

DAMIÁN A. LÓPEZ, Ph.D.

PERSONAL INFORMATION

Nationality Argentine

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ACADEMIC BACKGROUND

Education

- Ph.D. in Chemistry. Thesis: “Corrosion inhibitors efficiency in brine media with carbon dioxide. Interaction between their molecular structure and steel microstructure”. Advisor: Dr. Susana Rosso de Sánchez. Corrosion Division, INTEMA, University of Mar del Plata (UNMdP). July 17, 2003.
- Licentiate in Chemistry. Honor Graduate. School of Sciences. UNMdP. October 10, 1997.

Research experience

- ISMER-UQAR’s Postdoctoral Researcher. Institute des Sciences de la Mer de Rimouski-Université du Québec à Rimouski. Advisor: Dr. Gustavo Ferreyra. Topic: “Combined effects of Ultraviolet B Radiation, increased CO₂ and Climate Warming on the Biological Pump: A temporal and latitudinal study”. Chief Scientist during the Antarctic wintering onboard the Sedna IV ship (“Mission Antarctique”) and transect back to Canada. March 2006-February 2007.
- Argentine Research Council for Science and Technology (CONICET) Fellowship for postgraduate research activities in a foreign country. Year 2005.
- CONICET’s Postdoctoral Fellowship. Corrosion Division, INTEMA, School of Engineering. Advisor: Dr. Silvia Ceré. Co-Advisor: Dr. Alicia Durán. Topic: “Behaviour of stainless steels employed in orthopaedic implants and osteosynthesis pieces”. October 2003-September 2005.
- CONICET’s Graduate Student Fellowship. Corrosion Division, INTEMA, School of Engineering. Advisor: Dr. Susana Rosso de Sánchez. Topic: “Corrosion Inhibitors”. August 1998-July 2002 and August 2002-August 2003.
- British Council-Fundación Antorchas Fellowship for Postgraduate Studies in Great Britain. Year 2000.
- University of Mar del Plata Graduate Student Fellowship (1998-2000). Corrosion Division, INTEMA, School of Engineering. Resigned due to CONICET’s Graduate Student Fellowship (see above). August 1998.
- University of Mar del Plata Advanced Student Fellowship. Corrosion Division, INTEMA, School of Engineering. Advisor: Dr. Silvia N. Simison. Topic: “Dealloying of Al-Brass in tap water”. October 1996-September 1997 and October 1997-August 1998.
- Mutis Scholarship-Intercampus Program AL./E. 97. Year 1997.

Research activities abroad

- Institute des Sciences de la Mer de Rimouski (ISMER), Rimouski, Canadá. Project: “Combined effects of Ultraviolet B Radiation, increased CO₂ and Climate Warming on the Biological Pump: A temporal and latitudinal study”. Advisor: Dr. Gustavo Ferreyra. February 2006.

- Glass and Ceramic Institute (ICV), Madrid, Spain. CSIC-CONICET research program: “Synthesis and characterization of sol-gel coatings employed to protect orthopaedic metals”. Advisor: Dr. Alicia Durán. October 2005.
- Surface and Interfaces Laboratory (LSI), University of Paraná, Curitiba, Brasil. CAPES-SECyT research program: “Corrosion products analyses on metallic substrates”. Advisor: Dr. Wido Schreiner. September 2005.
- Glass and Ceramic Institute (ICV), Madrid, Spain. CONICET’s Scholarship for short period postgraduate research activities in a foreign country. Advisor: Dr. Alicia Durán. Topic: “Sol-gel organic-inorganic hybrid coatings employed in orthopedic stainless steel”. April-June 2005.
- Icebraker A.R.A. Almirante Irizar, Antarctica. “Cooperation project between France and Argentina for the studies of the southern Atlantic Ocean-ARGAU”. UNMdP-Argentine Antarctic Institute (IAA) collaboration program. Local project manager: Dr. Irene Schloss. Antarctic Summer Campaign, 2nd Part 2003-2204 (January-February 2004) and Antarctic Summer Campaign 1st Part 2004-2005 (December 2004-January 2005).
- Surface and Interfaces Laboratory (LSI)-LACTEC. University of Paraná, Curitiba, Brasil. Topic: “Research activities with surface analysis techniques (XPS, SEM)”. September 2001, February 2003 and October 2004.
- Department of Chemistry, University of Liverpool (UK). Advisor: Prof. David J. Schiffrin. Topic: “Research activities related to the Ph.D. thesis”. May-August 2000.
- Department of Organic Chemistry, School of Chemistry, University of Seville (Spain). Advisor: Dra. Rosario Fernández Fernández. Topic: “Research in Organic Synthesis”. January-February 1997.

Scientific publications

1. “The influence of steel microstructure on CO₂ corrosion. EIS studies on the inhibition efficiency of benzimidazole”. D.A. López, S.N. Simison, S.R. de Sánchez. *Electrochimica Acta*, 48 (7) (2003) 845-854. ISSN 0013-4686.
2. “The influence of carbon steel microstructure on corrosion layers. An XPS and SEM characterization”. D.A. López, W.H. Schreiner, S.R. de Sánchez, S.N. Simison. *Applied Surface Science*, 207 (1-4) (2003) 69-85. ISSN 0169-4332.
3. “The influence of microstructure and chemical composition of carbon and low alloy steels in CO₂ corrosion. A state-of-the-art appraisal”. D.A. López, T. Pérez, S.N. Simison. *Materials & Design*, 24 (8) (2003) 561-575. ISSN 0261-3069.
4. “The influence of inhibitors molecular structure and steel microstructure on corrosion layers in CO₂ corrosion. An XPS and SEM characterization”. D.A. López, W.H. Schreiner, S.R. de Sánchez, S.N. Simison. *Applied Surface Science*, 236 (1-4) (2004) 77-97. ISSN 0169-4332.
5. “Inhibitors performance in CO₂ corrosion. EIS studies on the interaction between their molecular structure and steel microstructure”. D.A. López, S.N. Simison, S.R. de Sánchez. *Corrosion Science*, 47 (3) (2005) 735-755. ISSN 0010-938X.
6. “Electrochemical characterization of sol gel hybrid coatings in cobalt based alloys for orthopaedic implants”. L.E. Amato, D.A. López, P.G. Galliano and S.M. Ceré. *Materials Letters*, 59 (2005) 2026-2031. ISSN 0167-577X.
7. “Electrochemical characterization of AISI 316L stainless steel in contact with simulated body fluid at different pH conditions”. D.A. López, A. Durán, S. M. Ceré. Accepted for publication in *J. of Materials Science: Materials in Medicine* (#JMSM182R1). August 2006.
8. “Nanoindentation of hybrid silica coatings on surgical grade stainless steel” J. Ballarre, D.A. López, A.L. Cavlieri. Accepted for publication in *Thin Solid Films* (#TSF-D-06-02006R4). February 2007.
9. “Protective and bioactive hybrid sol-gel coatings on surgical grade stainless steel: surface characterization”. J. Ballarre, D.A. López, W.H. Schreiner, A. Durán, S.M. Ceré. Accepted for publication in *Applied Surface Science* (#APSUSC15291). March 2007.
10. “Metals alloys employed for surgical implants: an electrochemical and superficial characterization in simulated body fluid”. D.A. López, W.H. Schreiner, A. Durán and S.M. Ceré. Sent to *Materials Chemistry and Physics*. February 2006. Cód. MAC_SilviaCere_20060221/1.

11. "Multilayer silica-methacrylate hybrid coatings prepared by sol-gel on stainless steel 316L: electrochemical evaluation". D.A. López, C. Rosero, M. Aparicio, A. Durán and S.M. Ceré. Sent to Electrochimica Acta. November 2006. Cód. TM06246.

Meetings and Conferences

- 15 presentations in National and International meetings and conferences of the speciality.

Teaching experience

- Teaching Assistant (permanent position): Laboratory Supervisor and Lecturer. General Chemistry. School of Engineering, UNMdP. 04/04-Present.
- Teaching Assistant: Laboratory Supervisor and Lecturer. General Chemistry. School of Engineering, UNMdP. 04/02-03/03
- Graduate Teaching Assistant. General Chemistry. School of Eng., UNMdP. 03/99-03/00, 04/00-03/01, 04/01-03/02 and 04/03-03/04.
- University Admission Course Instructor 1999. Chemistry. Area. School of Sci., UNMdP. 10/98 - 02/99.
- Graduate Teaching Assistant (Ad Honorem). General Chemistry. School of Eng., UNMdP. 05/98-07/98 and 08/98-12/98
- Undergraduate Teaching Assistant. Organic Chemistry and General Chemistry for Biologists. School of Sci., UNMdP. 06/95-05/96, 06/96-05/97 and 06/97-07/98.

Human resources formation

- Advisor to the Final Project to obtain the Mechanical Engineering degree: "Determination of the electrochemical variables that influence the corrosion processes in a water treatment plant". Ing. Ariel Novelli. UNMdP, March 2005.

Honors

- Rotary Club Mar del Plata Annual Price for best academic performance in Chemistry courses. September 1999.

Other qualifications

- Reviewer of international journals such as: Corrosion Science (special issue), Electrochimica Acta, Applied Surface Science, Surface and Coatings Technology, Journal of Applied Electrochemistry, Materials Chemistry and Physics, DYNA.
- Very good manage of written and spoken English. TOEFL Score: 647 - 97% (15/11/97).
- Basic manage of French.

SPORTIVE BACKGROUND

Sport activities

- Swimming, cycling, running and triathlon. Participation in numerous street, cross country-adventure and open water races and triatlhons since 1991 until present.
- Mar del Plata Maratón 2004 (30th. place in the General Clasification, 8th. Place Category Caballeros A, 3h15m).
- Madrid Marathon 2005 (3h23m).
- Rowing (Club de Actividades Acuáticas Atlantis, Laguna de los Padres). Participation in several rowing races in Promotional Category representing Mar del Plata through the "Ente Municipal de Deportes y Recreación" (EMDeR), Mar del Plata. 1998-2004.

Bicycle Trips (17000 km at present)

- *Preliminar*: “Puerto Madryn-Península de Valdés”. September 1995 (400 km). Done with two cyclist friends.
- *1st. trip*: “San Martín de los Andes-Ushuaia”. Along the Seven Lakes road, Los Alerces NP and through the Route 40. Entering in El Chaltén and El Calafate, crossing to Tierra del Fuego by Punta Arenas. January-March 1998 (3500 km). Solo trip.
- *2nd. trip*: Chile. Lake District-Chiloé Island-Carretera Austral”. Around lake General Carreras, crossing to Argentina by Los Antiguos and up to Comodoro Rivadavia. January 1999 (2100 km). Solo trip.
- *3rd. trip*: Argentinean Northwest-South of Bolivia-North of Chile. Through the Calchaquíes Valleys, crossing of “Abra el Acay” (4895 m), Salinas Grandes, “quebrada de Humahuaca”, Uyuni salt desert (Bolivia), Atacama desert (Chile) and crossing of the Andes range in Jama Pass (4800 m). September-October 1999 (2300 km). Solo trip.
- *4th. trip*: Chilean lake district. Huechulafquen lake, Villarrica volcano, Osorno volcano. January 2000 (1000 km). Solo trip.
- *5th. trip*: South Coast of Brazil and Uruguay. From Curitiba through BR 101 until Torres (Brazil) and from Chuy until Nueva Palmira (Uruguay) with a recumbent bike. January 2001 (1700 km). Solo trip.
- *6th. trip*: Argentinean Northeast. “Esteros del Iberá”, “Salto del Moconá”, Iguazú falls. July 2001 (1000 km). Solo trip.
- *7th. trip*: Cuyo region. Talampaya, Moon Valley and Las Quijadas NP. January 2002 (1500 km). Solo trip.
- *8th. trip*: Mendoza-Los Andes-Mendoza. Done with a recumbent bike with two researchers from INTEMA to attend to the International Congress SAM-CONAMET 2002 in Santiago de Chile. November 2002 (550 km).
- *9th. trip*: Crossing of the Andes range through “Aguas Negras” pass (4780 m), San Juan, ending up in La Serena (Chile). January 2003 (800 km). Solo trip.
- *10th. trip*: “Camino de Santiago de Compostela”, Spain. Crossing of the Pyrenees following the route of the pilgrims. June 2005 (1000 km). Done with a cyclist friend.

Honors

- Mar del Plata Sportive Ambassador. Ente Municipal de Deportes y Recreación (EMDeR). April 18, 2000.

REFERENCES

- Dr. Gustavo Ferreyra (Institute des Sciences de la Mer de Rimouski - ISMER, Canadá). TE: +1 418 723-1986 (1838). E-mail: gustavo_ferreyra@uqar.qc.ca
- Dra. Silvia Ceré (Universidad Nacional de Mar del Plata). TE: +54 223 481-6600 (244). E-mail: smcere@fi.mdp.edu.ar
- Dra. Susana Rosso de Sánchez (Universidad Nacional de Mar del Plata). TE: +54 223 463-1058. E-mail: lacampana@infovia.com.ar
- Dra. Alicia Durán (Instituto de Cerámica y Vidrio - CSIC, Madrid). TE: +34 91 735-5840 (57). E-mail: aduran@icv.csic.es
- Prof. David Schiffrin (University of Liverpool). TE: +44 151 794-3574. E-mail: schiffrn@liv.ac.uk