

**FRANCISCO GARCÍA LEORO**  
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## RESUME

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Executive leader with 18+ years of expertise in management, business consulting and metrology. Strong communication, critical thinking, professional, analytical, planning, organizational, collaborative, conflict resolution, negotiation and leadership skills. Instrumental in streamlining and improving processes, setting goals, enhancing productivity, and implementing technology solutions.

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## KEY QUALIFICATIONS

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Strategic Planning & Deployment	Team Development Consultancy	Quality Infraestructure
Marketing	QM Systems	Conformity Assessment
Operations Management	Data Collection & Statistics	Metrology

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## WORK EXPERIENCE

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### **COMMON SENSE CONSULTING, Chile**

**April 2017 – Present**

Common Sense Consulting provides consultancy services in the field of Operations Management (including Metrology) and Strategy.

#### **Position: General Manager**

Relevant contracts in the field of Metrology:

- 2018: Ministry of Industry, Trade and Tourism of Fiji. We provided consultancy for the development of a strategy to upgrade their national measurement and calibration capabilities and prepared a detailed plan to implement the strategy. We also documented their management system according to ISO/IEC 17025:2017
- 2017: Instituto Nacional de Normalización, INN, Chile. INN is the National Metrology Institute of Chile and we helped them to develop a strategic plan and operational improvements.
- 2017: Tecnored, Valparaíso, Chile. Tecnored provides electricity generation and technical services. We provided them training on uncertainty evaluation in the calibration of electrical household meters.

### **HC CONSULTORES ASOCIADOS, Chile**

**September 2016 – Present**

HC Asociados is a consulting company that provides services in the field of Operations Integrity, Strategy Definition and Deployment, Organizational Culture and Technology Implementation.

#### **Position: Associated Consultant**

Relevant contracts in the field of Conformity Assessment:

- 2017: Société Générale de Surveillance, SGS, Chile. SGS is a world leading company in the field of testing, verification, inspection and certification services. We provided them consultancy in operational excellence for their chemical laboratory.

**CESMEC S.A., Chile****June 1998 – August 2016**

Private engineering services company with 1200 personnel and annual sales over USD 100 million. CESMEC provides conformity assessment services including metrology, inspection, testing, and certification for a wide range of industries: food, mining, construction, consumer products, and pharmaceuticals. In 2008, it was acquired by the Bureau Veritas Group, which is headquartered in Paris.

**Position: Division Manager. Metrology Division****January 2015 – August 2016**

This business division provides calibration and measurement services to industry to guarantee commercial and production processes. In this role, I am responsible for income and losses, all processes and actions related to the business strategy, operations, trade, sales, human resources management, quality, safety, and the environment.

Annual sales: approx. USD 5 million. Headcount: 100+. Branch offices in Antofagasta, Santiago, Concepción, and Codelco Division “Ministro Hales”.

Main achievements:

- Increased sales for the Concepción and Santiago offices through advertising and consumer behavior analysis activities, allowing the division to maintain its level of income in spite of the mining crisis.
- Continuous service generation and reduction in lead time, generating 20-25% increases in yield.
- Establishment of permanent service contract at Codelco Division “Ministro Hales”.

**Position: Operations Manager. Metrology Division****June 2012 – December 2014**

In this role, I was directly responsible for the development of operational efficiency, administrative back-office processes, cost control, customer complaints management, and design and implementation of new services in collaboration with the Commercial Division Manager. Headcount: 80. Branch offices in Antofagasta, Santiago, and Concepción.

Main achievements:

- Improvement of coordination and accountability among work team members through organizational restructuring.
- Eight percent increase in service profitability based on coordination improvements between operations and commercial areas.
- Creation of a metrological service and consulting methodology focused on process enhancement through improved execution and interpretation of measurements.

**Position: Head of National Mass Laboratory****January 2013 – June 2015****Position: Deputy head of National Mass Laboratory****June 1998 – December 2012**

The National Mass Laboratory is under the administration of CESMEC by presidential decree. My main responsibilities were the following: monitoring technical laboratory activities, implementation of highly accurate measurement methods, operational budget preparation, hiring and training of staff, implementation of laboratory quality management system, and approval of calibration certificates.

Main achievements:

- Obtaining ISO/IEC 17025 accreditation by the *Deutscher Kalibrierdienst*, DKD (now *Deutsche Akkreditierungsstelle GmbH*, DAkkS).
- Obtaining international recognition of the laboratory's measurement capabilities under the Mutual Recognition Agreement of the International Committee for Weights and Measurements (CIPM).

- Successful participation in comparison activities under the Mutual Recognition Agreement of the International Committee for Weights and Measurements (CIPM).

**Position: Head of Volume and Pressure Department, Metrology Division**

**March 2009 – June 2012**

Responsible for supervision, staff training and recruitment, and implementation of laboratory methods.

Main achievements: implementation of pressure laboratory at Concepción office, implementation of highly accurate calibration procedure for determination of liquid volumes and calibration of micropipettes, provision of a business strategy for the Metrology Division.

**Position: Supervisor, Metrology Division**

**June 1998 – March 2009**

Responsibilities: supervision of calibration activities, implementation of highly accurate calibration methods, equipment purchasing budget, personnel hire and training, delivery of courses, and conducting external audits of calibration and testing laboratories.

Main achievements: development and implementation of new calibration services that represented a 5% increase in revenue per year. Obtaining ISO/IEC 17025 accreditation for three laboratories. Design of a computer system for handling instruments received by laboratories and transmitting calibration certification service results obtained in the field. Design and delivery of metrology and statistics courses: measurement uncertainty, mass metrology, and study repeatability and reproducibility.

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## **INTERNATIONAL ACTIVITIES - COMMITTEES**

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**Interamerican Metrology System (SIM)**  
**[www.sim-metrologia.org.br](http://www.sim-metrologia.org.br)**

**March 2005 –December 2014**

The Inter-american Metrology System (SIM) resulted from a broad agreement among national metrology organizations from 34 nations of Organization of American States. SIM was created to promote and support an integrated measurement infrastructure in the Americas which enables each national measurement institute to stimulate innovation, competitiveness, trade, consumer safety and sustainable development by effectively participating in the international metrology community.

**Chair of the Mass and Related Quantities Working Group**

**November 2010 – November 2013**

Responsibilities: Record, coordinate and ensure the efficient implementation of SIM comparisons in mass and related magnitudes, propose guidelines for the execution of comparisons and dissemination of the results through the technical committee of the SIM, review the measurement and calibration capabilities (CMCs) of the members of the SIM and of other regional bodies within the framework of the MRA of the Mutual Recognition Agreement of the International Committee of Weights and Measures (CIPM MRA, [www.bipm.org/en/cipm-mra](http://www.bipm.org/en/cipm-mra)).

Main achievements:

- I increased the number of comparisons within the SIM framework from 3 per year to 6, through the promotion and execution of workshops that allowed us to detect comparison needs and define protocols.
- I organized the first comparison in magnetic properties of mass standards (magnetic susceptibility and polarization) according to International Recommendation 111 of the International Organization of Legal Metrology. This comparison was recognized within the framework of the CIPM MRA (SIM.MM-S9) and will allow to evaluate levels of agreement between National Institutes of Metrology.

### **Delegate to the Quality System Task Force**

**Marzo 2005 – Diciembre 2014**

This group evaluates and approves the implementation of Quality Management Systems of the National Metrology Institutes that belong to SIM. This activities is executed within the framework of the CIPM MRA. I participated in this group as the delegated of the National Institute of Normalization.

Main achievements: To effectively support the process of recognition of the quality management systems of the laboratories that are part of the National Metrology Network: IDIC, DICTUC, ENAER, Fundación Chile and CESMEC.

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## **INTERNATIONAL ACTIVITIES – TECHNICAL COOPERATION**

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Short term expert for the following activities

- 2013: Peer Review of the Quality Management System of the Centro Nacional de Metrología, México, within the framework of the CIPM MRA. The scope of the assessment was Section 4 of ISO/IEC 17025:2005(E), Management Requirements, and Section 4 of ISO GUIDE 34:2009(E), Organization and management requirements.
- 2013: Peer Review of the Quality Management System of the Instituto Nacional de Metrología, Colombia, within the framework of the CIPM MRA. The scope of the assessment was Section 5 of ISO/IEC 17025:2005(E)
- 2012: Assessment of the Quality Management System of the Instituto Ecuatoriano de Normalización, Ecuador. The scope of the assessment was Section 4 and 5 of ISO/IEC 17025:2005(E).
- 2012: Consultancy on business aspects of the Metrology Institute of the Georgian National Agency for Standards, Regulations and Metrology. Georgia, Caucasus. Agency: Physikalisch-Technische Bundesanstalt
- 2008 & 2012: Consultancy on Mass metrology and comparison process within the framework of the CIPM MRA. Caribbean. Agencies: Physikalisch-Technische Bundesanstalt, CROSQ, IADB.
- 2009: Training on mass metrology and determination of magnetic properties of weights and consultancy on international recognition within the CIPM MRA framework. INTN, Paraguay. Agencies: Physikalisch-Technische Bundesanstalt, European Union
- 2007 & 2008: Consultancy service on ISO/IEC 17025 and mass metrology at Instituto Ecuatoriano de Normalización (INEN). Agencies: Physikalisch-Technische Bundesanstalt, European Union
- 2006: Consultancy service on ISO/IEC 17025 and mass metrology at Laboratorio Nacional de Metrología (LANAMET), Nicaragua. Agency: Physikalisch-Technische Bundesanstalt.
- 2006: Consultancy service on ISO/IEC 17025 and mass metrology at Instituto Nacional de Tecnología, Normalización y Metrología (INTN), Paraguay. Agency: Physikalisch-Technische Bundesanstalt.
- 2004: Consultancy service on ISO/IEC 17025 implementation and mass metrology at Instituto Boliviano de Metrología (IBMETRO), Bolivia. Agency: Physikalisch-Technische Bundesanstalt.
- 2004: Consultancy service on ISO/IEC 17025 and mass metrology at Servicio Autónomo Nacional de Normalización, Calidad, Metrología y Reglamentos Técnicos (SENCAMER, Venezuela). Agency: Physikalisch-Technische Bundesanstalt.
- 2002: Consultancy service on ISO/IEC 17025 and mass metrology at Servicio Autónomo Nacional de Normalización, Calidad, Metrología y Reglamentos Técnicos (SENCAMER, Venezuela). Agency: Physikalisch-Technische Bundesanstalt.

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## PUBLICATIONS AND LECTURES IN METROLOGY

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- F García. “Día Internacional de la Metrología” and “Red Nacional de Metrología, como el Eje de Aseguramiento de las Mediciones en Chile”. Seminar Organized by the Instituto Nacional de Normalización (Chilean NMI) to commemorate the International Metrology Day. May 2017
- Quiroga, A. Bermudez, F. Kornblit, F. García, H. Fang, J. Caceres, L. M. Peña, O. Ramos, A. Viaggio and C. Santo. Determination of the magnetic susceptibility and the magnetic polarization of weights by means of the susceptometer method. *Metrologia*, 2016, 53, Tech. Suppl., 07012
- L. Becerra<sup>1</sup>, L. Peña<sup>1</sup>, L. Luján, J. C. Díaz, L. M. Centeno, V Loayza, F Cacaís, O Ramos, S Rodriguez, Fr. Garcia, Fe. Garcia, F. Leyton, C Santo, J Caceres, F Kornblit, J Leiblich and C Jacques. Key Comparison: Final report. SIM comparison in mass standards SIM.M.M-K5, *Metrologia*, 2016, 53, Tech. Suppl., 07011
- Relator en SIM Metrology School. Organizado por National Institute of Standards and Technology, NIST. Maryland, USA.
- F. García. “Administración eficiente de laboratorios en un mundo globalizado”. 3er Congreso Internacional ONAC-ASOSEC, Cartagena, Colombia. Agosto 2012.
- R. Assmann, F. Baerts, P. Calderón, P. Estremadoyro, F. García, R. Riquelme, J. Sato, R. Veas. Calibración en terreno de medidores de caudal tipo Coriolis. Simposio de Metrología 2010, México.
- F. García, R. Neira. Bayesian measurement uncertainty evaluation: a comment about the GUM Supplement 1. Simposio de Metrología 2010, México.
- Francisco García et al, A comparison in conventional mass measurements (SIM.M.M-S3), *Metrologia*, 2011, 48, Tech. Suppl., 07004.
- F. García, M. Bautista, C. Müller-Schöll, R. Ramírez, G. Schröter, A. Florencio, R. Hernández, J. C. Castillo, F. Leyton. A comparison in conventional mass measurements (SIM.M.M-S3). Simposio de Metrología 2010, México.
- F. García et al. Informe de resultados de segunda comparación nacional en calibración de balanzas MB-09 (Chile). Simposio de Metrología 2010, México.
- Francisco García et al, A comparison in conventional mass measurements (SIM.M.M-S3), *Metrologia*, 2011, 48, Tech. Suppl., 07004.
- F. García, J. Fernández, C. Durán, M. Lladser, R. Muñoz, C. Pezoa, E. Riquelme, M. Rojas, J. Sáez. First conventional mass comparison in Chile. Simposio de Metrología 2010, México.
- F. García. Propuesta para la declaración armonizada de CMC en el marco de acreditaciones de laboratorios de calibración de instrumentos de pesaje no automáticos. Simposio de Metrología 2010, México.
- A. Armijos, J. Chavarría, V. Smarçaro da Cunha, F. García. Participación en la Escuela de Verano de Metrología de la Oficina Internacional de Pesas y Medidas BIPM 2008. *INFOSIM*, 2008, p. 31-39.
- F. García, Elías Salazar, Raúl Hernández, Luis Rojas, Haygas Kalustian, Fernando Leyton. “A Comparison in Conventional Mass Measurements Between SENCAMER (Venezuela) and CESMEC-LCPN-M (Chile), *NCSL INTERNATIONAL MEASURE*”, 2, 4, 60-64, 2007.
- R. Chanchay, F. García, R. Hernández, F. Leyton, “A Comparison in Mass Measurement Between INEN (Ecuador) and CESMEC-LCPN-M (Chile), *NCSL INTERNATIONAL MEASURE*”, 2, 2, 38-40, 2007.
- J. Nava, L.O. Becerra, T. Mitchell, M. Sanz, O. Ramos, S. Rodríguez, G. Vallejos, M. Bautista, F. García, F. Leyton, A. Quiroga, J.G. Rodríguez, R. Ramírez, A. Florencio, “Interlaboratory Mass Comparison Between Laboratories Belonging to Sim-Sub Regions Coordinated by CENAM (SIM 7.3.1a & SIM 7.3.1b)”, Simposio de Metrología 2006 Proceedings, Querétaro, México, 2006.
- F. García, R. Chanchay, F. Leyton, M. Passarino, G. Vallejos, “1 kg Comparison in Mass SIM/ANDIMET/SURAMET”, Proceeding of the 2005 NCSL International Workshop and Symposium, Washington, USA, 2005.
- García, F. “Metrología...¿Para qué?” *Revista Certificación*. 2004
- García, F. “Metrología y comercio”. Workshop “Mejora de la calidad en la cadena productiva forestal-maderera”. Temuco. Physikalisch-Technische Bundesanstalt. 2004

- García, F. "Estado actual del Laboratorio Nacional de Masa". IV Seminario de Metrología Industrial. Instituto Nacional de Normalización (INN) – Universidad Católica del Norte. 2001
- García, F., "Calibración de Micropipetas". Segundo Congreso Internacional METROCAL 2001. Asociación Chilena de Metrología - Universidad de Concepción. 2001
- García, F., "Las ventajas del uso de la masa convencional". Segundo Congreso Internacional METROCAL 2001, Asociación Chilena de Metrología - Universidad de Concepción. 2001
- García, F., Chuaqui, H., Soto, L., "Determinación de la eficiencia de difracción de materiales de registro holográfico en una sola exposición". Actas del Simposio de Física Experimental y Aplicada (FEXAP '98), Universidad de Santiago de Chile. 1998

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## EDUCATION

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2012: MBA, ESE Business School. *Universidad de los Andes*. Santiago, Chile.  
1997: *Licenciado en Física*. *Pontificia Universidad Católica de Chile*. Santiago, Chile.  
1991: Secondary education: *Centro Educativo Nuevo Mundo*. Guayaquil, Ecuador.

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## OTHER INFORMATION

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- Member of the American Society for Quality.
- Adjunct Professor at the School of Chemical and Pharmaceutical Sciences. Universidad de Chile (2008 – Present)
- R programming skills.
- Languages: Spanish and English (fluid)
- Hobbies: Photography, swimming and reading.