

# Rodrigo Fernós

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## EDUCATION

- 2011 Ph. D. Universidad de Puerto Rico, Río Piedras. Depto. de Historia.  
Thesis: *“Nuestra Telefónica”: La Nacionalización de la Puerto Rico Telephone Company (PRTC), 1974.* Director: Fernando Picó.
- 1997 M.A. Universidad de Minnesota, Minneapolis. Depto. de Historia de la Ciencia  
Thesis: *On the Colonial Encounter of Medical Systems and the Image of Africa: Sir Hans Sloane, Edward Long, and Slaves in British Jamaica.* Director: John Eyler.
- 1990 B. A. Universidad de Texas, Austin. Depto. de Historia.  
Concentration: History, Literature.
- 1986-1987 Brandeis University (Waltham, Massachusetts).  
Concentration: History of ideas.

## WORK EXPERIENCE

**Professor**, Honors Program (UPR, Río Piedras), 2017-2020

*Notable Achievement:* Recontextualized the history of Puerto Rico from the point of view of the history of science, specifically as seen in the light of natural history during the colonial period. Introduced an innovative ‘problem solving approach’ by requesting the students generate their own historical interpretation to the available information.

**Professor**, Biology Dept. (UPR, Río Piedras), 2018

*Notable Achievement:* Introduced a relatively new field of study (evolutionary psychology) and conceptual analysis to the problems of ethics in science, placing these concepts in a comparative historical framework.

**Associate Professor**, Dept. of Physics, Natural Sciences Faculty, University of Puerto Rico (2015-17)

*Notable Achievement:* Wrote a comprehensive textbook in the history of science, using the latest studies in the field, which identified key development obstacles in their respective historical epochs.

**Independent Researcher**, Instituto de Estudios del Caribe, University of Puerto Rico (Río Piedras, Puerto Rico) 2013-2014.

*Notable Achievement:* Synthesized the complex histories of science (history of chemistry) and social history (sports history) into a coherent whole, providing the latter with a richer explanation for its particular historical development.

**Instructor**, History Department, InterAmerican University (Cupey, Puerto Rico). 2011-2013.

*Notable Achievement:* Created a nuanced analysis of international relations in the Caribbean and Latin America, offering a history of science perspective to such relations. Applied pedagogical techniques obtained while at Brandeis University.

**Researcher**, History Department, University of Puerto Rico (Río Piedras, Puerto Rico), 2008-2010.

*Notable Achievement:* Generated a comprehensive bibliography of nearly 1,000 citations pertaining

to island histories in the Pacific Ocean that fit within a particular research criteria.

**Administrator**, Chula Vista properties, San Antonio Texas. 2007.

*Notable Achievement*: Using English and Spanish language fluency, a successful mediation and conflict resolution between owners and labor was obtained.

**Instructor**, History Department, University of Puerto Rico (Río Piedras, Puerto Rico), 2002-2006.

*Notable Achievement*: Wrote a comprehensive textbook on the global history of science in Latin America, which did not exist at the time.

**Medical transcriptionist**, ARTEXT, (San Juan, Puerto Rico), 2003-4.

*Notable Achievement*: Enhanced the output efficiency of transcripts by programming Microsoft Word macros and other advanced features, including the production of comprehensive output listings on a weekly basis.

**Salesman**, Island Computer, (San Juan, Puerto Rico), 2002.

*Notable Achievement*: Worked extra hours to successfully help clients obtain lost digital data on a diverse range of medium and platforms, and quickly oriented potential clients to available products and solutions suitable to their needs and available resources.

#### **Volunteer Work**

**Graphic artist**, Centenary of Robinson School, Alumni Association (Santurce, PR) 2002.

*Notable Achievement*: Created a 20 page brochure, incorporating historical images as a contextual background to textual data, and prepared a brief description of the school's history.

**Webpage designer**, Various, 2001-2021.

*Notable Achievement*: Creation of diverse number of web pages with emerging technologies, and provided assistance to various NGOs with regard to technologies most suitable to their needs and resources.

**Video digital processing**, Various, 2003-2017.

*Notable Achievement*: Drastically expanded the diffusion and availability of isolated congress presentations, bypassing traditional physical limitations by using digital-electronic media and communications systems, while at the same time creating a high-ranking comprehensive database of said presentations.

**Board of Directors, Asoc. Cond. El Monte Norte, 2005, 2017**

*Notable Achievement*: Looked out for and protected the long-term interest of the community during a time of crisis after Hurricane Maria (September 2017), as well as sought to update infrastructural technologies oriented towards renewable energy resources and telecommunications.

**Book Editor**, 2017-2019

*Notable Achievement* Assisted in the preparation of books so that these would have a more coherent structural arrangement and thematic development.

## **PUBLICATIONS**

### **Books**

*Amistad y Progreso: Los Congresos Científicos Pan Americanos, 1898-1916.* (Aventine: 2003), 280 pp.

*Science Stillborn: The Rise and Impact of the Pan-American Scientific Congresses, 1898-1916.* (iUniverse: 2003), 274 pp.

*Medicine and International Relations in the Caribbean: Some Historical Variants.* (iUniverse: 2006), 278 pp.

*En Busca del fénix: La ciencia y su historia en América Latina.* (AuthorHouse: 2006), 476 pp.

*G. Fernós Maldonado y El Espacio para la Ciencia en Puerto Rico* (Xlibris: 2013), 292 pp.

*From Galileo to Boltzmann: A History of the Fragility and Resilience of Science* (VirtualBookworm, 2016), 401 pp.

*Biology and Ethics* (VirtualBookworm, 2018), 355 pp.  
*Science and Sovereignty: Western Ideas about Science and Nation and their Expression in Puerto Rico and the Caribbean* (VirtualBookworm, 2021), 378 pp.  
*Atomic Surfer: La difusión y desarrollo del surfing en Puerto Rico*, vol 1. (Editorial Eray, 2021), 211 pp.

#### **Academic articles**

"The Social Factors Affecting the Diffusion of Parasitology to Puerto Rico and Hong Kong."  
*Puerto Rico Health Sciences Journal* 20, 4 (December 2001), 367-375.

#### **Book reviews**

Review of *Global Broadband Battles: Why the U.S. and Europe Lag while Asia Leads*  
(Edited by Martin Fransman, Stanford University Press, 2006; 300pp.; ISBN: 0804753059; \$75.00).  
*Science and Public Policy* 34, 7 (August 2007), pp. 529-537.

#### **Newspaper articles**

"UPR doctor conducts research on malaria" *San Juan Star*, August 8, 2001, p 20.  
"The science policy of small nations" *San Juan Star*, August 17, 2001, p. 80.  
"The true language of science is english", *San Juan Star*, August 29, 2001, p. 23.  
"Spirit of science lacking in P.R. museums" *San Juan Star*, September 10, 2001, p. 20.  
"Supernovas & neutrinos: From tiny to vast" *San Juan Star*, September 28, 2001, p. 57.  
"The Virtual Library: Sen. Margarita Ostolaza Critique" *San Juan Star*, 2002.

#### **Cyber-editorials** (partial list of 495 + articles at [www.ictal.org](http://www.ictal.org))

"Vico's Failed Revolution: Chance, Variability, and Design in Eighteenth Century  
Historiography" (Oct. 15, 2005)  
" 'Elementary, my dear Watson' : On Contemporary Scandals about Evolution, Cognition, and  
Race" (Oct. 22, 2007)  
"A ciencia cierta: Susan, Omar y la meteorología en Puerto Rico" (Oct. 18, 2008)  
"Raul Prebisch, ECLAC, and Economic History" (Oct 22, 2006)  
"The Air Conditioner and The End of the World" (Feb. 20, 2006)  
"The lack of science archives in Puerto Rico" (May 18, 2005)  
" El problema de la autonomía institucional y su impacto en la política de investigación y  
desarrollo" (Jan. 13, 2005)

#### **CONFERENCES**

##### **Presentations in academic conferences**

Presentation of book written by Leyda Melián, *La segunda carta* (2021), Instituto de Cultura  
Puertorriqueña (ICP), Zoom virtual conference, April 27, 2021.  
"La medicina y la co-construcción de la identidad africana durante el siglo XVIII: el caso de  
Jamaica" Ponencia presentada en la conferencia "África y sus identidades " Facultad de  
Humanidades, Universidad de Puerto Rico, octubre de 2009.  
Commentator on Panel "Experiencias en la Conservación del Patrimonio Histórico en las  
Ciencias de la Salud", March 26, 2009, in the conference "Iniciativas de Investigación  
Histórica y Desarrollo de Museos y Archivos en las Ciencias de la Salud, Recinto de  
Ciencias Médicas, 24 al 27 de marzo, 2009"  
"Tecnología y Comunicación: Entre la línea dura y la línea suave". Lecture presented at the  
conference "Pensar la comunicación en un nuevo milenio en Puerto Rico: II encuentro  
de investigadores en comunicación", School of Communications, University of Puerto  
Rico, Río Piedras, April 2008.  
"Amistad y Progreso: El Primer Congreso Científico Pan Americano, 1908." Lecture given at  
the XXI Congreso Internacional de la Historia de la Ciencia y la Tecnología, México  
D.F., México, July 2001.  
"Of Cultural Affinities and Social Transformations: Chilean Catholicism and French Science  
in the Nineteenth Century." Lecture presented at the ILASSA conference, University of  
Texas (Austin), March 1998.

## COURSES OFFERED

- Science and Sovereignty, University of Puerto Rico (Rio Piedras, Puerto Rico)
- Biology and Ethics. (University of Puerto Rico, Rio Piedras)
- Naturalists of the Hispanic Colonial Period. (University of Puerto Rico, Rio Piedras)
- History of the Scientific Revolution (University of Puerto Rico, Rio Piedras)
- World Civilization, 1500- (InterAmerican University)
- World Civilization, -1500 (InterAmerican University)
- History of International Relations between the United States and Latin America (InterAmerican University, Cupey, graduate level)
- History of the United States and Puerto Rico (InterAmerican University, Cupey, graduate level)
- History of Puerto Rico 1800-2000 (InterAmerican University)
- History of Science in Latin America. (University of Puerto Rico, Rio Piedras)
- United States History, 1492-1865. (University of Puerto Rico, Rio Piedras)
- United States History, 1865-Present. (University of Puerto Rico, Rio Piedras)

## ORGANIZATIONS

INSTITUTO DE LA CIENCIA Y TECNOLOGÍA EN AMÉRICA LATINA ([www.ictal.org](http://www.ictal.org))

Organization founded by Fernós in 2001, website established on November 2002. By 2008, the site contained more than 3,500 articles and editorials, with more than 80 videotaped conferences containing some 500 lectures. Google page rank of 6. Institutional links to the Arecibo Observatory, the Sierra Club of Puerto Rico, ACEER (Alianza Ciudadana para la Educación en Energía Renovable), the Luis Muñoz Marín Foundation, and the Society of Planification in Puerto Rico, amongst others.

## WEBSITES

**Archivo Gonzalo Fernós López** ([www.gonzalofernoslopez.com](http://www.gonzalofernoslopez.com))

Digital archive of public papers of Architect/Lawyer Gonzalo Fernós López. Fernós Lopez designed the first parking building in Puerto Rico, initiated legal precedent in the Puerto Rico Supreme Court, and fought numerous environmental battles. 101 GB, 100,000 pages. 2013.

**Gonzalo Fernós Maldonado and the Space for Science** ([www.gonzalofernosmaldonado.com](http://www.gonzalofernosmaldonado.com))

Companion website to book "*G. Fernós Maldonado y El Espacio para la Ciencia en Puerto Rico*", compiling the majority of photographs, architectural designs, and interviews obtained while researching the book. Family history, professional development, structures built are some of the pieces of information found therein. 2012.

**Archivo ICTAL** ([www.archivo.ictal.org](http://www.archivo.ictal.org))

Digital repository of 130+ conferences and nearly 1,000 lecturers on science, technology, and medicine related topics in Latin America and Puerto Rico. Material dating between 2003 and 2017 is included in a wide range of audio and video formats.

**Colecciones ICTAL** ([www.colecciones.ictal.org](http://www.colecciones.ictal.org))

Digital repository of digitized primary sources pertaining to history of science in Latin America and Puerto Rico. Topics covered in the repository include the Pan American Scientific Congresses, the Puerto Rico Telephone Company, Bailey K. Ashford, Gonzalo Fernós López, and the Peynado and Peynado lawfirm. More than 60,000 sheets of documentation included.

**Biblioteca de la Ciencia Hispánica en Estados Pequeños** ([biblioteca.ictal.org](http://biblioteca.ictal.org))

Compendium of bibliographic resources related to the scientific and technological activity in small states or islands that are or were a part of the Hispanic colonial world. B-CHEP is divided into 25 collections and 74 identifiers. Uses the OMEKA platform.

**Libros ICTAL** ([libros.ictal.org](http://libros.ictal.org))

Compendium of bibliographic resources related to the scientific and technological activity in Latin America and the Caribbean, with emphasis on books published during the prior year. Uses the Word Press platform, along with S2membership and other add-ons to facilitate the user's searches. Avarious subscription levels are available according to the user's budget; from one day to one year.

## TECHNICAL SKILLSET

### Website

- Long term experience with Content Management Systems: installation, configuration, plugins Postnuke (2002-2008), PHPFusion (2010-2015), Dotclear (2015-2019, current)
- Commercial Platform CMS installation and configuration: OpenCart (2017)
  - Complete commercial functionality setup: credit card processing, shipping, inventory
- Evaluation of 50+ CMS systems to determine most suitable for particular need and resources
  - Included installation, testing, and performance evaluation
  - Samples included but not limited to:
    - Cultural archives: Omeka, Archive Space
    - Commercial: Prestashop, Zencart, Magneto, Tomato Cart
    - Traditional: Joomla, Drupal, Wordpress
    - Organization: Expression Engine, ModX, Concrete5, Type3, Silverstripe, XOOPS, Textpattern
    - Miscela: Open Classifieds
- MySQL, CMS administration software
  - MySQL lite, Sequel Pro, MAMP, MAMP Pro, MySQL Workbench, VSSH, R
- Security https security implementation
  - htaccess, Let's Encrypt, Cloudflare, VSSH
- Website design software, html programming
  - Coda, BBedit, Subethaedit, Hyperedit
- Light web design software
  - Sandvox, Rapidweaver, Hype, iWeb
    - Included plug-in implementation for Rapidweaver
      - blocks, rapid cart, rapid link, coverflow, etc.
    - Included stacks implementation for Rapidweaver
      - menustacks, forms, parallax, etc.
- Sftp software: Transmit, Forklift, Filezilla, Cyberduck, etc.
- Rank monitoring software: Advanced Web Ranking (2004-2008)
- Social platform policies to enhance visibility and boost ranking: Twitter and Youtube
  - Included usage of automated uploaders of video clips (Youtube)
- Establishment of a subscription based archival platform with blocked access using Paypal

### Computer

- Comprehensive operational system knowledge of:
  - Apple Macintosh: OX, MacOS
    - OS9: 7.x, 8.x, 9.x
    - OSX: 10.3, 10.4, 10.5, 10.6, 10.9
    - MacOS: 10.10, 10.11, 10.12, 10.13
  - Commodore 64, Basic
    - Simple programming: qbert game, word processor, bach piano (1982)
- Adequate operational system knowledge
  - Linux: Ubutnu, Linux Mint, Elementary OS
    - Evaluation of a range of linux distros: Debian, CentOS, etc.
  - ChromeOS
  - Windows 7
- Computer hardening (security)
  - Firmware level hardening (OSX)
  - Operational system level hardening
    - Apple operating systems as OSX, MacOS
      - Per specifications of Apple "Mac OSX Security Configuration" ver 10.4, 10.5, 10.6 (2010)
    - Included careful monitoring of user priviledges and changes to ACL
      - BatCHmod, Lingon, BlockBlock, etc
  - Network hardening (see below)

- Included software monitoring software installed on computer
  - Little Snitch, Intego, Norton, DNS Crypt, etc.
- Included implementation and configuration of diverse IP firewalls
  - Waterproof, Ice Floor, etc

### Networking

- Comprehensive operational knowledge of diverse UTM/firewall operating systems
  - Pfsense, Ubiquity, Fortinet FortiOS, Zyxel ZyWall
- Maintenance and upgrade of resources (signatures) and firmware of diverse UTM/firewall operating systems
  - Pfsense, Ubiquity, Fortinet FortiOS, Zyxel ZyWall
- Testing and maximization of networking speeds with existing resources
  - testing and proper arrangement of ethernet cabling, etc
  - selection and repair of proper telephone and network cabling (5, 5e, 6, etc)
- Proper configuration of networking equipment (switches, routers)
  - Netgear, TPlink, Cisco, Asus, Eero, Ubiquity
- Networking Security (hardening)
  - Network separation techniques as fragmented y topography, double nat routing, etc.
  - VLAN configuration, wifi separation, radius server, vpn, etc.
- Selection and configuration of adequate secondary hardware, appropriate to network topology
  - Printers, webcams, USB accessories, etc.

### Servers/Storage

- Comprehensive operational knowledge of diverse systems: QNAP, Synology, Apple server
- Testing and use of diverse storage platforms
  - Sonnet, DROBO, LaCie, Iomega, Infortrend
- Implementation of long-term external storage solutions: MDisc
- NAS hardening and security configuration: QNAP, Synology
  - Techniques include, but are not limited to: UPNP blocking, blocklist IP, DDOS attack protection, gateway access limitation, ZeroTier, VSSH
- Synology NAS plugin/program installation and use
  - MariaDB, Mail Station, Radius Server, Hyperbackup, Resilio Sync, etc.
- Establishing storage policy protocols for proper temporary and long term solution
  - 3-2-1 storage and restoration procedures

### Physical Security

- Implementation of two factor authentication: Yubikey
  - Implementation OSX, MacOS, virtual machines, and other platforms
- Configuration of surveillance systems: Qsee, Reolink, Synology Surveillance Station
  - Configuration of computer surveillance software
    - Securityspy, Monitormymac, Intego
- Installation and configuration of diverse electricity backup systems
  - APC (server grade systems), Cyberpower, GoalZero solar system
  - Evaluation of electrical consumption, restoration, solar path, yearly solar hours, etc.
- Implementation of humidity protection of digital data: NeverWet (Rustoleum), DampRid

### Simple computer repair (hardware)

- Hard drive replacement and configuration
  - MacMini (nearly all models), PowerMac (1997), G5, MacPro (2009)
- PCI card expansion and configuration
  - PCIe expansion cards, SSD, M.2, etc
- Computer models repaired (all Apple Co. computers):
  - iBook, MacMini (all versions), PowerMac 7200, iMac (dome), G5, MacPro (2009)

### Software

- Virtual machine software: VMware, Docker
  - Preparation, installment, configuration, hardening
  - Includes installation of hardware emulators (2000-2019)

- Security software applications
  - Truecrypt, PGP desktop, PGP Full Disk Encryption, PGP Shredder, PGP Viewer, Prot-on, Zenmap, Wireshark, Waterroof, rootkit chekers (CheckMate, OSXrkhunter), lanscan, Little Snitch monitor, IceFloor, Lingon, BatCHmod, etc.
- Database software: Filemaker Pro Server, Filemaker Pro (full installation)
  - Database accessible to all employees in a commercial facility
  - Complex database design and integration
- Light security software applications (for Apple computers)
  - Norton Systemworks, Intego Netbarrier, Apple Remote desktop, Dropsecure, R10Cipher, etc
- Microsoft Word macro manipulation
  - Automatic production of listing based on entry document selection
  - Automatic modification of text per programmed key for batch processing
- Microsoft Excel hypothetical financial scenarios modeling
- Network mapping software as Gephi, GPSyX, etc
- Image manipulation and document layout
  - Apple Automator, Adobe: Photoshop, Illustrator, Flash, Acrobat Pro, etc.
  - Graphic Converter, GIMP, Acorn, Photoexpress, etc.
- Audiovisual manipulation
  - Quicktime, Final Cut Pro, Soundtrack Pro, Sorenson Squeeze,
  - iLife 2006-2011, current
  - Macx video converter, iTunes, audacity, visualhub, podner, SWF ffmpeg, Vvuescan,
- Antiquated software (OS9, extensions, etc)
  - ghost, stuffit Delux, Techtool Pro, Retrospect Express, maclink plus deluxe, foldersynchronizer, disk partitioning NetToolbox, RCD default, pacifist, onyx, print center repair Mac Addict CD catalog (1-93) databackup, carboncopycloner, mailsteward, contactizer pro, cocktail, diskwarrior, filebuddy, ipartition, iDefrag, keyboard maestro, nettoolbox, peekaboo, plist checker, RAM disc creator, raid monitor, smart reporter, thermograph, pather / tiger / snowleopard cache cleaner, uninstaller, xbech, xsupport, !zingg, vidalia, temperature monitor, drop nuke, diskwarrior, invisibles 1.4,
  - iMmovie addons: Slick iMoive special effects (vol 1-4) popcorn, podner, SWF n Slide, SoundGrinder, VisualHub
  - macfamily tree, my looc, hyperedit, novamind, image stiching software, AppleWorks

### **Memberships**

History of Science Society  
 Society for the History of Technology  
 American Historical Association  
 Sierra Club of Puerto Rico

### **REFERENCES**

Available upon request.