

Abridged Curriculum Vitae



Personal details

Name: Iván Danilo López – Hernández
Place and date of birth: Barquisimeto, Edo. Lara, Venezuela. 13/3/43
Nationality: Venezuelan
Languages: Spanish, English, French

Present position

Profesor Catedrático e Investigador Instituto de Zoología y Ecología Tropical, Facultad de Ciencias, Universidad Central de Venezuela and Associate Researcher Unity of “Valorisation of Pedological Information”, Institute of Research for the Development (IRD), Montpellier, France.

Educational qualifications

After accomplishing a Licenciatura in Biology (equivalent to MSci) in 1966, I did a PhD in Soil Science granted by Wye College, London University (1973).

My education training have been followed by a Postdoc at Ecole Normale Supérieure, Paris, France in Soil Ecology (1979 – 1980) and is supplemented by an extensive experience as educator and soil and agro – ecology research and technical research training in different world laboratories (Station Experimental – Lamto, Ivory Coast; International Atomic Energy Agency – Seibesdorf, Austria; University Viterbo, Italy; National Research Ecology Laboratory – Fort Collins, USA; Centre d’Etudes Nucléaires – Cadarache, France, Centre de Pedologie Biologique – Nancy, France; Notre Dame University, USA, Institut de Recherche pour le Développement, Montpellier, France).

Research areas

My research experience relies on a long experience in soil and agroecological research, expertise in soil chemistry, and in nutrient cycling in both natural and agricultural systems.

Specific contributions have been made in assessing P – sorption and desorption in tropical and temperate soils.

The last twenty years however, have been almost devoted to the comprehensive study of the mineralization process of soil organic phosphorus, the carbon and nutrient cycling in sugarcane plantations, the role of pedofauna in ecosystems, the evaluation of nutrient budgets (C,N,P) in savannas and the evaluation of sustainability in agricultural systems in Venezuelan Amazonia.

Work experience

Scientific achievements

I have more than 160 – refereed publications almost all of them collaborative.

They have appeared in many referred agricultural and biological journals including: J. Soil Science, Communication in Soil Science and Plant Analysis, Agrochimica, Tropical Agriculture (Trinidad), Soil Science, Marine Environmental Research, Turrialba, Tropical Ecology, Ecological Bulletin, Suelos Ecuatoriales (Colombia), Revue Ecologie et Biologie du Sol, Soil Science American Journal, Ciencia del Suelo (Argentina), Biology & Fertility of Soils, Sociobiology, CR Academie Science, Paris, Geoderma, Soil Biology & Biochemistry, J. Applied Ecology, Chemosphere, Interciencia, J. Tropical Biology & Conservation and Biotropica.

In Venezuela my contributions have appeared in Acta Biologica Venezuelica, Acta Científica Venezolana, Boletín de la Sociedad Venezolana de Ciencias, Revista Técnica INTEVEP, Boletín Instituto Oceanográfico, Agronomía Tropical and Ecotropicos.

I have completed many book chapters in nutrient cycling, role of pedofauna in savanna ecology with contributions of colleagues from France, Italy, Netherlands, USA, Russia, Canada among others, all of which demonstrates a strong commitment to, and natural affinity, towards collaborative work.

Teaching experience

My experience as educator is very extensive in both undergraduate and graduate programs particularly Biology, Ecology and Chemistry.

I successfully supervised more than fifty – five (55) graduate and undergraduate theses.

Management and scientific research administration

From 1996 – 2002, I served as President of Venezuelan Ecology Society, also as Coordinator of the Administrative Council (2000) and then as a member of the Directory (Administrative Council) of the Instituto Nacional de Investigaciones Agrícolas (National Institute of Agricultural Research named as INIA, ex – FONAIAP, which is the main agricultural research institution in Venezuela).

Nonetheless, the most important research – administrative position that I have had was as President of CONICIT (Consejo Nacional de Investigaciones Científicas y Tecnológicas de Venezuela) and as Founder and President of The Fondo Nacional de Ciencia y Tecnología (FONACIT).

Additionally, my administrative experience gained over four and a half decades in academic administration in science includes, among others, the following responsibilities: member of the Directory of Consejo de Desarrollo Científico y Humanístico (CDCH, the main fund donor for Science and Technology in Universidad Central de Venezuela), President of the Environmental Commission of Consejo Nacional de Ciencia y Tecnología (CONICIT, the main fund donor for Science and Technology in Venezuela), Director of Centro de Estudios para el Desarrollo de la Agroecología Tropical (CEDAT, Universidad Simón Rodríguez), Academic Director of the “Human and

Natural Ecology Program for Venezuela” of the School for International Training, University of Vermont, USA.

Positions that show well seated leadership in science and agro ecological organizations

- 2001 – 2002. President – Founder of the Fondo Nacional de Ciencia y Tecnología (FONACIT).
- 2000 – 2001. Last President of National Council for Science and Technology (CONICIT).
- 2000 – President and then member of the Directory of Instituto Nacional de Investigaciones Agrícolas (National Agronomic research Institute, INIA, ex – FONAIAP, the main agricultural research institution in Venezuela).
- 1996 – 2002. President of Venezuelan Ecology Society
- 1994 – 1995. Academic Director of the “Human and Natural Ecology Program for Venezuela” of the School for International Training, University of Vermont, USA.
- 1994 – Director of Centro de Estudios para el Desarrollo de la Agroecología Tropical (CEDAT, Universidad Simón Rodríguez).
- 1991 – 1993. President of the Environmental Commission of Consejo Nacional de Ciencia y Tecnología (CONICIT, the main fund donor for Science and Technology in Venezuela).
- 1980 – 1984. Member of the Directory of Consejo de Desarrollo Científico y Humanístico (CDCH, the main fund donor for Science and Technology in Universidad Central de Venezuela).

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Research stays in foreign centres

- 1970 – 1973. PhD at Wye College, London University, England.
- 1978 – 1979. Postdoc. Ecole Normale Supérieure, Paris, Francia and Lamto Ecological Experimental Station, Ivory Coast, Africa.
- 1986. Invited Research Scholar Centre d’Etudes Nucleaires de Cadarache (CEN, Cadarache, France). 9 months.
- 1986. Invited Research Scholar Centre Instituto de Química Agraria, Universita Degli Studi Tuscia, Viterbo, Italy. 1 month.
- 1987. Conferencist invited at Cal. Pol. Pomona, California, USA. 1month.
- 1987. Invited Research Scholar Centre at Natural Resource Ecology Laboratory, Colorado State University Fort Collins, USA. 6 months.
- 1987. Invited Research Scholar Centre at Saskatchewan Institute of Pedology, University of Saskatchewan, Canada.
- 1991. Professor invited al Primer Curso Regional sobre “Manejo de Suelos y Uso de Fertilizantes en Caña de Azucar” 15 – 18 de Mayo. Jovellanos, Cuba.
- 1991. Conferencist invited Instituto de Investigaciones en Caña de Azúcar, INICA. EPICA: Santiago de Cuba y Villa Clara 24 – 30 de Mayo. Cuba.
- 1991. Conferencist invited 6th Tropical Soil Biology and Fertility Workshop. Martinique, 27de June – 5 de July.
- 1993. Invited Workshop: Strategic Research on Integrated Management of Soil and Plant Resources for Sustainable Production in Acid Soils (MAS). Cali, Colombia. September. Conformation of the Steering Committee of MAS Programme.

- 1993. Invited Research Scholar Centre de Pedologie Biologique. Nancy, Francia. 3 months.
- 1999. Invited Research Scholar Ecology Laboratory, University of Notre Dame, and Indiana. 6 months.
- 1999. Conferencist Invited Institut de Recherche pour le Développement (IRD), Bondy, Paris, France and Institut National de la Recherche Agronomique, SAD – Armorique, Rennes, Francia.
- 2000. Organising Committee Symposium “Soil functioning under pasture in intertropical areas”. Brasilia, 16 – 20 Octubre 2000.
- 2004. Research invitation Institut de Recherche pour le Développement (IRD), Montpellier, France. April – July 2004
- 2005. Research invitation Institut de Recherche pour le Développement (IRD), Montpellier, France. April – July 2005 and September –December 2005.
- 2005. Invited Research Scholar Instituto de Recursos Naturales y Agrobiología Salamanca/España.
- 2006. Research invitation Institut de Recherche pour le Développement (IRD), Montpellier, France. September –December 2006. Field work in Burkina Faso November 2006.

Recent international scientific publications (some papers last 5 years)

- 1) López – Gutiérrez, J.C., Toro, Marcia y D. López – Hernández. 2004. Arbuscular mycorrhiza and enzymatic activities in the rhizosphere of *Trachypogon plumosus* in three acid savanna soils. *Soil, Agriculture & Environment* 103: 405 – 411
- 2) López – Hernández, D. Araujo, Y. López, A, Hernández – Valencia, I and Hernández, C. 2004. Changes in the soil properties and in earthworm populations induced by long – term organic fertilization in the Venezuelan amazonia. *Soil Sci.* 169: 188 – 194.
- 3) López – Gutiérrez, J.C., Toro, Marcia y D. López – Hernández. 2004. Seasonality of organic phosphorus mineralization in the rhizosphere of the native savanna grass, *Trachypogon plumosus*. *Soil Biol. Biochem.* 36: 1675 – 1684
- 4) López – Hernández, Danilo. 2004. Ética de la naturaleza. *Agrobiológica* 2: 36 – 37.
- 5) López – Hernández, Danilo, Infante, Carmen y Medina, Ernesto. 2005. Balance de elementos en un agroecosistema de caña de azúcar: I. Balance de nitrógeno. *Tropicultura* 23: 212 – 219
- 6) López – Hernández, Danilo, Sequera, Diego y Medina, Ernesto. 2006. Balance de elementos en un agroecosistema de caña de azúcar: II. Balance de fósforo. *Tropicultura* 24:25 – 32
- 7) Danilo López – Hernández· Michel Brossard· Jean – Claude Fardeau and Michel Lepage. 2006. Effect of different termite feeding groups on P sorption and P availability in African and South American savannas. *Biology and Fertility of Soils* 42: 207 – 214
- 8) López – Hernández D. Santaella, S., y Chacón P. 2006. Contribution of free – living organisms to N – budget in *Trachypogon* savannas. *European Journal Soil Biology* 42(1): 43 – 50

- 9) Kellogg, Laurie, Bridgham, Scott and López – Hernández, Danilo 2006. Organic phosphorus mineralization. A comparison of isotopic and non – isotopic methods. *Soil Science American Journal* 70:1349 – 1358.
- 10) López – Hernández, Danilo, María – Pilar García – Guadilla y Frans Torres 2006. Identificación y caracterización de los sistemas de producción en el ecotono sabana – bosque de Puerto Ayacucho, Estado Amazonas, Venezuela. *Agrobiológica* 3: 36 – 42
- 11) López – Hernández, D., López, Ana Yamila, Hernández – Valencia, I., Ojeda, A. y Hernández, C. 2006. Efectos de enmiendas orgánicas sobre las formas activas de C, N y P en suelos ácidos – arenosos de sabanas localizadas en el Amazonas venezolano. *Agrobiológica* 3: 22 – 28
- 12) Ana Yamila López – Contreras, Ismael Hernández – Valencia y Danilo López – Hernández. 2006. Fraccionamiento del fósforo en suelos arenosos de granjas orgánicas ubicadas en el Amazonas venezolano. *Agrobiológica* 3: 29 – 36
- 13) Alonso D. Ojeda, Marianela Stein, Prudencio Chacón y Danilo López – Hernández. 2006. El papel del carbono orgánico en la fertilidad de un ultisol de sabana con predominio de cargas variables. *Agrobiológica* 3: 7 – 14
- 14) Carmen L., Hernández., Jesús Ramos., Danilo López – Hernández. 2006. Características de la comunidad microbiana y evaluación de algunos parámetros bioquímicos en dos sistemas de producción contrastantes en el Estado Amazonas, Venezuela. *Agrobiológica* 3: 15 – 21
- 15) López – Hernández Danilo. 2006. Ciclos de elementos (C, N, P y micronutrientes) en sabanas y agroecosistemas de Venezuela. Evolución histórica de los estudios y consideraciones metodológicas. *Acta Biol. Venez.* 25: 71 – 76
- 16) Michel Brossard, Danilo López – Hernández, Michel Lepage y Jean – Claude Leprun. 2007. Nutrient storage in soils and nests of mound – building *Trinervitermes* termites in Central Burkina Faso: consequences for soil fertility. *Biology & Fertility of Soils* 43: 437 – 447
- 17) López – Contreras, Ana Yamila, Hernández – Valencia, I y López – Hernández, D. 2007. Fractionation of soil phosphorus in organic amended farms located on sandy soils of Venezuelan Amazonian. *Biology & Fertility of Soils* 43: 771 – 777
- 18) Danilo López – Hernández, Ismael Hernández – Valencia e Iraya Güerere. 2008. Cambios en parámetros físicos, químicos y biológicos en una sabana protegida de quema y pastoreo durante veinticinco años. *Bioagro* 20: 151 – 158
- 19) Carmen L. Hernández, Jesús Ramos y Danilo López – Hernández. 2007. Características de la comunidad microbiana y evaluación de algunos parámetros bioquímicos en dos sistemas de producción contrastantes en el estado Amazonas, Venezuela. *Acta Biol. Venez.* 27: 19 – 30
- 20) Danilo López – Hernández. Biogeochemistry and cycling of zinc and copper in a dyked seasonally flooded savanna. 2008. *Chemistry and Ecology*, 24:6,387 – 399
- 21) Danilo López – Hernández, Carmen Leonor Hernández, Igor Netuzhilin and Ana Yamila López – Contreras. 2009. Agricultural Systems Located in the Forest – Savanna Ecotone of Venezuelan Amazonian. Are Organic Agroforestry Farms Sustainable? *Sustainability* 2009, 1: 215 – 233

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- 22) Alonso D. Ojeda, Marianela Stein, Prudencio Chacón y Danilo López – Hernández 2009. Papel del carbono orgánico en la fertilidad de un ultisol de sabana con predominio de cargas variables. *Bioagro* 21: 195 – 202
- 23) Danilo López – Hernández, Diego Sequera, Oswaldo Vallejo and Carmen Infante Ammonium absorption and cations leaching and wash out from the canopy of a sugarcane agro ecosystem under acid rains precipitation. *Proceedings of the Workshop on Nitrogen Deposition, Critical Loads and Biodiversity during 16 – 18th November, 2009 in Edinburgh, UK*

Books and Chapter of books

- a) Brossard Michel et Danilo López – Hernández. 2005. Des indicateurs d'évolution du milieu et des sols pour rendre durable l'usage des savanes d'Amérique du Sud. *Natures Sciences et Sociétés* 13: 266 – 278
- b) López – Hernández Danilo, Rosa Mary Hernández – Hernández y Michel Brossard. 2005. Historia del uso reciente de tierras de las sabanas de América del Sur. *Interciencia* 30: 623 – 630
- c) López – Hernández, D., López, A.Y., Hernández – Valencia, I, Ojeda, A y Hernández, C. 2006. Impacto de la fertilización orgánica sobre indicadores de calidad de suelos en granjas agroforestales localizadas en el amazonas venezolano. *Memorias IV Congreso de Física y Química Ambiental, Cáceres, España Mayo 2006. Procesos Antropoedáficos y Ambiente Tomo II: 279 – 286.*
- d) López – Hernández, D. & Hernández – Valencia, I. 2008. Tropical Biology and Natural Resources: Nutritional aspects in *Trachypogon* savannas as related to nitrogen and phosphorus cycling. *Encyclopedia of Life Support Systems – EOLSS. UNESCO. 20pp*
- e) López – Hernández, D., Araujo, Y., López – Contreras, A. Y., Hernández, C y Hernández – Valencia, I. 2010. Pedofauna biodiversity and soil indicators in a Venezuelan Amazonian sandy savanna soil long – term amended with low inputs of *in situ* produced compost. Chapter 4. In: *Composting: Processing, Materials and Approaches. Joseph Pereira and John Bolin (eds). Nova Science Publishers Inc. 22 pp*
- f) López – Hernandez, Danilo. 2010. Agricultural systems in the savanna – forest ecotone of Venezuelan Amazonian. Evaluation of soil quality indicators. Chapter 1. In: *Amazon Basin: Plant Life, Wildlife and Environment. Environmental Research Advances Series. Nicolas Rojas and Rafael Prieto (eds). NovaScience Publishers Inc. 1 – 45.*
- g) Chapuis – Lardy, Lydie. Le Bayon, Claire. Brossard, Michel. López – Hernández, Danilo and Blanchard, Eric. 2010. Role of soil macrofauna in P cycling. Chapter 8. In *P and Environment. Elsevier Publ.*
- h) Danilo López – Hernández, Michel Brossard and Anne Fournier. 2010. Savanna biomass production, N biogeochemistry, and cycling: A comparison between Western Africa (Ivory Coast and Burkina Faso) and the Venezuelan Llanos. In press *Advance in Soil Science.*
- i) López – Hernández, Danilo. 2010. Impacto y resiliencia en indicadores de calidad de suelos en sabanas y morichales de los llanos orientales venezolanos contaminados por un derrame petrolero. En: *Contaminación, descontaminación y restauración ambiental en Ibero América. Juan F. Gallardo Lancho (Coord.) Sociedad Ibero Americana de Física y Química Ambiental (SIFQA). 165 – 182.*

Other merits

National awards

- a. 2001. Order "Andrés Bello": First Class. Highest Honorary Educational and Teaching Excellence Award given by the Presidency of the Republic of Venezuela.
- b. 2001. Order José María Vargas: First Class. Highest Research and Teaching Excellence Award given by the Universidad Central de Venezuela.
- c. 2000. Order "Francisco de Venanzi" in Agronomy. Highest Research and Teaching Excellence Award in Agronomy given by the Universidad Central de Venezuela.
- d. 1999. First Prize for the Best Annual Research Publication in Agriculture "Jornadas de Investigación Del Centro de Estudios para el Desarrollo de la Agricultura Tropical – CEDAT" (accompany Dr. Prudencio Chacón and Dr. Igor Netuzhilin).
- e. 1997. First Prize for the Best Annual Research in Agriculture given by the National Research Council of Science & Technology (CONICIT, Venezuela).
- f. 1990 – 2003. Highest Research Accreditation Rank (IV) in the Venezuelan Research National System "Sistema de Promoción al Investigador (PPI)" given by the National Research Council of Science & Technology (CONICIT, Venezuela). CONICIT PPI IV is the maximum accreditation in the Venezuelan Scientific Research Scale.
- g. 1980. Order Dr. José María Vargas III Class. Teaching Excellency.
- h. 1975. Annual Prize on Research "Asociación de Profesores de la Universidad Central de Venezuela – APUCV, year 1974". "The Chemistry of phosphorus in acid soils"

International awards

Biography selected by:

- WHO IS WHO IN THE WORLD, 1992, New Edition 2001.
- WHO IS WHO IN SCIENCE AND ENGINEERING, 1995, New Edition 2003.
- INTERNATIONAL BIOGRAPHIC CENTER, CAMBRIDGE.
- 2002. Member of the committee for the designation of the Executive Director of Inter American Institute for Global Change Research (IAI)
- 2002. Main Speaker in the 50th Graduate Commemoration of Centro Agronómico Tropical de Investigación y Enseñanza (CATIE).
- 2004. Member of the Academia de Ciencia de América Latina y el Caribe (Academic of Science Latin – American and the Caribbean) (ACAL).