

## Dr. Carina Francisca ARGÜELLES

### Address

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Laboratorio GIGA  
Instituto de Biología Subtropical (UNaM-CONICET)  
Jujuy 1745  
N3300LQH Posadas Misiones ARGENTINA

Phone: (54) 3764-4440967  
(54) 3752 15807332 (cell)  
Fax: (54) 3752-42541/ 3752-460872  
Email: [franciscarguelles@fceqyn.unam.edu.ar](mailto:franciscarguelles@fceqyn.unam.edu.ar)  
[franciscarguelles@yahoo.com](mailto:franciscarguelles@yahoo.com)

Date and place of birth: 15 February 1969 - Comodoro Rivadavia, Chubut ARGENTINA

### Education

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Specialist in Forensic Genetics (2013). Awarded by the Argentinean Society of Forensic Genetics (SAGF).

Doctorate in Molecular Biology, 2008, *Dissertation*: “Characterization of hipervariable genetic markers in the population of Misiones Province”. Faculty of Pharmacy and Biochemistry. University of Buenos Aires (UBA), Buenos Aires, ARGENTINA

B.S. in Genetics (Licenciada), 1994, *Thesis*: “*Characterization of the Zfx and Zfy genes in ten species of akodontines rodents*”. Faculty of Chemical and Natural Sciences. National University of Misiones (UNaM). Posadas Misiones ARGENTINA

### Research Experience (last five years)

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- 2013-2015 **Principal Investigator:** Conservation biology of *C.brasiliense* Cam. (Clusiaceae) fragmented population in the southern region of its distribution. PICTO-2011-0122 National Agency of Scientific Technological Promotion (ANPCyT)-UNaM. Res. 317/12
- 2013 **Collaborator: Phase III:** Identifying habitat corridors that minimize human-wildlife conflict and maximize mobility for landscape species in interior Atlantic forest. **Project Director:** Dr. Karen DeMatteo. **Other Collaborators:** Dr. Miguel Rinas Ministry of Ecology (Misiones, Argentina); Dr. Mario Di Bitetti, Instituto de Biología Subtropical. Nodo Iguazú (UNaM-CONICET); and Lori Eggert UM- Columbia (USA).
- 2009-2012 **Project Director:** Genetic diversity characterization of *Calophyllum brasiliense* Cambess (Clusiaceae) in riparian forest from south Misiones and northeast of Corrientes Province-Argentina Code: 16Q409. Resol. CD° 239/09. Center for Research and Technological Development (CIDET). Faculty of Exact, Natural and Chemical Sciences (FCEQyN-UNaM). Project incorporated in the National Incentive Program for Teachers-Researchers (04/2005)
- 2009-2011 **Investigator:** Applied Genomics for animal health and production. High resolution map of genomics regions associated with bovine mastitis and leucosis. Mapeo de Alta Resolución de regiones genómicas asociadas a mastitis y leucosis bovina”. Faculty of Natural and Chemical Sciences (UNaM). PAE-PICT 2007-00846. Director: Dr. Marcos Miretti.
- 2011 **Collaborator: Phase II:** Identifying habitat corridors that minimize human-wildlife conflict and maximize mobility for landscape species in interior Atlantic forest. **Project Director:** Dr. Karen DeMatteo. **Other Collaborators:** Dr. Miguel Rinas Ministry of Ecology (Misiones, Argentina); Dr. Mario Di Bitetti, Instituto de Biología Subtropical. Nodo Iguazú (UNaM-CONICET); and Lori Eggert UM- Columbia (USA).
- 2010 **Collaborator:** International school project on conservation in Argentina: “What’s in my backyard”. **Project Director:** Dr. Karen DeMatteo. **Other Collaborators:** Dr. Miguel Rinas Ministry of Ecology (Misiones, Argentina); Mario Jaramillo (Argentinean Wildlife Foundation); Lic. Julián Baigorria (Argentina Conservation) Keith Lovett (Palm Beach Zoo-USA) and Stephanie Dampier (Palm Beach Zoo-USA).

- 2009 **Collaborator: Phase I:** Identifying habitat corridors that minimize human-wildlife conflict and maximize mobility for landscape species in interior Atlantic forest. **Project Director:** Dr. Karen DeMatteo. **Other Collaborators:** Dr. Miguel Rinas Ministry of Ecology (Misiones, Argentina); Dr. Mario Di Bitetti, Instituto de Biología Subtropical. Nodo Iguazú (UNaM-CONICET); Dr. Patricia Parker, University of Missouri-St. Louis (USA) and Lori Eggert UM- Columbia (USA).
- 2007-2009 **Investigator:** Genes in motion. Genetic characterization and study of gene flow in fragmented populations of curupay (*Anadenanthera colubrina* was *cebil*). Code: 16Q355. Resol. CD° 154/07. Center for Research and Technological Development (CIDET). Faculty of Exact, Natural and Chemical Sciences (FCEQyN-UNaM). Project incorporated in the National Incentive Program for Teachers-Researchers (04/2005)
- 2007-2009 **Project Director:** Molecular genotyping of *Strongyloides stercoralis* from fecal material of children with strongyloidosis in Posadas (Misiones). Code: 16Q349. Resol. CD° 084/07. Center for Research and Technological Development (CIDET). Faculty of Chemical and Natural Sciences (FCEQyN-UNaM)

### Awards

Welcomed Declaration for the generation of the first Genetic Data Bank for Misiones Province within the Laboratory of Human Genetics and Cytogenetics, National University of Misiones Province. Sent by the Houses of Parliament of the Province of Misiones. December 3, 2009.

Argentinean Association of Zoonoses Award for the work: *Wildlife and parasitic from the Misiones Forest: a zoonotic binomial to be solve. Misiones, Argentina*. Authors: K.A. Vizcaychipi, L. Irazú, M. Rinas, C.Argüelles, C.G. Prous, G. Santillán and Karen DeMatteo.

### Teaching Experience

Practicum Supervisor. Course: Molecular Genetics. Department of Genetics. Faculty of Chemical and Natural Sciences (FCEQyN) National University of Misiones (UNaM). Level: at the fifth year of the Genetic Bachelor (graduate). Since April 1994 and continues.

### Areas of expertise

Genetics, Molecular Biology, Molecular Markers, Population Genetics, Forensic Genetics, Conservation Genetics.

### Publications in refereed journals

- Percuoco CB, GA Bich, LN Talavera Stéfani, AE Cardozo, ME Rodríguez, NL González, CB Sorol, JF Crivello, JV Crisci, **CF Argüelles**. (2014) Assessment of genetic differentiation among relict population of *Calophyllum brasiliense* Camb. (Calophyllaceae) from Northeast Argentina. *J.Bio. & Env. Sci.* 5 (6) 87-98. ISSN: 2220-6663 (Print) 2222-3045 (Online).
- DeMatteo KE, MA Rinas, **CF Argüelles**, BE Holman, MS Di Bitetti, B Davenport, PG Parker, and LS Eggert. (2014). Using detection dogs and genetic analyses of scat to expand knowledge and assist felid conservation in Misiones, Argentina. *Integrative Zoology* 9: 623–639. doi: 10.1111/1749-4877.12113.
- DeMatteo KE, MA Rinas, **CF Argüelles**, JP Zurano, N Selleski, MS Di Bitetti, and LS Eggert. (2014). Noninvasive techniques provide novel insight for the elusive bush dog (*Speothos venaticus*). *Wildlife Society Bulletin* 38(4):862–873. DOI: 10.1002/wsb.474.
- Barrandeguy, M. E., M.V. García, **C. F. Argüelles** and G.D.L. Cervigni (2011) Genetic diversity of *Anadenanthera colubrina* Vell. (Brenan) var. *Cebil*, a tree species from the South American subtropical forest as revealed by cpSSR markers. *Silvae Genetica* 60, 3-4. -p. 123-132.
- Andrea Sala, **Carina F. Argüelles**, Miguel E. Marino, Cecilia Bobillo, Alberto Fenocchio and Daniel Corach (2010) Genetic analysis of six communities of Mbyá-Guaraní inhabiting North Eastern Argentina by means of nuclear and mitochondrial polymorphic markers. *Human Biology*, 82 (4):433-456. DOI: 10.3378/027.082.0406.
- DeMatteo KE, MA Rinas, MM Sede, B Davenport, **C Argüelles**, K Lovett, and PG Parker. (2009). Detector dogs: an effective technique for bush dog (*Speothos venaticus*) surveys. *The Journal of Wildlife Management* 73(8) p 1440-1436- DOI: 10.2193/2008-545

## **Presentations and published abstract (2012-2013)**

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Papers in International scientific meetings: 4

Papers in National / Regional Scientific Meetings: 7

## **Mentoring – Director or Co-Director**

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### **Postgraduate Fellows:**

**Director** of the PosDoc Fellowship granted to Lic. **Cecilia Beatriz Percuoco**. National Council of Scientific and Technical Research (CONICET). Resolution: in process. Discipline: Biology. Topic: *Development of nuclear markers hypervariable Cambess brasiliense Calophyllum. (Calophyllaceae) by NGS*. Co-Director: Prof. Dr. Marcos Miretti. Started Date: Abril/2014 – Completion Date: Abril/2016

**Director** of the Internal Posgraduate Fellowship Type I from the National Council of Scientific and Technical Research (CONICET) granted to Lic. **Liliana Noelia Talavera Stéfani**. Resolution: in process. Discipline: Biology. Topic: "*Genetic evaluation of natural populations and cultures of Ilex paraguariensis A. St.-Hill. var. paraguariensis (yerba mate) of Argentina and Paraguay*". Co-Director: Dr. Guillermo Seijo. Start Date: Abril/2013 - Completion Date: Abril/2017.

### **Doctoral Students:**

**Director** of the PhD Thesis of the Lic. **Cecilia Beatriz Percuoco** (March-2014). Natural Sciences and Museum. Faculty. National University of La Plata. *Dissertation: "Characterization of the genetic structure and phylogeographic analysis of Calophyllum brasiliense Cambess (Clusiaceae) populations"* **Co-Director:** Dr. Jorge Víctor Crisci.

**Co-Director** of the PhD Thesis of the Lic. **Roberto Eugenio Vogler** (March-2013). Natural Sciences and Museum Faculty. National University of La Plata). Topic: "*Phylogeographic inference applied to the conservation of parthenogenetic females of the genus Aylacostoma spix, 1827: Endangered Species Paraná River*". **Director:** Dra. Alejandra Rumi Macchi Zubiaurre.

### **Fellows in Research Initiation (2014):**

**Director** of the Fellowship in Research Initiation granted to Lic. Anibal Fernando Depasquino. Research Fellowship from the Government of the Province of Misiones (Res N° 37/14) through the Executive Committee and Development and Technological Innovation (CEDIT) Since May 1<sup>st</sup>, 2014 and for a period of 12 months. Topic: "*Prevalence of allelic variants of the FMRI gene in newborn from the neonatology of the Maternal Neonatal Hospital from Posadas Misiones*"

### **Graduate Thesis (last two years):**

**Co-Director** of the student Rosio Gabriela Schneider. "*Sexing the Paraná forest felids using indirect technique*". Director: Dr. Karen DeMatteo. Faculty of Chemical and Natural Sciences (FCEQyN) National University of Misiones (UNaM In progress.

**Advisor** of the student Nicole Selleski. Project: "*Getting Molecular Markers for determining kinship in canids kept in captivity*". Joint Advisor: Dr. Karen De Matteo. Faculty of Chemical and Natural Sciences (FCEQyN) National University of Misiones (UNaM Thesis Defended August, 2012. Rating: 10 (ten) Outstanding.

## **Extension Projects**

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Cooperation Agreement: Department of Ecology of Misiones Province Argentina-University of Missouri-St.Louis U.S. Department of Biology. Role: Collaborating Investigator from FCEQyN-UNaM, in the project "*Determining the Basic Ecological Requirements of the bush dog (Speothos venaticus) with noninvasive Techniques: a critical step for the species conservation*" **Principal Investigator:** Karen DeMatteo, Ph.D. Department of Biology, University of Missouri - St. Louis, USA. Since 2007 and continues.

Generation of the first hypervariable markers databank used in forensic genetics, for the province of Misiones. Public Access in <http://www.fceqyn.unam.edu.ar>. y <http://www.lacygh.com.ar/>

**Grants Received (present)**

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Grant from National Agency for Promotion of Science and Technology. Project: "Conservation biology of *C.brasiliense* Cam. (Clusiaceae) fragmented population in the southern region of its distribution". PICTO-2011-0122. Res. 317/12. Role: Principal Investigator. Amount: ARS \$180.000,00

**Professional Memberships**

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International Society for Forensic Genetics (ISFG)

Member of the Foundation Faculty of Chemical and Natural Sciences

Spanish and Portuguese Group of International Society for Forensic Genetics (GEP-ISFG)

Argentine Society of Forensic Genetics (SAGF)

Argentine Society of Genetics (SAG)

**Languages**

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Spanish (native language)

English (read, speak, and write)

Portuguese (read and speak)