RÉSUMÉ: FERNANDO RUBEN DOBARRO

Contents

Some abbreviations frequently used in this résumé

FCEN-UBA	Facultad de Ciencias Exactas y Naturales Universidad de Buenos Aires - Argentina
IAM-CONICET	Instituto Argentino de Matemáticas Consejo Nacional de Investigaciones Científicas y Técnicas - Argentina
FCE-UNCPBA	Facultad de Ciencias Exactas Universidad Nacional del Centro de la Provincia de Buenos Aires - Argentina

1. Personal data

Name:	Fernando Ruben Dobarro
Passport:	Argentine n. 7292266
Identity card:	Carta d'Identità Italiana AJ7666337 Comune di Trieste
Marital status:	married
Sons:	2
Place of birth:	San Isidro, Provincia de Buenos Aires, Argentina
Date of birth:	July 11,1954
Present nationalities:	*argentine and italian*
Home address:	Via Giusti 16 - I-34135 Trieste - Italy Tel. (+39)(40)414547
E-mail:	dobarro@dmi.units.it fdob07@gmail.com

Date: May 24, 2010.

2. Education

Degree: (*Masters of Science*) Licenciado en Ciencias Matemáticas, FCEN-UBA
This university degree was recognized equivalent to "Laurea in Scienze Matematiche by Università degli Studi di Trieste-Italy in January 1996."
From 1973 to 1980
Degree Thesis: sectional curvature on pseudo-Riemannian manifolds (following some works of M. Do Carmo and M. Dajczer)
Advisor: Prof. R. Noriega Qualification 10/10

Post-degree: (*Ph. D.*) Doctor en Ciencias Matemáticas, FCEN-UBA
This university post-degree was recognized equivalent to those of "Dottore di Ricerca dell'ordinamento italiano, con decreto del Ministro dell'Università e della Ricerca Scientifica e Tecnologica n. 900 del 18/06/1999."
From July 1982 to September 1987
Thesis: Warped products of Riemann manifolds (partially published in collaboration with E. Lami Dozo in Transactions AMS, 303 (1987) 161-168).
Advisor: Prof. E. Lami Dozo. Qualification: "sobresaliente".

Evaluation committee**:**
Prof. A. P. Calderón**:** FCEN-UBA and Chicago University - USA
Prof. J. E. Bouillet**:** FCEN-UBA
Prof. J. Tirao**:** Facultad de Matemática, Astronomía y Física - Córdoba - Argentina
Prof. J. P. Gossez**:** Université Libre de Bruxelles - Belgium

Post-doc: see 3.5.

3. Scientific background

3.1. **Research subjects: Non linear Analysis, Differential Geometry and Mathematical-Physics.** From September 80 until Sept. 81 I have worked on Variational Principles in Physics advised by Prof. R. Noriega of FCEN-UBA. I have been particularly interested in dimensional analysis of vecto-tensorial Lagrangians (see 3.2 1) following the works of S. J. Aldersley published in Physic D 1977.

In September 81 I began to study some topics in Nonlinear Analysis, specially degree theory and implicit function techniques.

At the end of 82, advised by Prof. E. Lami Dozo, I started working on Partial Differential Equations with Geometric Content, which was the subject matter of my PhD thesis, namely. The relationship between a given Riemann metric and its curvature, particularly scalar curvature, give rise to a family of very interesting nonlinear partial differential equations (briefly PDE). Some of those can be solved by either variational, order or bifurcations methods, among others (see 3.2 2, 3, 8, 9). More specifically, I studied Yamabe type equations (compact and noncompact cases), scalar curvature of warped products (the involved equations are connected with a special kind of solutions of non linear parabolic equations with sources and sinks arisen in population dynamics and filtration in porous media with absorbtion, also), spectral geometry, nodal lines of eigenfunctions of the Laplacian and so on.

In 86 I dealt with some questions in Applied Mathematics, specially in Control Theory (applications of the Ekeland ϵ -variational principle) and Fluid Dynamics, after some contacts with Prof. H. Fattorini (UCLA Los Angeles) for the first subject and with Prof. R. Rosales (MIT Boston) for the second.

Since September 87 until January 89 I had a research position at FCEN-UBA (Departamento de Matemática) and also a 2 year fellowship from IAM-CONICET to work in Nonlinear Analysis on manifolds.

Later I got a postdoctoral fellowship of CONICET to continue my work in Nonlinear Analysis at *Scuola Normale Superiore di Pisa*, with Prof. Antonio Ambrosetti as advisor. With him, I studied elliptic problems with discontinuous nonlinearities, they correspond to a particular family of elliptic free boundary value problems. These topics had been studied in that years by M. Badiale, B. Turner and M. Struwe in collaboration with A. Ambrosetti, and previously by M. Berger, L. Caffarelli, Fraenkel and Norbury among others. This kind of problems arisen for instance in Plasma Physics, Fluid Dynamics, Astrophysics, Nervous Conduction, etc. Through bifurcation methods, we studied equations of the type

$$-\Delta u = f(u-a) \text{ on } \Omega, \tag{3.1}$$

where Ω is a domain in $\mathbb{R}^n$, Δ is the Laplace operator, $f : \mathbb{R} \longrightarrow \mathbb{R}$ is a function with a simple discontinuity at 0, a is a real parameter and $u : \Omega \longrightarrow \mathbb{R}$ is the unknown function. On a bounded domain $\Omega \subset \mathbb{R}^2$, (3.1) is related to the Grad-Shafranov equation concerning the equilibrium of a steady plasma confined in a toroidal cavity with cross section Ω (see 3.2 4, 5) and on an unbounded domain of $\mathbb{R}^n$ is connected with the distribution of temperature in an isotropic ionized gas filling the whole space (see 3.2 5).

Since 1990, I am also interested in astrophysical models of erupting phenomena in the surface of the sun, specially solar flares, that give rise to nonlinear elliptic PDE's of the form (see 3.2 6, 7 and the project 21):

$$-\Delta u = \lambda f(\cdot, u, \nabla u) \text{ on } \Omega, \tag{3.2}$$

where Ω, Δ and u are as above, ∇ is the gradient, $f : \Omega \times \mathbb{R} \times \mathbb{R}^n \longrightarrow \mathbb{R}$ is a suitable function and λ is a real parameter. Equations like (3.2) are again related with the Grad-Shafranov equation in Plasma Physics. With M. Calahorrano and E. Lami Dozo (see 3.2 6, 7), I worked in the mathematical interesting questions of existence and multiplicity of solutions, in the cases where the right hand side of (3.2) does not depend explicitly of x $\in \Omega$ and is independent of the gradient, Ω is the upper half-plane and particular boundary conditions are imposed. The astrophysical interest in the latter boundary value problem on the half-plane is connected with the existence of turning points, because these imply the onset of the flares (by a catastrophe argument). The prediction of solar flares, and in general any kind of phenomena in the solar atmosphere, is very important not only theoretically but also in the applications motivated by the interferences of these with the life of our planet, by example in communication and health.

Between 2001 and 2003 I began a study of some problems connected with particular dynamical systems related with the so called Kakutani splitting of an interval (See 3.2 Non submitted)

At the present time, and since 2002, I continue my research in the above subjects, specially those connected with Fluid Dynamics (Plasma Physic, Astrophysics, Magnetohydrodynamics, etc) and pseudo-Riemannian Geometry (curvature problems), all of them in the general framework of Non Linear Analysis.
About the former argument, after some recent contacts with Z. Yoshida and S. Mahajan, I am studying the so called *generalized* Grad-Shafranov equation

$$-\nabla[(1-M^2(\psi))\nabla\psi] + \left(\frac{M^2(\psi)}{2}\right)' |\nabla\psi|^2 + F'(\psi) = 0. \tag{3.3}$$

This equation corresponds to a family of elliptic/hyperbolic PDE's that give rise to the so called Alfven waves in Plasma Physics (See the project 3.2 21).
On the other hand, we also deal with the analysis of the Casimir (central) elements of the Lie-Poisson algebra of the Euler equation, which involve a family of special fully nonlinear PDE's.

With relation to the geometrical problems, some time ago I began a strong collaboration with B. Ünal in order to continue with the study of warped geometries (with two or more fibers) (See 3.2 10, 11, 12, 13, 14, 15, 16, 17 and the other projects). These metrics had always been important in physics, but in the last years they have a renewed impulse, as a consequence of their applications in the new developments in relativity, cosmology and quantum-gravity, particularly in string theory, Kaluza-Klein theory, Randall-Sundrum theory (so that the problem of extra-dimensions) among other topics. See for instance the note of K. Thorne, *Warping space-time* in The Future of Theoretical Physics and Cosmology, Part 5, Cambridge University Press, (2003), 74–104 or the recent researches of J. Maldacena; V. Rubakov; H.-J. Schmidt; M. O. Katanaev, T. Klösch and W. Kummer; J. P. Gauntlett, N. Kim and D. Waldram; R. Argurio, among many others.

I observe that all these arguments are strongly related among them, in the sense that often the results obtained for one problem arise results in other subjects. My future plan is to continue my research in these fields, enriching the relation with other disciplines (see the last articles and the works in progress in 3.2, and the participation in physics meetings in 3.4).

3.2. **Publications.**

Main

(1) *Análisis dimensional de Lagrangianos vecto-tensoriales*
Revista de la Unión Matemática Argentina (UMA) 32 (1985) 1-10, Argentina

(2) (with E. Lami Dozo) *Scalar curvature and warped products of Riemann manifolds*
Transactions AMS 303 (1987) 161-168, USA

(3) *Productos alabeados de variedades de Riemann*
Ph. D. Thesis Facultad de Ciencias Exactas y Naturales - Universidad Nacional de Buenos Aires, Registro n. 2038 (1987), Argentina

(4) (with A. Ambrosetti & M. Calahorrano) *Remarks on the Grad Shafranov equation*
Appl. Math. Letters Vol. 3, No. 3, pp. 9-11 (1990), Great Britain

(5) (with A.Ambrosetti & M. Calahorrano) *Global branching for discontinuous problems*
Comment. Math. Univ. Carolinae 31, 2 (1990), pp. 213-222, Praga

(6) (with M. Calahorrano) *Multiple solutions for inhomogeneous elliptic problems arising in Astrophysics*
Math. Mod. and Methods in Applied Sciences 3, 2 p.217-230 (1993), USA.
Abstract in NASA Astrophysics Data System (ADS) 1991STIN..9218131C

(7) (with E. Lami Dozo) *Variational solutions in non gravity free solar flares*
In *Partial Differential Equations Models in Physics and Biology.*
Eds. G. Lumer,S. Nicaise,B. W. Schulze.
Math. Research, Vol.82; Akademic Verlag, Berlin,1994.

(8) (with M. Badiale) *Some existence results for sub-linear elliptic problems in* $\mathbf{R}^n$
Funkcialaj Ekuacioj, Vol. 39, No. 2, pp. 183-202 (1996), Japan.

(9) (with V. Coti Zelati & R. Musina) *Prescribing scalar curvature in warped products*
Ricerche Mat., **4**6 (1), 1997, 61–76.

(10) (with B. Ünal) *Special Standard Static Space Times*
Nonlinear Analysis TMA, Vol. 59, issue 5, (2004), pp. 759-770.
arXiv:math/0406054v1 [math.FA].

(11) (with B. Ünal) *Curvature of multiply warped products*
Journal of Geometry and Physics, Vol. 55, issue 1, (2005), pp. 75-106.
arXiv:math/0406039v3 [math.DG].
Article presented by B. Ünal in the IV International Meeting on Lorentzian Geometry, Santiago de Compostela, February 5-8, 2007.

(12) (with B. Ünal) *About Curvature, Conformal Metrics and Warped Products*
J. Phys. A Math. Theor. 40 (2007) 13907-13930
arXiv:0704.0595v1 [math.DG].

(13) (with B. Ünal) *Curvature in Special Base Conformal Warped Products*
Acta Applicandae Mathematicae Vol. 104, Number 1, (2008), p. 1-46
arXiv:math/0412436v4 [math.DG].

(14) (with B. Ünal) *Hessian Tensor and Standard Static Space-times*
in *Advances in Lorentzian Geometry* - M. Plaue and M. Scherfner (eds.) - Shaker Verlag, Germany, 2008.
arXiv:math/0607113v2 [math.DG].

(15) (with B. Ünal) *Killing Vector Fields of Standard Static Space-Times*
arXiv:0801.4692v1 [math.DG].

(16) (with B. Ünal) *Implications of Energy Conditions on Standard Static Space-times*
Nonlinear Analysis TMA, Vol. 71, issue 11, (2009), pp. 5476-5490.
arXiv:0901.0370v1 [math.DG].

(17) (with B. Ünal) *Non-Rotating Killing Vector Fields on Standard Static Space-Times*
work in progress.

(18) (with B. Ünal) *About Curvature, Conformal Metrics and Warped Products II*
work in progress.

(19) (with B. Ünal) *About Curvature, Conformal Metrics and Warped Products: non-Compact Riemanian Base*
work in progress.

(20) *Mountain pass solutions in solar flares with gravity*
work in progress.

(21) *Generalized Grad-Shafranov equation*
work in progress.

(22) *An identity for the p-Laplacian and more*
work in progress.

(23) *Building Einstein manifolds with base conformal warped products*
work in progress.

(24) (with B. Ünal) *Causally disconnectedness and singularity theorems of warped product space-times*
work in progress.

(25) (with B. Ünal) *Index form and warping*
work in progress.

(26) *Static metrics and the $BFM-$equation - compact and non compact cases*
work in progress.

Lecture Notes

(1) (with E. Lami Dozo) *Curvatura escalar en variedades Riemannianas* (conference) VII Seminario Nacional de Matemáticas, Vaquerías (Córdoba Argentina), (1984)

(2) *About nonlinear elliptic problems in plasma physics*
Notes for the web page of the Summer College on Plasma Physics - Minisymposium on Advanced Mathematical Methods in Nonlinear Plasma Theory - ICTP - Trieste - Italy (10 August - 28 August 2009)
http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a08175

Others

(1) (with E. Lami Dozo) *Sobre la relación diferencial entre la curvatura escalar y el peso de un producto ponderado*
(communication) Revista de la UMA 31 (1984) 211-241

(2) *El espectro de un producto alabeado en variedades de Riemann*
(communication) Revista de la UMA (1987)

Non submitted

(1) *A note about constant scalar curvature in warped products* (2002)

(2) *Difference equations and a generalized Kakutani splitting* (2002)

(3) *Kakutani splitting and a 2-dimensional splitting* (2003)

3.3. **Degree thesis advisor.** Student: Patricia Kisbye
Place: At FCE-UNCPBA (Tandil)
Subject: Algunos temas de Análisis Armónico en el disco.
Advised in collaboration with Prof. Daniel Suarez

3.4. **Participation in seminars, colleges, etc.** (* means with lecture)

(1) VI Seminario Nacional de Matemática IMAF (Instituto de Matemática, Astronomía y Física) - Córdoba - Argentina (August 1982)
I took the following courses:
Variedades de curvatura negativa - J. L. Barbosa (Univ.Fortaleza - Brasil)
Subvariedades de curvatura media constante - C. Sanchez (IMAF - Córdoba - Argentina)

(2) * VII Seminario Nacional de Matemática IMAF - Córdoba - Argentina (August 1984)

(3) VII Escuela Latinoamericana de Matemática, IMPA - Rio de Janeiro - Brasil (July 1986)
I took the following courses:
Metodos de continuacao en equacoes diferenciais elipticas nao-linaires - L. Caffarelli (Princeton - USA)
Topicos em analise nao-linear e aplicacoes as equacoes diferenciais - D. Goldstein Costa (Brasilia)

(4) Escuela Nacional de Matemática Aplicada 1986, Secretaria de Ciencia y Técnica
San Luis - Argentina (July-August)
I took the following courses:
Teoría de Control (applications of the Ekeland ϵ-variational principle) H. Fattorini (UCLA - USA)
Dinamica de Fluidos (linear and nonlinear waves) - R. Rosales (MIT - USA)

(5) * Escuela Nacional de Matemática Aplicada 1987, Secretaria de Ciencia y Técnica
I took the following courses:

In INTEC Santa Fe - Argentina (july-august);
Teoría de control (infinite dimension, suboptimal controls) - H.Fattorini (UCLA - USA)
In Facultad de Ingegneria UBA - Buenos Aires (nov.-dec.);
Fluid Dynamics (Geometric optic) - R. Rosales (MIT - USA)

(6) College on Variational Problems in Analysis - ICTP - Trieste - Italy (January 1988)
(7) Workshop on Functional Analytic Methods in Complex Analysis and Applications to Partial Differential Equations - ICTP -Trieste - Italy (February 1988)
(8) IX Seminario Nacional de Matemática - IMAF - Córdoba - Argentina (August 1988) (Differential Geometry, Lie Groups, Harmonic Analysis)
(9) * Workshop on Variational Problems - ICTP - Trieste - Italy (August 1989)
(10) Meeting on Hamilton Systems and Elliptic Problems - Università degli Studi dell'Aquila - Italy (January 1990)
(11) Second College on Variational Problems in Analysis - ICTP - Trieste - Italy (February 1990)
(12) * Joint meeting of Université Libre de Bruxelles (ULB) and Université Catholique de Louvain (UCL) about Nonlinear Analysis (18 October 1991)
(13) Third International Conference on Evolution Equations, Control Theory and Biomathematics - Han-Sur-Less - Belgium (October 1991)
(14) * Third Cycle Seminar on Nonlinear Problems - J. P. Gossez (ULB) and J. Mawhin (UCL) organizers (Academic year 1991-92)
(15) * Giornata di Equazioni Differenziali - Università degli Studi di Trieste - Dipartimento di Matematica - (27-02-96)
(16) Differential Equations and Calculus of Variations - International School, second session and Workshop - Pisa, Department of Mathematics (September 1996)
(17) Corso di Perfezionamento in Fluido-dinamica Computazionale ed Equazioni alle Derivate Parziali - Facoltà di Ingegneria - Università degli Studi di Pisa - (Academic year 96-97)
(18) Workshop on Theoretical Plasma Physics - ICTP - Trieste - Italy (11 - 22 Nov 2002)
(19) Workshop and Conference on Recent Trends in Nonlinear Variational Problems - ICTP - Trieste - Italy (22 April - 09 May 2003)
(20) * Autumn College on Plasma Physics: Long-Lived Structures and Self Organization in Plasmas - ICTP - Trieste - Italy (13 Oct - 07 Nov 2003)
(21) Workshop on Theoretical Plasma Physics - ICTP - Trieste - Italy (5 July - 16 July 2004)
(22) Summer School and Conference on Dynamical Systems - ICTP - Trieste - Italy (19 July - 6 August 2004)
(23) Nonlinear Cosmology: Turbulence and Fields - ICTP - Trieste - Italy (9 May - 12 May 2005)
(24) Conference on Vortex Rings and Filaments in Classical and Quantum Systems - ICTP - Trieste - Italy (6 June - 8 June 2005)
(25) Summer School and Conference on Geometry and Topology of 3-Manifolds - ICTP - Trieste - Italy (6 June - 24 June 2005)
(26) Summer School on Particle Physics - ICTP - Trieste - Italy (13 June - 24 June 2005)
(27) Summer School and Conference on Poisson Geometry - ICTP - Trieste - Italy (4 July - 22 July 2005)

(28) Autumn College on Plasma Physics - ICTP - Trieste - Italy (1 Sept - 30 Sept 2005)
(29) Spring School on Superstring Theory and Related Topics - ICTP - Trieste - Italy (27 March - 4 April 2006)
(30) International Workshop on Frontiers of Plasma Science - ICTP - Trieste - Italy (21 August - 1 September 2006)
(31) Spring School on Superstring Theory and Related Topics - ICTP - Trieste - Italy (22 March - 30 March 2007)
(32) Summer College on Plasma Physics - ICTP - Trieste - Italy (30 July - 24 August 2007)
(33) School on Astrophysical Fluid Dynamics - ICTP - Trieste - Italy (15 October - 26 October 2007)
(34) Spring School on Superstring Theory and Related Topics - ICTP - Trieste - Italy (27 March - 4 April 2008)
(35) School and Conference on Differential Geometry - ICTP - Trieste - Italy (2 June - 20 June 2008)
(36) School and Workshop on Dynamical Systems - ICTP - Trieste - Italy (30 June - 18 July 2008)
(37) International Workshop on the Frontiers of Modern Plasma Physics - ICTP - Trieste - Italy (14 July - 25 July 2008)
(38) Summer School in Cosmology - ICTP - Trieste - Italy (21 July - 1 August 2008)
(39) * Summer College on Plasma Physics - ICTP - Trieste - Italy (10 August - 28 August 2009). Lecturer in the Minisymposium on Advanced Mathematical Methods in Nonlinear Plasma Theory (14-15 August 2009).

3.5. **Research positions.**

(1) Beca de Perfeccionamiento del IAM-CONICET (Sept 87 - Dec 88)
(2) Beca externa del CONICET to work at *Scuola Normale Superiore di Pisa* (Jan 89 - Sept 90)
(3) Visiting *Scuola Normale Superiore di Pisa* (Oct 90, May 95)
(4) Visiting *International School for Advanced Studies at Trieste* (Nov 90)
(5) Visiting *International Centre for Theoretical Physics* (jan 91 - sept 91, Jan 92 - Dec 95)
(6) Grant of *Commission of the European Communities* to work at *Université Libre de Bruxelles* (Aug 91 - Jan 92)
(7) Visiting *Université Libre de Bruxelles* (Mar 93)
(8) Grant of Università degli Study di Pisa, Facoltà d'Ingegneria (Jan 96 - Jun 97)
(9) Visiting *Université Libre de Bruxelles*, in the framework of the II Scientific and Tecnology Cooperation Programm between Italy and Belgium (Jan 95; Jan 96; Jan 97)
(10) Grant of Università degli Study di Trieste, Facoltà d'Ingegneria (Jul 01 - Nov 03)

3.6. **Lectures of colloquium or seminar not included in 3.4.**

(1) International School for Advanced Studies (SISSA Trieste) (Nov 1990)
(2) Università di Padova - Seminario di Matematica - 19 Mar 1992
(3) Université Libre de Bruxelles - Non Linear Analysis Seminar - 02 Mar 1993
(4) Université Libre de Bruxelles - Non Linear Analysis Seminar - 24 Jan 1995
(5) Università di Padova - Dipartimento di Metodi e Modelli Matematici - Workshop 'Equazioni Differenziali con contenuto geometrico' - 04 Sep 1995

(6) Université Libre de Bruxelles - Non Linear Analysis Seminar - 22 Jan 1996
(7) Politecnico di Milano - Dipartimento di Matematica - 07 Feb 1996
(8) Université Libre de Bruxelles - Non Linear Analysis Seminar - 30 Jan 1997

3.7. **Meeting organizations.**

(1) (con Eduardo Gonzalez e Caterina Sartori) Workshop 'Equazioni Differenziali con Contenuto Geometrico' - Padova, 4-6 September 1995 - Università di Padova - Dipartimento di Metodi e Modelli Matematici

3.8. **Reviewer.**

(1) Differential Geometry and Its Applications
(2) Journal of Advanced Research in Pure Mathematics

4. Teaching background

- FCEN-UBA

	from	to	academic responsibilities
Departamento de Matemática	78	81	Ayudante de 2 (T. A.)
Departamento de Matemática	81	86	Ayudante de 1 full time (T. A.)
Departamento de Matemática	86	89	Jefe de Trabajos Prácticos full time (T. A.)

  During the summers of 79, 80 and 82 I was professor in the admission courses of FCEN-UBA (Mathematics and Logic).
- Professor at Departamento de Matemática, FCE-UNCPBA-Tandil (years 86-91, Titular after 88).
- Professor at Dipartimento di Metodi e Modelli Matematici per le Scienze Applicate, Facoltà d'Ingegneria della *Università di Padova* (years 92-93, 93-94, 94-95).
- Professor at Dipartimento di Matematica Facoltà d'Ingegneria della *Università di Trieste* (years 93-94, 94-95, 95-96, 97-98, 98-99, 1999-2000, 00-01, 01-02, 02-03). I integrated the evaluation committee of degree thesis for Diploma in Ingegneria Meccanica e di Logistica e della Produzione (Facoltà d'Ingegneria della Università di Trieste at Pordenone) also.
- Professor at Dipartimento di Matematica *Politecnico di Milano* (year 95-96).
- Professor at Dipartimento di Matematica, Facoltà di Scienze Matematiche, Fisiche e Naturali dell' *Università di Udine* (year 97-98).
- Professor at Dipartimento di Matematica, Facoltà di Ingegneria dell' *Università di Udine* (year 00-01).

The areas in which I developed my teaching background are the following: Mathematical Analysis in $\mathbf{R}^n$; Complex Analysis; Functional Analysis; Ordinary and Partial Differential Equations; Linear Algebra; Geometry; Algebra; Probability and Statistics; Mathematical-Physics.

5. Further information

- Languages: Mother tongue: Spanish. Second language: Italian. Other languages: English, French and a weak level of Russian.
- Experience working with Word Processors, Editors, TEX, LATEX, Graphic Packages, Computational Algebra Packages on systems: Microsoft, VAX, Sun (unix), Compaq (MS-DOS), Apple Macintosh, etc..

- Basic knowledge of electronics.
- From 1974 to 1977, administrative employee at 'Municipalidad de la Ciudad de Buenos Aires'.
- President of the Parents Committee of the Italian Dyslexia Association, Friuli Venezia-Giulia section (since 2002 up to 2008). Among the several tasks, I collaborated in the organization of the congresses about "Dyslexia, Dyscalculia, Dysgraphia" (so called "specific learning disorders") in the years 2002-2003-2004-2005-2006-2007. The latter were organized by the Italian Dyslexia Association (Trieste), joint to the "Ospedale Infantile Burlo Garofolo di Trieste (Istituto di Ricovero e Cura a Carattere Scientifico)" and "Facoltà di Scienze della Formazione" dell'Università degli Studi Di Trieste.