

PERSONAL DATA

Argentine citizen, born in Buenos Aires in 1945, married, three daughters.

Licenciado in mathematics, with honours (1967).

Ph. D. in mathematics (1988), University of Buenos Aires. Thesis subject: Numerical models for fluvial networks.

Scholarship from the Consiglio Nazionale delle Ricerche, Italy, Scuola Normale Superiore, Pisa (1969).

ACADEMIC RECORD

Academic positions

Student assistant (1966), teaching assistant (1970-72), Department of Mathematics, School of Sciences, University of Buenos Aires.

Instructor, Department of Mathematics, School of Sciences, University of La Plata (1972-75).

Assistant professor, Department of Computer Science, School of Sciences, Central University of Venezuela, Caracas (1977-78).

Professor and Head of the Department of Mathematics, School of Engineering, University of Buenos Aires (1984-88).

Professor, Latin American School of Informatics, ESLAI (1987).

Associate professor, Department of Computer Science, School of Sciences, University of Buenos Aires (1988-94).

Director, Instituto de Cálculo (Institute of Applied Mathematics), School of Sciences, University of Buenos Aires (1988-98).

Professor, Department of Computer Science, School of Sciences, University of Buenos Aires (1994 -).

Academic Secretary, School of Sciences, University of Buenos Aires (1994-96).

Professor, Department of Mathematics, School of Engineering, University of Buenos Aires (1995 -).

Dean, School of Sciences, University of Buenos Aires (1998-2006).

President, National Council for Research (CONICET) (2000).

Scholarships advisor

I advised two students, five graduate students, two postdoctoral fellows and two CONICET assistant researchers. I am currently advising three graduate students and one postdoctoral fellow.

Thesis advisor

Advisor of fourteen “licenciatura” dissertations (in computer science, mathematics and physics). Co-advisor of a “licenciatura” dissertation in atmospheric sciences.

Advisor of a M. Sc. thesis (Gabriela A. Steren, numerical simulation and control, School of Engineering, University of Buenos Aires, co-advisor: Guillermo D. Benito, Eng.)

Advisor of six Ph. D. theses: Gabriela Savioli, 1996, mathematics, University of Buenos Aires (coadvisor: Mirta Susana Bidner, Eng.); Gerardo Riccardi, 2001, engineering, University of Córdoba; Walter Legnani, 2001, physics, University of Buenos Aires (coadvisor: Dr. Pablo O. Canziani); Ariel Fraidenaich, 2004, engineering, University of Buenos Aires (coadvisor: Dr. Fernando Roberto de Andrade Lima); Javier Quinteros, 2008, computer science, University of Buenos Aires (advised also by Dr. Víctor A. Ramos); Alejandro Daniel Otero, 2008, engineering (advised also by Dr. Fernando L. Ponta).

Co-advisor of one Ph. D. thesis: Fernando L Ponta, 1999, engineering, University of Buenos Aires (advisor: Dr. Gautam S. Dutt);

Grants

I received grants from the University of Buenos Aires, from CONICET, from the Organization of American States, from the Sloan Foundation, jointly from CONICET and National Science Foundation, from the National Agency for Promotion of Science and Technology (FONCyT) and from the Fundación Antorchas.

Member of the following societies

Argentine Association for Computational Mechanics (AMCA - founding member), Argentine Mathematical Union (UMA), American Mathematical Society (AMS), Society for Industrial and Applied Mathematics (SIAM), Argentine Scientific Society (SCA), Argentine Association of Applied, Computational and Industrial Mathematics (ASAMACI - founding member), Argentine Center of Meteorologists (honorary member).

PROFESSIONAL ACTIVITIES

As a private consultant since 1970, and partner of the firm Estudio Gradowczyk y Asociados S. A. T. since 1973, I directed the programming, implementation, calibration, validation and numerical experiments of many mathematical models, such as:

1. One-dimensional hydrodynamic model of the Limay river downstream of the Alicurá dam;
2. Hydrodynamic model of the Baradero river - tributary of the Paraná river - with a complex deltaic

structure;

3. Optimization model of the design of an aqueduct in the Santa Fe province between Granadero Baigorria and Rufino;
4. Model of the Salto Grande dam operation;
5. Model of discharge release through spillways and channels for the design of the Uruguay river closure during the construction of the Salto Grande dam;
6. Model of closure of the Colorado river during the construction of the Casa de Piedra dam;
7. Model of kinematic wave front to study irrigation and seepage in furrows for a sugar mill in Jujuy;
8. Hydrodynamic model, with deltaic structure, of the Paraná river delta, to analyze alternative cuts of flood beds and changes in the radii of curvature of the delta waterways to improve navigation;
9. Hydrodynamic model of the Uruguay river, with arborescent structure, upstream and downstream the Salto Grande dam, to analyze wave propagation, maximum admissible stage fluctuations, catastrophic hypotheses, backwaters, contributions of tributary basins, influence of other dams and navigation problems;
10. Hydrologic-hydrodynamic model to forecast Uruguay river floods, used in the dam operation;
11. Hydrodynamic model with complex deltaic structure, hydrodynamic model with arborescent structure and hydrodynamic model with a mobile bed of the Limay river, to study the hydraulic performance during the construction of the Pichi Picún Leufú and Michihuaio dams;
12. Hydrologic-hydrodynamic model of the middle and lower Amazon river and its basin;
13. One-dimensional hydrodynamic model and hydrodynamic model with a mobile bed and particle transport, settling and resuspension, to analyze several alternatives of design of the Escobar fluvial harbour;
14. Linear, integer and separable optimization models and simulation model of a system of multiobjective water planning (reservoirs, irrigation works, hydropower stations, channels) in the Negro river basin;
15. Technical and economic simulation model of feed-lots performance;
16. Statistical, reservoir operation and hydrological models of the Aluminé lake and river;
17. Mathematical models to compute the hydraulic performance and estimation of pier scour for different alternatives of the Yacyretá-Resistencia 500 KV electrical interconnection system;
18. Flood and drainage model of Río de la Plata coastal areas linked by culverts and separated by embankments;
19. Environmental pollution model of two treatment plants for sewage projected in artificial islands

in the Río de la Plata;

20. Flood and drainage model of a filling area near the coast of the Río de la Plata;
21. Reservoir operation models for the Cabra Corral, Ullum, Escaba and El Cadillal dams;
22. Dredging computation model and hydrological forecast model for the Santa Fe - Atlantic Ocean waterway dredging works;
23. Combined hydrologic and reservoir operation model for the Futaleufú reservoir;
24. Combined operation model of the Los Caracoles, Piedra Negra and Ullum reservoirs;
25. Hydrologic - hydraulic model and bridge scour model on Perico and Los Alisos rivers in Jujuy.

I transferred to the corresponding clients several models, including in the transference the documentation, theoretical fundamentals, user's manual and training of the personnel. I implemented the following models, already mentioned, in the computers of the clients: hydrologic-hydrodynamic model of the middle and lower Amazon river (in Belem, Pará, Brazil), flood forecast model of the Uruguay river (in the Salto Grande dam), two hydrodynamic models downstream the Pichi Picún Leufú dam (in Cipoletti, Río Negro), combined hydrologic and reservoir operation model (in the Futaleufú dam, Chubut).

Since 2007 I am an advisor of SIM&TEC S. A., a consulting firm in computational mechanics. I am responsible of the parallelization of the METFOR finite element model for TENARIS S. A.

OTHER ACTIVITIES

Participant in many scientific meetings in Argentina and abroad. In particular, invited speaker in the following:

1. Workshop on Mathematics in Industry, Mar del Plata, 1988;
2. X Latin American School of Mathematics, Tanti (Córdoba), 1991;
3. XII Iberian Latin American Congress on Computational Methods in Engineering - III Argentine Congress on Computational Mechanics, Paraná, 1991;
4. XI National Seminar of Mathematics, Vaquerías, Córdoba, 1992;
5. II Congress "Dr. Antonio A. R. Monteiro", Bahía Blanca, 1993;
6. Southern Hemisphere Paleo- and Neoclimates Mendoza Workshop, Mendoza, 1993;
7. IV Argentine Congress on Computational Mechanics - MECOM'94, Mar del Plata, 1994;
8. VI International Colloquium of Differential Equations, Plovdiv, Bulgaria, 1995;

9. First Latin American Colloquium on Mathematics applied to Industry and Medicine, Buenos Aires, 1995;
10. Winter School of Applied Mathematics and Computer Science, Federal University of Río Grande do Sul, Porto Alegre, 1996;
11. School of Mathematics applied to Industry, Mar del Plata, 1996;
12. IV World Congress of Computational Mechanics, Buenos Aires, 1998;
13. XII Argentine Congress of Bioengineering, Buenos Aires, 1999.
14. First Meeting of Professors of Mathematics at the Cuyo National University, Mendoza, 2000.
15. Workshop organized by the Secretariat for Science, Technology and Innovation “Towards the construction of public policies on professional migrations”, Buenos Aires, 2001.
16. Preliminary Meeting, Montevideo, and Organizing Meeting of Deans of Schools of Science of Latin America, Buenos Aires, 2002. Member of the Organizing Committee.
17. Third Meeting of Principal Investigators of the Project IAI CRN-055 - PROSUR, Mar del Plata, 2002.
18. First South-American Congress on Computational Mechanics - III Brazilian Congress on Computational Mechanics - VII Argentine Congress on Computational Mechanics, Paraná, 2002.
19. Meeting on Science and Technology organized by the Department of Science and Technology of the National University of La Pampa, Santa Rosa, La Pampa, 2002.
20. First Meeting of Deans of Schools of Science of Latin America, Mexico, DF, 2003.
21. Fourth Meeting of Principal Investigators of the Project IAI CRN-055 - PROSUR, Cruzeiro, SP, Brazil, 2003.
22. VI National Congress of Political Science, Rosario, 2003.
23. Workshop on Computational Engineering, Instituto Tecnológico de Buenos Aires, Buenos Aires, 2004.
24. I Workshop on Differential Equations, Optimization and Numerical Analysis, Rosario, Universidad Austral, 2004.
25. V Pan American Workshop on Applied and Computational Mathematics, Tegucigalpa (Honduras), 2004.
26. Workshop on Modeling and Operation of Hydrocarbon Networks, GIMOR 2004, Buenos Aires, 2004.
27. XIV Congress on Numerical Methods and their Applications (ENIEF 2004), Bariloche, 2004.

28. II Workshop on Differential Equations, Optimization and Numerical Analysis, FAMAF, Córdoba, 2005.
29. International Conference on Approximation Methods for Design and Control, UTN, Buenos Aires, 2005.
30. I Czech-Argentine Biennale Workshop “e-Golems”: Interdisciplinary aspects of human-machine co-existence and co-operation, Prague, June, 2005.
31. TERA’05, Third International Workshop on (semi)numerical techniques in polynomial equation solving, in honor of Joos Heintz’s 60th birthday, Buenos Aires, 2005.
32. XV Congress on Numerical Methods and their Applications (ENIEF 2006), Santa Fe, 2006.
33. II Argentinean Congress of Researchers in Marketing and Public Opinion, Buenos Aires, April 10 and 11, 2007.
34. III Meeting on Science, Technology and Society, Montevideo, 2007. Argentinean coordinator of the Applied Mathematics area.
35. Seminar “Fall and Reconstruction of Argentinean Science” (Secretariat for Science, Technology and Innovation), 2007.
36. Annual Meeting of the Argentine Mathematical Union: LVII Meeting of Scientific Communications. Córdoba, 2007.
37. II Czech-Argentine Biennale Workshop “e-Golems”: Information and Communication Society – Emerging Technologies and their Application to Art and Society, Buenos Aires, 2007.
38. XVI Congress on Numerical Methods and their Applications (ENIEF 2007); I Congress of Applied, Computational and Industrial Mathematics (MACI 2007); Córdoba, 2007.
39. Annual Meeting of the Argentine Mathematical Union:: LVIII Meeting of Scientific Communications. Mendoza, 2008.
40. Annual Meeting of AR-SIAM (Argentina Section of the Society for Industrial and Applied Mathematics) and First Meeting of ASAMACI (Argentine Association of Applied, Computational and Industrial Mathematics), Santa Fe, 2008.
41. Organizer of the Second National School of Applied Mathematics, on Fluid Dynamics, in the Department of Mathematics of the School of Engineering, University of Buenos Aires, December 1987, and of the Schools of Applied Mathematics of the University of Buenos Aires and of the “Montevideo Group” Association of Universities in 1993 and 1997.
42. Jury to select professors in the Universities of Buenos Aires, Rosario, Centro de la Provincia de Buenos Aires (Olavarría and Tandil), Sur (Bahía Blanca), Litoral (Santa Fe), General Sarmiento (San Miguel), San Martín, Technological (Haedo, Rosario and Concepción del Uruguay) and República (Montevideo), and to select high school teachers in Ushuaia.

43. Jury in Ph. D. dissertations in computer sciences (Buenos Aires, Tandil), mathematics (Buenos Aires, Santa Fe), physics (Buenos Aires) and engineering (Buenos Aires, Rosario, Córdoba and Santa Fe).
44. Lectures in Buenos Aires, Rosario, Córdoba, Santa Fe, Paraná, Mar del Plata, Mendoza, Neuquén, La Plata, Bahía Blanca, Bariloche, Santa Rosa (La Pampa), Montevideo (Uruguay), Caracas (Venezuela), Tegucigalpa (Honduras), New York, Princeton, Cambridge (Massachusetts), Blacksburg (Virginia), Plovdiv (Bulgaria), Cruzeiro (SP, Brazil), Recife (PE, Brazil), The Hague (Netherlands) and Prague (Czech Republic).
45. Invited Researcher at the Massachusetts Institute of Technology, Cambridge, Mass. (1989, 1990, 1992, 1993 and 1996).
46. Coordinator of the Special Program in Research, Development and Promotion of Informatics and Computer Science of the University of Buenos Aires (1992-95).
47. Coordinator of Applied Mathematics of the “Montevideo Group” Association of Universities, composed by Universities in Argentina, Brazil, Uruguay and Paraguay (1992-98).
48. Member since its creation of the Sub-commission in charge of the Ph. D. Program of the Department of Computer Science and member of the Commission in charge of the Ph. D. Programs of the School of Sciences of the University of Buenos Aires (1991-97).
49. Member of the Consulting Committee in Physics, Mathematics, Computer Sciences and Chemistry of the University of Buenos Aires (1994-97).
50. Member of the Editorial Board of *Redes*, a journal of social studies of science (1998-2001).
51. Reviewer of graduate studies programs (1999, 2000 and 2006) and of the Blas Pascal University, Córdoba, (2000) for the National Commission for Evaluation and Categorization of Universities (CONEAU).
52. Reviewer of grant proposals and/or researchers promotions for the National Agency for Science and Technology Promotion (ANPCyT), the National Council for Research, the Chilean National Council for Research, the Swiss National Science Foundation, the Department (currently Ministry) of Science, Technology and Innovation, the Office for Small and Medium Enterprises and Regional Development and several national Universities.
53. Reviewer of scientific articles for several congresses on computational mechanics (MECOM and ENIEF), the Inter-American Conference on Informatics (CLEI), the Argentinean Society of Informatics and Operations Research (SADIO), the Argentinean Mathematical Union (UMA) and the Argentinean Section of the Society for Industrial and Applied Mathematics (AR_SIAM).
54. Reviewer of scientific articles for the journals *Communications in Numerical Methods in Engineering*, *Latin American Applied Research*, *Geophysical Research Letters*, *Meteorologica* and *Revista Mexicana de Ciencias Geológicas*.

55. Reviewer of promotions and tenures of professors of the National University of Rosario (2001 and 2003) and for reviewing categories of professors in Northeastern Universities (Posadas, 2004), Central Universities (Córdoba, 2006) and Buenos Aires Universities (Luján, 2006).
56. Member of the Board of EUDEBA (Buenos Aires University Press) (2001-2002).
57. Member of the Consultant Board of the Project RAICES (Network of Argentinean Researchers Abroad) (2002 -).
58. Member of the Board of the Argentinean Scientific Society (2004 -).
59. First Vice-president, Argentine University Council of Sciences, CUCEN (2004-2006).
60. Member of the Honorary Council of the Center of Studies for Development of Chemical Industry (CEDIQUIFA) (2004 -).
61. Researcher with Category I of the Ministry of Education Program.
62. Co-organizer of the I Czech-Argentine Biennale Workshop “e-Golems”: Interdisciplinary aspects of human-machine co-existence and co-operation, Prague, June, 2005.
63. Member of the Tuning AL Project of Latin American Universities (2005-2007).
64. Member of the National Commission for Improvement of Teaching of Sciences and Mathematics (2007).
65. Co-organizer of the II Czech-Argentine Biennale Workshop “e-Golems”: Information and Communication Society – Emerging Technologies and their Application to Art and Society, Buenos Aires, September, 2007.
66. Director of the group of research in renewable energy (ISEP) of the School of Engineering of the University of Buenos Aires.
67. Second Vice-President, Argentine Association of Applied, Computational and Industrial Mathematics, - ASAMACI (2008 -) and Argentine Section of the Society for Industrial and Applied Mathematics – AR-SIAM (2008 -).

PEER-REVIEWED PUBLICATIONS

1. Maronna, R. A. and Jacovkis, P. M. (1974), Multivariate clustering procedures with variable metrics, *Biometrics*, **30**, 499-505.
2. Jacovkis, P. M. (1989), Modelos hidrodinámicos en cuencas fluviales, *Revista Internacional de Métodos Numéricos para Diseño y Cálculo en Ingeniería*, **5**, 295-319.

3. Jacovkis, P. M., Gradowczyk, M. H., Freisztav, A. M. and Tabak, E. G. (1989), A linear programming approach to water-resources optimization, *Methods and Models of Operations Research*, **33**, 341-362.
4. Gradowczyk, M. H., Jacovkis, P. M., Freisztav, A. M., Roussel, J.-M. and Tabak, E. G. (1990), Water resources optimization-simulation in Argentina, *European Journal of Operational Research*, **49**, 247-253.
5. Jacovkis, P. M. (1990), Modelos numéricos hidrodinámicos en redes fluviales complejas, *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, **6**, 543-572.
6. Jacovkis, P. M. (1990), Modelos hidrodinámicos unidimensionales con estructuras espaciales complejas, *Revista de la Unión Matemática Argentina*, **35**, 137-150 (issue dedicated to Julio Rey Pastor).
7. Jacovkis, P. M. (1991), One-dimensional hydrodynamic flow in complex networks and some generalizations, *SIAM J. of Applied Math.*, **51**, 948-966.
8. Jacovkis, P. M. (1991), Simplified fixed and mobile bed hydrodynamic models as scalar conservation laws, *Revista de la Unión Matemática Argentina*, **37**, 271-281.
9. Jacovkis, P. M. and Rosales, R. R. (1993), Análisis numérico de ondas de detonación retardada, *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, **9**, 335-356.
10. Savioli, G. B., Bidner, M. S. and Jacovkis, P. M. (1996), Statistical analysis of heterogeneities and their effect on build-up and draw-down tests, *Journal of Petroleum Science and Engineering*, **15**, 45-55.
11. Savioli, G. B., Bidner, M. S. and Jacovkis, P. M. (1996), The influence of heterogeneities on well test pressure response: a sensitivity analysis, *Advanced Technology Series, Society of Petroleum Engineering*, **4**:1, 67-72.
12. Jacovkis, P. M. and Tabak, E. G. (1996), A kinematic wave model for rivers with flood plains and other irregular geometries, *Mathematical and Computer Modelling*, **24**, 1-21.
13. Savioli, G. B., Jacovkis, P. M. and Bidner, M. S. (1997), Stability analysis and numerical simulation on 1-D and 2-D radial flow towards an oil well, *Computers & Mathematics with Applications*, **33**, 121-135.
14. Savioli, G. B., Bidner, M. S., Jacovkis, P. M. and Lake, L. W. (1997), Influencia de la permeabilidad vertical en el flujo de petróleo hacia un pozo productor, *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, **13**, 576-589.
15. Savioli, G. B., Jacovkis, P. M. and Bidner, M. S. (1998), On some numerical methods for solving 2-D radial flow towards an oil well, *Mathematics and Computers in Simulation*, **47**, 17-36.
16. Jacovkis, P. M., Savioli, G. B. and Bidner, M. S. (1999), Mathematical modelling for flow towards an oil well, *International Journal of Numerical Methods in Engineering*, **46**, 1521-1540.

17. Compagnucci, R. H., Blanco, S. A., Figliola, M. A. and Jacovkis, P. M. (2000), Variability in subtropical Andean Argentinean Atuel river: a wavelet approach, *Environmetrics*, **11**, 251-269.
18. Ponta, F. L. and Jacovkis, P. M. (2001), A vortex model for Darrieus turbines using finite element techniques, *Renewable Energy*, **24**, 1-18.
19. Ponta, F. L. and Jacovkis, P. M. (2002), Constant-curl Laplacian equation: a new approach for the analysis of flows around bodies, *Computers and Fluids*, **32**, 975-994.
20. Fraidenraich, A., Jacovkis, P. M. and Lima, F. R. A. (2003), Sensitivity computations using first and second order perturbative methods for the advection-diffusion-reaction model of pollutant transport, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, **25**, 23-29.
21. Fraidenraich, A., Jacovkis, P. M. and Lima, F. R. A. (2003), Sensitivity computations of the viscous kinematic wave using perturbative methods, *International Journal of Heat and Technology*, **21**, 85-92.
22. Rosso, O. A., Figliola, M. A., Blanco, S. A. and Jacovkis, P. M. (2004), Signal separation with almost periodic components: a wavelets based method, *Revista Mexicana de Física*, **50**, 179-186.
23. Jacovkis, P. M. (2005), Computadoras, modelización matemática y ciencia experimental, *Revista Iberoamericana de Ciencia, Tecnología y Sociedad*, **2**, Nro. 5, 51-63.
24. Pérez Leale, E. A., Jacovkis, P. M. and Chara, O. (2005), Difusión de un trazador en un espacio bidimensional: modelo de difusión de agua en una membrana biológica, *Anales de la Asociación Física Argentina*, **17**, 328-332.
25. Quinteros, J., Ramos, V. A. and Jacovkis, P. M. (2005), Modelado numérico para la deformación de la corteza superior en los Andes Australes, *Revista de la Asociación Geológica Argentina*, **60:4**, 714--723.
26. Fraidenraich, A., Jacovkis, P. M. and Lima, F. R. de A. (2006), Sensitivity analysis of shallow water problems via perturbative methods, *Journal of the Brazilian Society of Mechanical Science and Engineering*, **28**, 286-292.
27. Quinteros, J., Jacovkis, P. M. and Ramos, V. A. (2006), Evolution of the upper crustal deformation in subduction zones, *ASME Journal of Applied Mechanics* **73**, 984-994.
28. Ponta, F. L. and Jacovkis, P. M. (2008), Marine current power generation by diffuser-augmented floating hydro-turbines, *Renewable Energy* **33**, 665-673.

BOOK EDITOR

Marik, V., Jacovkis, P. M., Stepankova, O. and Klema, J. (eds.) (2005), *Interdisciplinary aspects of human-machine co-existence and co-operation*, Czech-Argentine Biennale Workshop "e-Golems",

Czech Technical University, Prague.

Legnani, W., Jacovkis, P. M. and Armentano, R. (eds.) (2005), *Modelización aplicada a la ingeniería*, Vol. I, Universidad Tecnológica Nacional, Facultad Regional Buenos Aires, Buenos Aires.

PUBLICATIONS IN PROCEEDINGS OF INTERNATIONAL CONGRESSES

1. Tamusch, A., Jacovkis, P. M., Roussel, J.-M. and Díaz, F. M. (1982), Un modelo matemático conceptual apto para modelización de grandes cuencas hídricas, in: *Memoria del X Congreso Latinoamericano de Hidráulica*, México, D. F., 116-120.
2. Gradowczyk, M. H. and Jacovkis, P. M. (1984), Un modelo hidrodinámico impermanente de simulación del escurrimiento sobre fondo móvil, transporte de partículas en suspensión, decantación y resuspensión, in: *Anales del XI Congreso Latinoamericano de Hidráulica*, Buenos Aires, 465-476.
3. Bidner, M. S., Savioli, G. and Jacovkis, P. M. (1994), The influence of heterogeneities on well pressure response: a sensitivity analysis, *III Latin American and Caribbean Petroleum Engineering Conference*, Buenos Aires, Vol. III, 1107-1117. Published (in revised versión) in *SPE Advanced Technology Series*, see peer-reviewed publications.
4. Jacovkis, P. M. (1995), The hydrodynamic flow with a mobile bed: general and simplified approaches, *Abstracts of the VI International Colloquium on Differential Equations*, Plovdiv, Bulgaria, p. 100. The complete paper was published in: D. Bainov (ed.), *Invited Lectures and Short Communications delivered at the Sixth International Colloquium on Differential Equations*, Plovdiv, 1996.
5. Savioli, G. B., Jacovkis, P. M. and Bidner, M. S. (1996), Comparación de un método de desarrollo en serie y los métodos ADI y BSOR aplicados al flujo en medios porosos heterogéneos, *III Congreso de Métodos Numéricos en Ingeniería*, M. Doblaré, J. M. Correas, E. Alarcón, L. Gavete and M. Pastor (eds.), SEMNI, Zaragoza, España, 471-480.
6. Jacovkis, P. M. (1996), Water resources modeling: an optimization approach, in: C. E. D'Attellis and E. M. Fernández Berdaguer (eds.), *Anales del Primer Coloquio Latinoamericano de Matemática Aplicada a la Industria y a la Medicina*, Facultad de Ingeniería, UBA y CLAMI, Vol. I, 145-155.
7. Blanco, S. A., Costa, A., Jacovkis, P. M. and Rosso, O. A. (1996), Characterization of the dynamical evolution of an epileptic seizure, in: C. E. D'Attellis and E. M. Fernández Berdaguer (eds.), *Anales del Primer Coloquio Latinoamericano de Matemática Aplicada a la Industria y a la Medicina*, Facultad de Ingeniería, UBA y CLAMI, Vol. II, 319-328.

8. Compagnucci, R. A., Blanco, S. A., Costa, A., Jacovkis, P. M. and Rosso, O. A. (1996), Analysis of Argentinean Andean rivers streamflows by nonlinear dynamic metric tools, *13th Conference on Probability and Statistics in the Atmospheric Sciences (XIII PSAS)*, San Francisco, 119-122.
9. Savioli, G. B., Bidner, M. S., Jacovkis, P. M. and Cocco, M. (1997), Layered reservoirs with crossflow and gravity effects: numerical studies, in *Proceedings of the 9th European Symposium on Improved Oil Recovery of the European Association of Geoscientists and Engineers*, The Hague.
10. Jacovkis, P. M., Savioli, G. B. and Bidner, M. S. (1998), Mathematical models of flow towards an oil well, IV World Congress on Computational Mechanics, in: E. Oñate and S. R. Idelsohn (eds.), *Computational Mechanics: New trends and applications*, CIMNE, Barcelona IV World Congress on Computational Mechanics). Published (with modifications) in *International Journal of Numerical Methods in Engineering*, see peer-reviewed publications.
11. Savioli, G. B., Bidner, M. S., Cocco, M. and Jacovkis, P. M. (1999), Pressure response of layered reservoirs with crossflow in the presence of gravity effects, *SPE Paper No. 53930, SPE VI Latin American and Caribbean Petroleum Engineering Conference*, Caracas.
12. Fraidenraich, A., Jacovkis, P. M. and Lima, F. R. A. (2001), Sensitivity computations using perturbation methods for the viscous Burgers equations, in: Ferreri, J. C., Gnani, G., Menéndez, A. and Rosen, M. (eds.), *Proceedings of the VII International Seminar on recent advances in fluid mechanics, physics of fluids and associated complex systems (FLUIDOS 2001)*, Buenos Aires.
13. Jacovkis, P. M. (2002), Some problems in integrated hydrologic, hydrodynamic and reservoir operation models, in: S. R. Idelsohn, V. E. Sonzogni y Alberto Cardona (eds.), *Mecánica Computacional*, Vol. XXI, 27-39 (First South American Congress on Computational Mechanics).
14. Quinteros, J., Ramos, V. A. and Jacovkis, P. M. (2005), Miocene crustal deformation in Southern Patagonian Andes and the rain-shadow effect – Argentina and Chile, in: GeoUnion Alfred-Wegener-Stiftung (ed.), *Terra Nostra*, Vol. 1, Potsdam, Alemania, 95-95.
15. Jacovkis, P. M. (2005), The applied mathematician's laboratory, in: V. Marik, P. M. Jacovkis, O. Stepankova and J. Klema (eds.), *Interdisciplinary aspects of human-machine co-existence and co-operation*, Czech-Argentine Biennale Workshop "e-Golems", Czech Technical University, Prague, 130-141.
16. Quinteros, J., Ramos, V. A. y Jacovkis, P. M. (2005), A finite element model for the early to middle Miocene evolution of the Patagonian Andes at 47° S, 6th International Symposium on Andean Geodynamics, Universitat de Barcelona, Extended Abstract, 582-585.
17. Factorovich, P., Jacovkis, P. M. and Canziani, P. O. (2006), A new parallel model for atmospheric trajectories, XIII CLAIO (XIII Congreso Latino Ibero Americano de Investigación Operativa, Montevideo), 47-48.

PUBLICATIONS IN PROCEEDINGS OF NATIONAL CONGRESSES

1. Gradowczyk, M. H., Jacovkis, P. M., Tamusch, A. and Díaz, F. M. (1977), Un modelo matemático predictor de crecidas, *Actas de las X Jornadas Argentinas de Informática e Investigación Operativa*, Buenos Aires.
2. Jacovkis, P. M. (1991), Análisis de condiciones de contorno y cambio de régimen en modelos hidrodinámicos con fondo móvil, in: S. R. Idelsohn (ed.), *Mecánica Computacional*, Vol. XII, AMCA, Santa Fe, 325-334.
3. Jacovkis, P. M. and Tabak, E. G. (1994), Análisis teórico de un modelo fluvial cinemático, in: S. R. Idelsohn and V. E. Sonzogni (eds.), *Mecánica Computacional*, Vol. XIV, AMCA, Santa Fe, 215-226.
4. Savioli, G. B., Bidner, M. S. and Jacovkis, P. M. (1994), Statistical analysis of heterogeneities and their effect on well test pressure response, in: S. R. Idelsohn and V. E. Sonzogni (eds.), *Mecánica Computacional*, Vol. XIV, AMCA, Santa Fe, 349-359.
5. Savioli, G. B., Jacovkis, P. M. and Bidner, M. S. (1995), Flujo bidimensional de petróleo en medios porosos: simulación numérica y análisis de estabilidad, in: A. Larreteguy and M. Venere (eds.), *Mecánica Computacional*, Vol. XV, AMCA, Santa Fe, 303-312.
6. Savioli, G. B., Bidner, M. S., Jacovkis, P. M. and Lake, L. W. (1996), Influencia de la permeabilidad vertical en el flujo de petróleo hacia un pozo productor, in: G. Etse and B. Luccioni (eds.), *Mecánica Computacional*, Vol. XVI, AMCA, Tucumán, 305-314. Published in *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, see peer-reviewed publications.
7. Fraidenraich, A., Jacovkis, P. M. and Lima, F. R. A. (2001), Sensitivity computations using perturbation methods for the advection-diffusion-reaction model of pollutant transport, in: *Proceedings of the XVI Brazilian Congress of Mechanical Engineering (COBEM2001)*, Uberlândia, MG, Brasil, CD.
8. Jacovkis, P. M. (2004), Computación, modelización matemática y ciencia experimental, in: G. C. Buscaglia, E. A. Dari y O. M. Zamonsky (eds.), *Mecánica computacional*, Vol. XXIII (Proceedings of ENIEF 2004, Bariloche), 2747-2758, CD.
9. Fraidenraich, A., Jacovkis, P. M. and Lima, F. R. A. (2004), Sensitivity computations using perturbative methods for shallow water equations, in: G. C. Buscaglia, E. A. Dari y O. M. Zamonsky (eds.), *Mecánica computacional*, Vol. XXIII (Proceedings of ENIEF 2004, Bariloche), 2779-2796, CD.
10. Quinteros, J., Jacovkis, P. M. and Ramos, V. A. (2004), Modelado numérico del levantamiento de un orógeno y su relación con clima y erosión, in: G. C. Buscaglia, E. A. Dari y O. M. Zamonsky (eds.), *Mecánica computacional*, Vol. XXIII (Proceedings of ENIEF 2004, Bariloche), 2923-2932, CD.
11. Quinteros, J., Ramos, V. A. and Jacovkis, P. M. (2005), Numerical model for upper crystal deformation, *Actas del XVI Congreso Geológico Argentina*, La Plata, 415-420.

12. Otero, A. D., Ponta, F. L. and Jacovkis, P. M. (2005), Un modelo de rigidez de vigas para secciones no homogéneas y grandes desplazamientos, in: A. Larretguy (ed.), *Mecánica Computacional*, Vol. XXIV (Proceedings of MECOM 2005, Buenos Aires), 1627-1646, CD.
13. Quinteros, J., Jacovkis, P. M. and Ramos, V. A. (2006), Formación de cordilleras y delaminación litosférica. Un modelo elasto-visco-plástico mediante elementos finitos, in: A. Cardona, N. Nigro, V. Sonzogni y M. Storti (eds.), *Mecánica Computacional*, Vol. XXV (Proceedings of ENIEF 2006, Santa Fe), 2669-2686, CD.
14. Factorovich, P., Jacovkis, P. M. and Canziani, P. O. (2006), Nuevos modelos lagrangianos para el transporte de constituyentes en la atmósfera, in: A. Cardona, N. Nigro, V. Sonzogni y M. Storti (eds.), *Mecánica Computacional*, Vol. XXV (Proceedings of ENIEF 2006, Santa Fe), 2733-2743, CD.
15. Quinteros, J., Jacovkis, P. M. and Ramos, V. A. (2007), Diseño flexible y modular de modelos numéricos basados en elementos finitos, in: Sergio A. Elaskar, Elvio A. Pilotta and Germán A. Torres (eds.), *Mecánica Computacional*, Vol. XXVI (Proceedings of ENIEF 2007 – MACI 2007, Córdoba), 1724-1740, CD.

CHAPTERS OF BOOKS

1. Gradowczyk, M. H. and Jacovkis, P. M. (1971), Sensitivity of hydrodynamic models to changes in geometric data, in: Chiu, C.-L. (ed.), *Stochastic Hydraulics*, University of Pittsburgh, Pittsburgh, Pennsylvania, 123-132.
2. Gradowczyk, M. H. and Jacovkis, P. M. (1977), Aspectos numéricos y computacionales de modelos fluviales y de estuarios, in: Marshall, G. (ed.), *Métodos numéricos en la mecánica del continuo*, EUDEBA, Buenos Aires, 104-111.
3. Gradowczyk, M. H., Jacovkis, P. M., Tamusch, A. and Díaz, F. M. (1980), A hydrological forecasting model of the Uruguay River basin system, in: *Hydrological Forecasting (Proceedings of the Oxford Symposium)*, I.A.H.S. Publ. N° 129, 517-524.
4. Jacovkis, P. M. (2000), One-dimensional hydrodynamic flow in complex networks: state of the art and some applications and generalizations, in: P. P. Smolka and W. Volkheimer (eds.), *Southern Hemisphere Paleo- and Neoclimates*, Springer-Verlag, Berlin, 17-25.
5. Jacovkis, P. M., Legnani, W. E. y Rosso, O. A. (2004), Chaotic toy model of mobile beds in natural channels, in: O. Descalzi, J. Martínez y E. Tirapegui (eds.), *Instabilities and nonequilibrium structures VII & VIII*, Kluwer, Dordrecht, Holanda, 213-218.
6. Jacovkis, P. M. (2005), Some problems in integrated hydrologic, hydrodynamic and reservoir operation models, in: S. R. Idelsohn and V. Sonzogni, *Applications of computational mechanics in structures and fluids*, CIMNE, Barcelona, 58-71.

7. Jacovkis, P. M. (2005), Some approaches to the Río de la Plata modeling, in : W. Legnani, P. M. Jacovkis and R. Armentano (eds.), *Modelización aplicada a la ingeniería*, Vol. I, Universidad Tecnológica Nacional, Facultad Regional Buenos Aires, Buenos Aires, 94-104.
8. Jacovkis, P. M. (2006), The first decade of computer science in Argentina, in: J. Impagliazzo (ed.), *IFIP International Federation for Information Processing, Volume 215: History of Computing and Education 2* (HCE2), Springer, Boston, 181-191.
9. Jacovkis, P. M. (2007), Pocitac jako Laborator (The mathematician's Laboratory), in: V. Marik, O. Stepankova and Jiri Lazansky (eds.), *Umela inteligencia* (5), Academia, Prague, 185-196. Czech version (with modifications) of "The Applied Mathematician's Laboratory".

SCIENTIFIC POPULARIZATION OR HISTORICAL PUBLICATIONS

1. Jacovkis, P. M. (1989), Modelos hídricos y realidad, *Ciencia Hoy*, **1**, N° 5, 62-66.
2. Jacovkis, P. M. (1995), Computación, azar y determinismo, *Ciencia Hoy*, **5**, N° 28, 44-50.
3. Jacovkis, P. M. (2004), Mi visión de Manuel Sadosky, in: M. Bunge, G. Weinberg, T. Eloy Martínez, G. Jaim Etcheverry and P. M. Jacovkis, *Honoris causa: El legado de Manuel Sadosky*, Libros del Zorzal, Buenos Aires, 59-73.
4. Jacovkis, P. M. (2004), Reflexiones sobre la historia de la computación en Argentina, *Saber y Tiempo*, **5** (17), 127-146.
5. Jacovkis, P. M. (2005), Manuel Sadosky (1914-2005), *Revista de la Unión Matemática Argentina*, **46**:1, 67-71.
6. Jacovkis, P. M. (2006), Una red entre argentinos y checos, in: M. Albornoz and C. Alfaraz (eds.), *Redes de conocimiento: construcción, dinámica y gestión*, RICYT-UNESCO-CYTED-REDES, Buenos Aires, 269-271.
7. Jacovkis, P. M. (2008), La evolución de las computadoras argentinas: mi experiencia personal, *Information Technology*, **127**, January-February 2008, 86-87.
8. Jacovkis, P. M. (2008), La evolución de las computadoras argentinas: mi experiencia personal. II, *Information Technology*, **130**, May 2008, 96-98.
9. Jacovkis, P. M. (2008), Some aspects of the history of applied mathematics in Argentina, *Revista de la Unión Matemática Argentina* **49** (1), 57-69.
10. Jacovkis, P. M. (2008), Paradojas de la computación científica, *Information Technology* **137**, December 2008, 82-83.

TUTORIALS

Jacovkis, P. M. (1993), Métodos numéricos en diferencias finitas para la resolución de ecuaciones diferenciales parciales, *Trabajos de Matemática Serie B 21/93*, Facultad de Matemáticas, Astronomía y Física de la Universidad Nacional de Córdoba.

Jacovkis, P. M. (1996), Mathematical models in hydrodynamics, In: W. L. Roque (ed.), *Coletânea das Notas de Aula dos Mini-cursos*, Escola de Inverno de Matemática Aplicada e Computacional (EIMAC'96), UFRGS, Porto Alegre, 73-98.

PRIZES

Prize Recorrido Dorado en Ciencias de la Sociedad de Distribuidores de Diarios, Revistas y Afines (1995).

University of Buenos Aires prize to scientific production 1992, 1993, 1994, 1995.

Prize “José A. Balseiro” 2002, as Dean of the School of Sciences of the University of Buenos Aires, offered by the Forum for Science and Technology for Production.

Prize Academic Interest 2004, offered by Fundación El Libro.

LANGUAGES

Spanish, English, French, Italian, understanding of German.