

## Education

05/1994

System Engineer (Ingeniera de Sistemas) – Bachelor's and master's Degree equivalent  
Facultad de Ciencias Exactas, Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina.

Dissertation: "Environment for the Evaluation of Communication Protocols in Local Area Networks (LAN)". Advisor: Ing. A. De Giusti, Full Professor Universidad Nacional de La Plata and Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina.

## Professional Experience

07/15/2003-  
Present

### **Northwestern University**

Feinberg School of Medicine, Physiology Department, Pain& Qualia Lab, Chicago, IL, USA.

As the laboratory's Research Data Analyst, I perform all the tasks related to information management, my main background. My involvement also extends to data generation, storage and processing throughout all experimental phases, from planning and assistance to execution and analysis. More recently I have also been involved in the surgical procedures required for the implementation of chronic pain models, including cannula and electrode implants in living rat brains.

- IT specialist and Senior System Analyst / IT Software Engineer.
- Programming and implementing new application systems and analyzing, modifying and reviewing existing ones to query and analyze data in support of research and create forms of data output, e.g., reports, data files and labels, utilizing tools such as MATLAB, Shell Scripts, AWK, TCL as well as using Microsoft Office Suite.
- Assisting the team in the use of query tools, created programs and reports, automating the use of brain image analysis tools such as FSL and MEDEX.
- Developing new programs in LabVIEW or modifying the existing ones in order to setup the equipment used during experiments to gather data from instruments and data acquisition devices.
- Setting up and maintaining desktop and peripheral hardware such as printers and scanners for PCs; maintaining and troubleshooting desktop operating systems such as Windows and Linux; maintaining the integrity of systems through problem prevention, detection and resolution techniques, e.g. backup/recovery.
- Assisting in the acquisition of PC hardware, identifying needs, placing, installing new equipment and software.
- Assisting in clinical or research setting, collecting and analyzing data (human and animal experiments).
- Animal Handling, Surgery and Electrophysiology (rats): Neuropathic induction in the sciatic nerve (Woolf and Bennet models); Electrode and cannula implant in the brain; Total animal fixation with formalin; Brain extraction; Perfusion; Brain infusion; Electrophysiological recordings, Behavioral pain assessment techniques: Von-Frey filament test, Hot plate, Cold allodynia, Fear condition, Reward, Open field.

Projects: Laboratory studies brain processes underlying pain perception in humans using brain imaging techniques and in animals, combining imaging, electrophysiology and mathematical models of neuronal networks.

05/17/1999-  
07/04/2003

### **Sofrecom Argentina S.A.**

Buenos Aires City, Argentina.

All the work detail below was held for Telecom Argentina, one of the two mayor telecommunication companies of Argentina, which manages 50% of the fixes telephone lines installed in Argentina. Note that all of the projects that I was involved, managed information that was very important to delivering strategic analyses to senior management on different market, product and revenue issues and trends in the company. Tools: ORACLE and associated analysis tools such as DSS Microstrategy, SQL and Pro\*C, Windows and Unix environments.

During that period, I held different positions:

- Functional Analyst of the ZOOM Telecom Argentina's Data Warehouse (from 1999 to 2000):  
Projects: Customer Care, Datamining, Householding, Traffic, Multicarrier, Data Integration of Telecom's Enterprises Group.

The essential job functions were: Working directly with end users to support their analytic needs, making feasibility analysis of their requirements and match information delivery capabilities to the needs of the business; Translating client user requirements into data standards to gather specifications for the existing data warehouse and perform the logical data modeling and data

<p>07/20/1994- 05/14/1999</p>	<p>mapping; Working with the Database Administrator to find the most demanding and efficient search applications, architect and design the high transactional information search services solutions for large and complex data set; Analyzing and reviewing object and data models and metadata repositories to structure the data for better management and quicker access; Designing the extracting, transforming and loading processes (ETL) and managing the development of tools for integrating information and automatic updating of the data warehouse; Writing requirement specifications for programmers and developers; Developing test and implementation plans to ensure the proper installation, configuration, function of the new applications; Developing cross validation rules and algorithms to ensure data quality and integrity; Assisting with the writing new documentation.</p> <ul style="list-style-type: none"> <li>□ Project Leader of Customer Care Project (from 2001 to 2002).</li> <li>□ Manager of the group in charge of developing and maintenance of ZOOM Telecom Argentina's Data Warehouse Project (2003).</li> </ul> <p><b>Organización AISE S.R.L.</b> Buenos Aires City, Argentina. All the work detail in the list below was held for Mastellone Hnos S.A., a leader argentine company, under direct supervision of the Software Department team of that company.</p> <ul style="list-style-type: none"> <li>□ Programmer (from 1995 to 1996): I used different programming languages as Progress 4GL, a business application development language typically classified as a fourth-generation that uses its own integrated relational database (in 2006 it became OpenEdge ABL), Cobol, Shell Scripts, Awk under Unix platform. The databases were updated either online or in batch mode, depending on the application. In the last case, often from multiple sources. The essential job functions were: Working with functional analysts and other people in the team to analyze the best way to implement the specifications of processes; Writing programs, Developing cross validation algorithms to ensure data quality and integrity; Testing, configuring and implementing new applications; Writing documentation.</li> <li>□ Functional Analyst of the projects (from 1996 to 1999): Container Recycling, Products and Sales, Stock, Distribution. I used different programming languages and tools as Pilot, an Online Analytical Processing tool (OLAP), Progress 4GL, Cobol, Shell Scripts, Awk, Visio, Office tools. Unix and Windows platforms. The essential job functions were: Working directly with end users to support their analytic needs, making feasibility analysis of their requirements and match information delivery capabilities to the needs of the business; Translating client user requirements into data standards to gather specifications and perform the logical data modeling and data mapping; Working with the team of different projects to find the most appropriate solution to integrate all the applications; Analyzing and reviewing object and data models to structure the data for better management and quicker access; Writing requirement specifications for programmers and developers; Developing test and implementation plans to ensure the proper installation, configuration and function of the new applications; Developing cross validation rules and algorithms to ensure data quality and integrity; Writing documentation.</li> </ul>
<p>06/1/1989- 2/28/1992</p>	<p><b>DINA Informatica S.A.</b> Tandil, Buenos Aires Province, Argentina.</p> <ul style="list-style-type: none"> <li>□ Functional Analyst and Programmer (1989 to 1991). Projects: Inventory, Accounting and Banking systems for small and middle size companies</li> <li>□ Project Leader (1991 to 1992). Projects: Integrated Accounting, Stock Control and Statistics System for INPOPARG S.A., a leading company that manufactures and distributes heating systems and Cerrovision S.A. Customer and Invoicing System (Cable Company).</li> <li>□ Technical support to customers of the Hardware Sales Department. Tools and Languages: Cobol, Shell Scripts, Awk. Xenix and Windows environments.</li> </ul>
<p>09/15/1986- 05/31/1989</p>	<p><b>Centro de Computos de Tandil (CCT S.A.)</b> Tandil, Buenos Aires Province, Argentina.</p> <ul style="list-style-type: none"> <li>□ Programmer for Banco de la Nacion Argentina's Project (Argentina's national bank)</li> <li>□ Programmer for Banco Provincia de Cordoba's Project (state bank of the largest Argentine province).</li> <li>□ Functional Analyst and programmer of the Publication Department's System, CCT S.A. Tools and Languages: Cobol, mainframe environment.</li> </ul>
<p>1990-1991 1985-1986</p>	<p><b>Independent Contracts</b></p> <ul style="list-style-type: none"> <li>□ Analysis and development of accounting, management and stock control of Pastas Mario Company.</li> </ul>

6/1988-8/1990  
and  
3/1993-7/1994

- Analysis and development for Cerealsur S.A, a leading crop trading company.

## Teaching Experience

- Teaching Assistant  
Operating Systems and Introduction to Operating Systems. Facultad de Ciencias Exactas,  
Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina.

## Tools and Languages

I have vast experience in Unix/Linux and Windows environments, data warehousing, networking, structure programming, databases (Oracle, SQL Server, Progress), system analysis, design and development tools such as:

- ETL/OLAP tools for dimensional models (Pilot).
- Visual tools for developing Front-End programs.
- Wide range of languages such as: AWK, TCL, Pascal, Fortran, Matlab, Progress, Oracle, SQL, Pro\*C, Cobol, Shell Scripts.

## Publications

- Jabakhanji R, Foss J M, Berra HH, Centeno MV, Apkarian AV, Chialvo DR. Inflammatory and neuropathic pain animals exhibit distinct responses to innocuous thermal and motoric challenges. *Molecular Pain*, 2006 Jan 5;2:1.
- Cecchi GA, Rao AR, Centeno MV, Baliki M, Apkarian AV, Chialvo DR . Identifying directed links in large scale functional networks: application to brain fMRI. *BMC Cell Biology*. 2006 Jul 10. **8**(Suppl 1):S5.
- Millecamps M, Centeno MV, Rudick CN, Lavarello S, Tkatch T, Apkarian AV. d-Cycloserine reduces neuropathic pain behavior through limbic NMDA-mediated circuitry. *Pain*. 2007 Apr 19.
- Alexia E. Metz, Hau-Jie Yau, Maria Virginia Centeno, Apkarian AV, Marco Martina. (2009) Morphological and functional reorganization of rat medial prefrontal cortex in neuropathic pain. *PNAS* Feb 17;106(7):2423-8 [published online before print January 26, 2009]. *pnas.0809897106* 2009.
- Centeno MV, Mutso A, Millecamps M, Apkarian AV. Prefrontal cortex and spinal cord mediated anti-neuropathy and analgesia induced by Sarcosine, a glycine-T1 transporter inhibitor. *Pain*. 2009 Sep;145(1-2):176-83. Epub 2009 Jul 3.

## Abstracts in conference proceedings

- Emotional Learning and Memory Deficits in a Neuropathic Pain Rat Model. *Society for Neuroscience, 35th Annual Meeting. Washington, DC. November 12-16, 2005.*
- Peripheral neuropathic injury affects synaptic transmission in the medial prefrontal cortex. *Society for Neuroscience, 35th Annual Meeting. Washington, DC. November 12-16, 2005.*
- Emotional Learning and Memory Deficits in a Neuropathic Pain Rat Model. *Midwest Pain Interest Group Symposium on "Drug Development for Pain Management"*, Jun 18-19, 2006.
- Efficient distributed algorithms for pattern detection in graphs derived from fMRI measurements. *Human Brain Mapping, 12th Annual Meeting. Florence, Italy. June 11-15, 2006.*
- Emotional learning and memory deficits in a neuropathic pain rat model. *Society for Neuroscience, 36th Annual Meeting. Atlanta, GA. October 14-18, 2006.*
- Brain activity for osteoarthritis pain: an fMRI study. *Society for Neuroscience, 36th Annual Meeting. Atlanta, A. October 14-18, 2006.*
- Pain hurts the emotional brain: impairment of mPFC neurons to signal memory of extinction in rats with neuropathic pain. *Society for Neuroscience, 36th Annual Meeting. Atlanta, A. October 14-18, 2006.*
- Grey and white matter changes in patients with complex regional pain syndrome. *Society for Neuroscience, 37th Annual Meeting. San Diego, CA. November 3-7, 2007.*
- Sarcosine, a glycine reuptake inhibitor, acts as an analgesic in an animal model for neuropathic pain. *Society for Neuroscience, 38th Annual Meeting. Washington DC. November 15-19, 2008.*