15-11.45 Yves Pomeau (Department of Mathematics, University of Arizona,  
Tucson, EE. UU.): **Línea de conjunción trifásica: se mueve aunque no  
debiera/The moving contact line: it moves and stays immobile**

11.45-12.00 **Pausa/Break**

12.00-12.30 Victor M. Starov (Department of Chemical Engineering,  
Loughborough University, Loughborough, Reino Unido): **Fuerzas  
superficiales/Surface forces**

12.30-13.00 Len Pismen (Department of Chemical Engineering and Minerva  
Center for Nonlinear Physics of Complex Systems, Technion-Israel Institute of  
Technology, Haifa, Israel): **Tensión lineal e inestabilidades de la línea de  
conjunción/Line tension and chemo-capillary instability of a sessile drop**

- 13.00-13.30 Uwe Thiele (Department of Mathematical Sciences, Loughborough University, Loughborough, Reino Unido): **Nanopartículas y línea de conjunción trifásica/Modelling contact line dynamics for nanoparticle suspensions**
- 13.30-14.00 **Discusión general/Open discussion**
- 2.00-4.00 pm ALMUERZO/LUNCH**
- 4.00-8.30 pm**
- 4.00-4.30 James Henderson (School of Physics and Astronomy, University of Leeds, Reino Unido): **Presión de "ruptura" y línea de conjunción trifásica/Disjoining pressure and the three-phase contact line**
- 4.30-5.00 Tatyana Svitova (Clinical Research Center, School of Optometry, University of California, Berkeley, EE. UU.): **Rompecabezas del mojado *in vitro* and *in vivo* de las lentes de contacto blandas/Wettability conundrum : Discrepancies of soft contact lens performance *in vitro* and *in vivo***
- 5.00-5.30 Alexander Nikolov (Department of Chemical Engineering, Illinois Institute of Technology, Chicago, EE. UU.): **Líquidos supermojadores/Current opinion on super-spreading mechanisms**
- 5.30-6.00 Joel de Coninck (Laboratory of Surface and Interfacial Physics, University of Mons, Mons, Bélgica): **Dinámica del mojado y teoría de Kramers/Wetting and Kramers's theory**
- 6.00-6.30 **Discusión general/Open discussion**
- 6.30-7.00 **Pausa/Break**
- 7.00-8.00 Andreas Acrivos (Levich Institute, City College of City University of New York, New York, EE. UU.) and Charles Maldarelli (Levich Institute, City College of City University of New York, New York, EE. UU.): **Qué hemos entendido y otros comentarios/Critical assessment of papers in the special issue and contributions during the day**
- 8.00-8.30 **Contribuciones de la audiencia/Open discussion with possible contributions from the audience.**





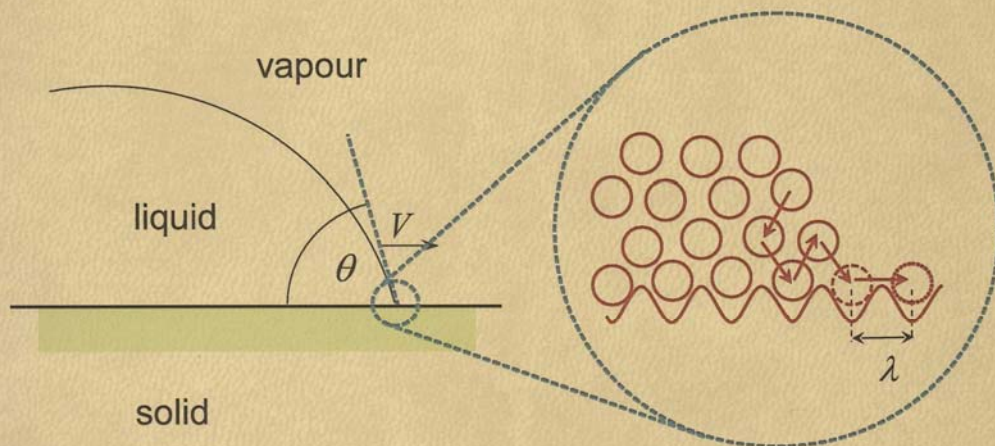
Recognized by European Physical Society

## Special Topics

Manuel G. Velarde (Ed.)

### Discussion and Debate:

Wetting and Spreading Science - *quo vadis?*



*Dynamics of wetting and Kramers' theory* (p. 252)

T.D. Blake and J. De Coninck



**MIERCOLES SEPTIEMBRE/WEDNESDAY SEPTEMBER 14**  
(morning)

MULTIFLOW TRAINING DAYS-(Continued) SYMPOSIUM (AND ROUND TABLE) ON FLUID PHYSICS AND RELATED NONLINEAR PHENOMENA AT INTERFACES AND IN OTHER GEOMETRIES

<b>Wednesday, Sept. 14th</b>	
<b>Time</b>	<b>Session 5 : Various topics</b>
09:30-09:45	José M. Vega (Madrid)
09:45-10:00	Qiu-Sheng Liu (Beijing)
10:00-10:15	Peder Tyvand (Aas, Norway)
10:15-10:30	Annie Steinchen (Marseille)
10:30-10:45	Alain de Ryck (Albi)
10:45-11:15	<b>Break</b>
	<b>Session 6: Waves and thin films II</b>
11:15-11:35	Alex Oron (Haifa)
11:35-11:55	Vasilis Bontozoglou (Thessaly)
11:55-12:15	Médéric Argentina (Nice)
	<b>Session 7: Micro/meso approaches</b>
12:15-12:30	Nikita Tretyakov (Goettingen)
12:30-13:00	Ramón G. Rubio (Madrid)
13:00-15:00	<b>Lunch and discussions</b>

**Chair : A. ORON**

**Session 5: Various topics**

1. **J. M. Vega** (Madrid): "Surface wave damping in millimetric liquid bridges"
2. **Qiu-S. Liu** (Beijing): "Experimental and numerical investigation of Bond number influence on dynamic behaviors of liquid drops deposited on solid substrates"
3. **P. Tyvand** (Aas,Norway): "Impulsive sloshing of liquids in open containers"
4. A.Sanfeld, K.Sefiane and **A.Steinchen** (Marseille, Edinburgh): "Reactions of dipolar bio-molecules in nano-capsules example of folding-unfolding process"
5. **A. de Ryck** (Albi): "Steady-state parallel flows of granular media"

**Chair : R. G. RUBIO**

**Session 6: Waves and thin films II**

1. **A. Oron** (Haifa): "Nonlinear dynamics of liquid films on agitated surfaces"
2. **V. Bontozoglou** (Thessaly): "Geometric modifications of liquid film flow"
3. **M. Argentina** (Nice): "Inertial lubrication theory"

**Chair : V. BONTOZOGLOU**

**Session 7: Micro/meso approaches**

1. **N. Tretyakov** (Goettingen): "MD simulation of polymer films and droplets on flat and structured substrates"
2. **R. G. Rubio** (Madrid): "Active and passive microrheology of interfaces"

## MIERCOLES SEPTIEMBRE/WEDNESDAY SEPTEMBER 14

(afternoon 3 pm)

### SYMPOSIUM (AND ROUND TABLE) ON SOLITONS, SOLECTRONS AND SOME NOVEL ASPECTS OF ELECTRIC TRANSPORT

**Chair : Werner EBELING** (Berlin)

15.00-15.30 **Mohamed BELHAQ** (Casablanca): "Effect of high-frequency voltage on the dynamic of micro-electromechanical systems (MEMS) and of atomic force microscopy (AFM)"

15.30-16.00 **Guo-Xiang HUANG** (Shanghai): "Solitons in superfluid Fermi gases in the BCS-BEC crossover"

16.00-16.30 **Luigi A. LUGIATO** (Como): "Cavity solitons"

16.30-17.00 **Carlos MONTES** (Nice): "Backguard three-wave optical solitons and coherence transfer"

17.00-17.15 **Pausa/Break**

### Solectron theory

17.15-17.20 **Manuel G. VELARDE** (Madrid)

17.20-17.30 **Larissa BRIZHIK** (Kiev)

17.30-17.40 **Leonor CRUZEIRO** (Faro)

17.40-17.50 **George VINOGRADOV** (Moscow)

17.50-18.10 **Gerd RÖPKE** (Rostock)

18.10-18.30 **Alexander P. CHETVERIKOV** (Saratov)

18.30-18.50 **Werner EBELING** (Berlin)

18.50-19.05 **Pausa/Break**

MIERCOLES SEPTIEMBRE/WEDNESDAY SEPTEMBER 14  
(evening 7 pm)

**Len PISMEN** (Haifa): "Swings of science: from complexity to simplicity and back"  
Recital (cello): **Angel Ga. JERMANN** (Real Conservatorio Superior de  
Música, Madrid) Violoncello: J S Bach cello suite #1, BWV 1007 in G-dur/G  
major/Sol mayor (Prélude-Allemande-Courante-Sarabande-Menuett I & II-  
Gigue)



AGAPE/DINNER 9.00 pm

Restaurante BOKADO, Jardín del Museo del Traje,  
Ciudad Universitaria



## Angel Garcia Jermann, violoncello

Angel Garcia Jermann, a leading Spanish cellist of his generation, was solo cellist of the RTVE Symphony Orchestra in Madrid for eleven years and presently holds a professorship at the “*Real Conservatorio Superior de Música*” in Madrid.

He studied with Maria de Macedo, János Starker and Karine Georgian in Madrid, Bloomington and Detmold. He was Mrs. Georgians teaching assistant in Detmold for two years. He also received advice from Mstislav Rostropovich, Christophe Coin and Boris Pergamenschikow. The latter was most influential for the further development of his artistic personality and musical thinking. During his studies the Spanish Ministry of Culture, “*Juventudes Musicales de España*” and the “La Caixa” Foundation awarded him fellowships. In 1994 he won the first prize in the Jeunesse Musicale Permanent Competition in Spain.

As a soloist, in recital and as a member of different chamber music groups he has given concerts in several European countries and the USA. He has recently joined the Octeto Ibérico de Violoncellos as a solo player. In Spain he performs in the country's most important concert venues. He has performed solo concerts with orchestras such as Orquesta Sinfónica RTVE, ORCAM and Nordwestdeutsche Philharmonie under the baton of Pedro Halffter, Adrian Leaper, José Ramón Encinar, Virginia Martínez, Karl Heinz Bloemecke, etc. He has recorded for RNE, RTVE, CUATRO, WDR and CPO.

His vast repertoire reaches from baroque to contemporary music. He has given the first Spanish performance of works by Critóbal Halffter (“Solo”) and Alfred Schnittke (Concerto Grosso nr. 2). Other first performances include works by Jesús Torres, Álvaro Guijarro, Agustín González Acilu, Jaime del Val, and Ramón Paus among others.

He forms a consolidated duo with the pianist Kennedy Moretti since 1998. Their repertoire as a duo covers the entire standards and, thanks to his musicological research, it is constantly growing with newly discovered music by Spanish of the 19<sup>th</sup> and early 20<sup>th</sup> century.

His instrument is a beautiful Matteo Goffriller, made in Venice in 1710.

## JUEVES SEPTIEMBRE/THURSDAY SEPTEMBER 15

(morning)

### MULTIFLOW TRAINING DAYS-(Continued) SYMPOSIUM ON FLUID PHYSICS AND RELATED NONLINEAR PHENOMENA AT INTERFACES AND IN OTHER GEOMETRIES

**Chair : Yu. S. RYAZANTSEV** (Madrid)

#### **Session 8: Instabilities and Waves**

- 9.00-9.30 **Hartmut LINDE** (Berlin): "On Marangoni-driven instabilities"  
9.30-9.45 **Andreas WIERSCHEM** (Erlangen): "Mass-transfer-driven wave trains"  
9.45-10.15 **Paul CLAVIN** (Marseille): "Formation of Mach stems on planar shock waves and cellular detonations"  
10.15-10.30 **Ezequiel DEL RIO** (Madrid): "A Generalization of types I, II and III, intermittency theory. Effect of noise"

10.30-11.00 **Pausa/Break**

### SYMPOSIUM (AND ROUND TABLE) ON COMPLEX SYSTEMS

**Chair : G. NICOLIS** (Brussels)

- 11.00 -11.40 **Grégoire NICOLIS** (Brussels): "Perspectives in Complex Systems research"  
11.40-12.10 **Pierre GASPARD** (Brussels): "Microscopic-level complexity and foundations of nonequilibrium statistical mechanics"  
12.10-12.40 **Peter SCHUSTER** (Vienna): "Present day biology seen in the looking glass of the physics of complex systems"  
12.40-13.40 **ROUND TABLE DISCUSSION** open to the audience

## JUEVES SEPTIEMBRE/THURSDAY SEPTEMBER 15

(afternoon 3 pm)

### SYMPOSIUM ON BIOPHYSICS, NEURODYNAMICS AND ROBOTS

**Co-Chair : P. ARENA** (Catania)

**Co-Chair : A. FERRUS** (Madrid)

#### BIOPHYSICS

15.00-15.20 **Jean BRAGARD** (Pamplona): "Advances in defibrillation through numerical studies"

15.20-15.40 **Leonor CRUZEIRO** (Faro): "Nonlinear models for protein folding and function"

15.40-16.00 **Jesús RUIZ-CABELLO** (Madrid): "Bio-consequences of gas diffusion in healthy and diseased lungs"

#### NEURODYNAMICS AND ROBOTS

16.30-17.00 **Roland STRAUSS** (Mainz): "Memories in insects - From Manuel's concepts to flies and robots"

17.00-17.20 **Valeri A. MAKAROV** (Madrid): "Compact internal representation as a functional basis for protocognitive exploration of dynamic environments"

17.20-17.40 **Manuel DESCO** (Madrid): "Quantitative Neuroimaging: What you can say and what you can believe about the brain"

17.40-18.00 **Pausa/Break**

18.00-18.20 **Oscar HERRERAS** (Madrid): "Disentanglement of intracerebral field potential sources allows the parallel readout of ongoing activity in multiple neuron populations"

18.20-18.40 **Yong-Li SONG** (Shanghai): "Bifurcation and synchronization transition induced by coupling time-delay"

18.40-19.00 **Pablo VARONA** (Madrid): "From neuroscience to technology and back: a dynamical systems perspective"

## JUEVES SEPTIEMBRE/THURSDAY SEPTEMBER 15

(evening 7.30 pm)

### SCIENCE AS PART OF CULTURE (Continued)

19.30-20.00 **Pablo DIAZ**: "Surfing and Surf innovations"



*A surfer, Pablo DIAZ, riding on “the” appropriate wave in Asturias, North of Spain (courtesy of Antonio Sánchez-Arjona)*



## VIERNES SEPTIEMBRE/FRIDAY SEPTEMBER 16

### MULTIFLOW TRAINING DAYS ON COMPUTATIONAL METHODOLOGIES SYMPOSIUM ON GEOPHYSICAL AND ASTROPHYSICAL FLOWS AND RELATED PROBLEMS

**Co-Chair : Antonio FERRIZ** (Orense)

**Co-Chair : Eugene G. MOROZOV** (Moscow)

**Co-Chair : José M. REDONDO** (Barcelona)

9.00-9.30 **Keynote lecture : R. Grimshaw** (Loughborough): "Internal solitary waves and undular bores over variable topography"

9.30-10.00 **A. Ferriz Mas** (Vigo): "Magnetic buoyancy, Coriolis force and the origin of sunspots"

10.00-10.30 **A. Tarquis**: "Fractal structures in the environment"

10.30-15.00 **Pausa/Break**

15.00-15.30 A. Lawrie, S. Dalziel, P.F Linden, **J.M. Redondo**: "Rayleigh-Taylor mixing fronts"

15.30-16.00 **P. L. Glez.-Nieto**, J. L. Cano, M. Tijera: "Fractal velocity and scales in the complex atmospheric boundary layer"

16.00-16.30 **J. M. Redondo**, A. Tarquis, O. B. Mahjou, E. Sekula, A. Babiano: "Structure function analysis in complex turbulence"

16.30-16.45 **Pausa/Break**

16.45-17.15 **K. Belyaev** (Moscow): "Data assimilation into climate circulation models: methods and results"

17.15-17.35 **J. A. Miralles** (Alicante): "Magnetohydrodynamic phenomena in the presence of high magnetic fields and strong gravitational fields"

17.35-18.15 **E. G. Morozov** (Moscow): "Abyssal channels in the Atlantic ocean"

# **DOING SCIENCE IN SPAIN (1971-2011)**

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**Folks call me a maverick.  
Guess I ain't too diplomatic...  
Well, I have been accused  
Of makin' my own rules.  
There must be rebel blood  
Just a runnin' through my veins.  
But I ain't no hypocrite  
What you see is what you get.  
And that's the only way I know  
To play the game.  
Old Noah took much ridicule  
For building his great ark.  
But after forty days and forty nights  
He was lookin' pretty smart.  
Sometimes it's best to brave the wind and rain  
By havin' strength to go against the grain.**

.....

**(Lyrics by Bruce Bouton, Larry Cordle and Carl Jackson; sung by Garth Brooks. Released: September 10, 1991)**



FUNDAMENTAL AND APPLIED STUDIES OF EMULSION  
STABILITY  
**FASES**



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SIG 14 Stably Stratified and Rotating Turbulence