

CURRICULUM VITAE JUAN CARLOS REGINATO

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- Home Address:** Fray Donatti 221 - (5800) Río Cuarto – Córdoba
Phone: 54 – 0358 - 4633784
- Date of Birth:** April 20, 1950
- Place of Birth:** Río Cuarto, Córdoba, Argentina
- Nationality:** Argentine
- Objective:** A tenure-track position teaching and researching physics at a university
- Education:** Doctor in Physics (**PhD**), Jun 1999
National University of Rosario, Argentina
Dissertation: "Free and Moving Boundary Models, Nutrient Uptake and Root Growth of Crops"
Licentiate in Physics (**M.A**), May 1975
National University of San Luis, Argentina
Commercial Connoisseur (**B.A.**), National Commerce School N° 1, Río Cuarto, Argentina
- Honors:** IBM Award in Second Technologic Meeting, Córdoba, Argentina (September 1991) for the work "*Free Boundary problems and root growth of crops*" of J.C. Reginato and D.A.Tarzia
- Teaching Experience:**
Teaching Assistant, Physics Department, Sciences Faculty, National University of San Luis, May 1975-Mars 1978

Teaching Assistant, Chemical-Physics Department, Sciences Faculty, National University of Río Cuarto, Argentina, April 1978-December 1990

Assistant Professor, Chemical-Physics Department, Sciences Faculty, National University of Río Cuarto, Argentina, January 1990-January 1996

Associate Professor, Chemical-Physics Department, Sciences Faculty, National University of Río Cuarto, Argentina, February 1996-October 2002

Researching Experience:

Category "2" in the Argentine Program of Incentives to Teachers-Researchers from April 1994.

Publications:

1989-1996

- Reginato, J.C., D.A.Tarzia y A.Cantero. 1989. "**Un modelo mejorado de crecimiento de raíces de cultivos**", ANALES Asoc.Fca.Arg., 1:351-354
- Reginato, J.C., D.A.Tarzia y A.Cantero. 1990. "**On the free boundary problem for the Michaelis-Menten absorption model for root growth**". Soil Science, 150 (4):722-725
- Reginato, J.C., D.A.Tarzia y A.Cantero. 1991. "**On the free boundary problem for the Michaelis-Menten absorption model for root growth. II. High concentrations**". Soil Science 152(2):63-71
- Reginato, J.C., D.A.Tarzia y M.A.Dzioba. 1991. "**Crecimiento de raíces de cultivos con competencia para iones móviles a través del método del balance integral**". ANALES Asoc.Fca.Arg. 3:447-451
- Reginato, J.C. y D.A. Tarzia. 1992. "**A free boundary model for root growth of crops owing to absorption of one or more mobile and immobile ions**". Symposium of Int. Congress on Numerical Methods in Eng. and Appl. Sc., 1042-1051
- Reginato, J.C. y D.A. Tarzia. 1992. "**Modelos de frontera libre para el crecimiento de raíces de cultivos**". CUADERNOS del Inst. de Matemática Beppo Levi, 23:1-26
- Reginato, J.C. y D.A. Tarzia. 1992. "**Efecto de algunos parámetros del sistema suelo planta sobre el crecimiento de raíces de cultivos debido a la absorción de n-iones. Un modelo de frontera libre**". Anales Asoc. Física Argentina 4:356-361
- Reginato, J.C. y D.A.Tarzia. 1993. "**The balance integral method applied to root growth of crops**". International Journal of Engineering Science, 31, 1:61-70
- Reginato, J.C., D.A.Tarzia y M.A.Dzioba. 1993. "**Analytical study of the effects of some soil plant parameters on root growth owing to absorption of one mobile ions. A free boundary model**". Plant and Soil , 15:185-196
- Reginato, J.C. y D.A. Tarzia. 1993. "**Un modelo mecánico para el crecimiento de raíces de cultivos debido al transporte y toma de agua**". ANALES Asoc. Fís. Arg. 5:464-468
- Reginato, J.C. y D.A. Tarzia. 1995. "**Toma de agua y crecimiento de raíces de cultivos**". CUADERNOS del Inst. de Matemática Beppo Levi, 25:1-13
- González, A.M., J.C. Reginato y D.A. Tarzia. 1996. "**Crecimiento y aireación de raíces de cultivos en suelos anegados. Algunos aspectos básicos a través de modelos de frontera libre**". ANALES AFA, 6:368-372.
- Dzioba, M.A., J.C. Reginato y D.A. Tarzia. 1996. "**Un modelo de predicción de toma de nutrientes y crecimiento de raíces de cultivos considerando cinéticas de sorción-desorción**" ANALES AFA, 6:373-377

1997-2002

- Reginato, J.C. y D. A. Tarzia. 1998. **"Estimación de la toma de nutrientes por raíces de cultivos mediante la formulación de un modelo de frontera móvil"**. Mecánica computacional, Vol. XVII, 885-890
- Reginato, J.C., M. C. Palumbo, Ch. I. Bernardo, I. S. Moreno y D. A. Tarzia. 2000. **"Modeling Nutrient Uptake Using A Moving Boundary Approach. Comparison with the Barber-Cushman Model"**. Soil Science Society of America Journal, 64 (4):1363-1367
- Dzioba, M.A., J.C. Reginato y D.A. Tarzia. 2000. **"Resultados comparativos de toma de nutrientes por raíces de cultivos mediante los métodos del balance integral y diferencias finitas"**, ANALES AFA, 12: 272-275
- Reginato, J. C., D. A. Tarzia. 2001. **"Estimations of nutrient uptakes by roots of crops through a moving boundary model"**, MAT - Serie A, 4:11-16
- Dzioba, M. A., Reginato, J.C., Tarzia, D.A. 2001. **"Los métodos de diferencias finitas y del balance integral calórico aplicados a la toma monoespecie de nutrientes por raíces de cultivos"**, Mecánica Computacional, 20: 593-600
- González, A. M, J.C. Reginato, Tarzia, D.A. 2001 **"Aplicación del metodo de discretizacion de líneas al problema de aireación de suelos"**, Mecánica Computacional, 20:601-605
- Reginato, J. C. y D. A. Tarzia. 2002. **"An alternative formula to compute the nutrient uptake"**, Communications in Soil Science and Plant Analysis, 33(5&6), 821-830

Presentations:

International Presentations

- J.C. Reginato. **"A free boundary model for root growth for mobile ions"** XXIII Congresso Brasileiro de Ciencia do Solo, Porto Alegre, Brasil (7/91)
- J.C. Reginato, D.A. Tarzia. **"Un modelo de frontera libre para el crecimiento de raíces"** II Escuela Latinoamericana de Física de suelos, Buenos Aires (3/92)
- J.C. Reginato, D.A. Tarzia., **"A free boundary model for root growth of crops owing to absorption of one or more mobile and immobile ions"**, Int. Congress on Numerical Methods in Eng. and Appl. Sc., Concepcion, Chile (11/92)
- J.C. Reginato, D.A. Tarzia. **"Root growth of crops"** "First International Conference on Complex Systems in Computational Physics", Buenos Aires (10/93)
- J.C. Reginato, D.A. Tarzia. **"Nutrient uptake through a moving boundary model. Comparative results with the Barber-Cushman model"**, 16 Congreso Mundial de la Ciencia del Suelo, Montpellier, Francia, (8/98)
- Reginato, J. C., Tarzia, D.A. **"Un método simple para estimar parámetros cinéticos a partir de datos de toma de nutrientes"** XV Congreso Latinoamericano de la Ciencia del Suelo, Varadero, Cuba (11-16/11/01)

Presentations in Argentina

37 presentations in national congresses as the Argentine Physics Association (AFA), Argentine Congress of Soil Science, Argentine Mathematic Union (UMA), Congress on Numerical Methods and their Applications (ENIEF) between others.

Research projects

Project Director: **"Free boundary models and Root Growth,"** granted by:

- Secretary of Science and Technology of the National University of Río Cuarto from Mars 1997 until present time
- CONICOR (Council of Research's of Córdoba) from September 1991 until July 1997 and from Mars 1999 until December 2000
- Agency Córdoba Science from January 2001 until July 2002

Human Resources

Co director (with Dr. Domingo A. Tarzia) Master Thesis in Applied Mathematic of National University of Río Cuarto of the pupils:

- Adriana María González with the subject ***“Anaerobiosis Study in spherical soil aggregates”*** (*Thesis dissertation realized*)
- María Antonia Dzioba with the subject ***“Numerical methods to compute nutrient uptake*** (*Thesis in redaction*)

Director Master Thesis in Agronomical Sciences of National University of Río Cuarto of the pupil

- Isabel Chela Bernardo with the subject ***“Interaction effects of ions P and NO₃ in the root absorption”*** (*In execution*)

Others jobs of scientific research

- Assistant researcher in the Project ***“Transforming metallurgy of tungsten minerals”*** of Secretary of Science and Technology of the National University of San Luis from September 1975 until May 1977.
- Assistant researcher in the Project ***“Basic and applied research using techniques of magnetic nuclear resonance”*** of Secretary of Science and Technology of the National University of Río Cuarto from April 1978 until Mars 1980 and assistant researcher in the Project ***“Magnetic resonance and molecular parameters”*** of Secretary of Science and Technology of the National University of Río Cuarto from April 1980 until January 1983.
- Assistant researcher in the Project ***“Free boundary problems for the heat-diffusion equation”***. PID#4798 CONICET-UA ROSARIO, from December 1989 until present time.