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HENRY ALFARO ROJAS

MGP, PMP, IMC_ Civil Engineer

Civil Engineer with more than 25 years of experience in construction and project management. Certified in modern methodologies including PMP, MGP, IMC, Scrum, and Transformational Leadership. He has led major projects in both the public and private sectors, including serving as Project Manager at the Costa Rican Social Protection Board (Junta de Protección Social) and General Manager of ICP Industria Constructora del País S.A. Since 1999, he has also held various public-sector positions, including Mayor of Grecia and Executive President of the Costa Rican Institute of Municipal Development and Advisory Services (IFAM). He has also participated in engineering projects related to water treatment systems and hydroelectric developments.

ACADEMIC BACKGROUND

- **[2017]** Specialization in Construction Management, Panama, Alajuela, Texas, INCAE.
- **[2010–2013]** Master's Degree in Project Management, with emphasis in Construction Projects, Instituto Tecnológico de Costa Rica.
- **[1990–1995]** Licentiate Degree in Civil Engineering, Universidad de Costa Rica.

PROFESSIONAL DEVELOPMENT

- **[2023]** In Corporation — Transformational Leadership.
- **[2023]** CCC — Real Estate Project Structuring.
- **[2023]** PRANA, Colombia — Talent Management Certification Program.
- **[2023]** CFIA — Accreditation for the Agricultural Engineering and Biosystems Engineering Program, Universidad Latina, Inglés Técnico B1+.
- **[2023]** Cámara de Comercio de Costa Rica — Leadership in Agility for Business, International Certification.
- **[2022]** Proyectum CR — Agile Scrum Master Discipline Workshop, DASMPMI.
- **[2022]** Proyectum CR — Preparation for the IMC Certification.
- **[2022]** CCC — Technical Aspects of the Regulations of the New Public Procurement Law.
- **[2022]** CCC — Implementation of the New General Public Procurement Law.
- **[2021]** CCC — Public Procurement Law and Tools for New Government Contracts.
- **[2020]** BIM Bolivia and Bentley Institute — Planning and Simulation and BIM 4D Applied to Buildings.
- **[2020]** PMLA Project Management Latin America — Certified Scrum Master Professional.
- **[2020]** BIM Bolivia — Project Management through BIM.

PROFESSIONAL EXPERIENCE

- **[2022–Present]** Project Manager, “Casa Nueva” Project, Junta de Protección Social.
- **[2017–2018]** Construction Consultant, UEP, Costa Rica Institute of Sport and Recreation (ICODER), responsible for projects including the Parque de la Paz Velodrome and María Milagro París Central Aquatic Center.
- **[2018]** Construction Manager, Group 8 “Guanacaste” Works, projects under the MBC-BID Trust Fund.
- **[1999–Present]** General Manager, ICP Industria Constructora del País S.A.
- **[2007–2011]** Director of Projects, Constructiva Ltda.
- **[2007–2010]** President, Consorcio Ferretero Ferremax S.A.; currently serves as Fiscal.
- **[2000–Present]** Self-employed professional, INCOPAAS Ferretería S.A., member of the Board of Directors.
- **[1998–1999]** Senior Executive and First Mayor, Municipality of Grecia.
- **[1997–1998]** Municipal Engineer, Municipality of Garabito.
- **[1996–1998]** Construction Manager, self-employed Civil Engineer.

TEACHING EXPERIENCE

- **[1995–1996]** Universidad Latina de Costa Rica — Professor of Physics I for Civil Engineering students.
- **[1994]** Professor of Physics, Colegio Yorkín.
- **[1993–1994]** Assistant, BELL Ingeniería.
- **[1993–1994]** Assistant, Sustainable Urban Development Program, Universidad de Costa Rica.
- **[1992–1995]** Teaching Assistant for Differential and Integral Calculus and Numerical Equations, Universidad de Costa Rica.



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RASHID SAUMA RUIZ

M. Sc_Architect

Architect and representative of the Costa Rican Chamber of Construction, with extensive professional, academic, and industry experience and a background in structural engineering, interior design, and project management. He has more than 25 years of experience in design, construction, and consulting for professional projects in Costa Rica and abroad. In academia, he has served as a professor and tutor at the School of Architecture of Universidad Véritas, teaching courses related to structures, construction systems, and design workshops, in addition to developing research activities. He has held leadership positions within the CFIA, the College of Architects of Costa Rica, and the Costa Rican Chamber of Construction, complementing his career with ongoing professional and institutional development.

ACADEMIC BACKGROUND

- **[2002–2003]** Master's Degree in Architectural Structures, Universitat Politècnica de Catalunya, Barcelona.
- **[1994–1999]** Architect, Universidad Véritas.
- **[2000–2002]** Postgraduate studies in Interior Design and Project Information Technology, Universitat Politècnica de Catalunya.

PROFESSIONAL EXPERIENCE

- **[2017–Present]** Founder, Sauma Arquitectos S.A.
- **[2005–2016]** Founding Partner, Argüello Ruiz Sauma Arquitectos Ingenieros S.A.
- **[2007–2009]** Technical Director, CR Futura Developments S.A.
- **Since 2000** — Participation in projects totaling more than 250,000 m² of design work in Costa Rica.
- **[2000–2002]** Head, Urban Development Department, Municipality of Escazú.
- **Since 2017** — Design and engineering office, Sauma Arquitectos S.A.
- **[2005–2014]** Co-founder, Argüello Ruiz Sauma Arquitectos.
- **[2015–2019]** President, Technical Committee of the Costa Rican Chamber of Construction; member of the organization's Board of Directors.

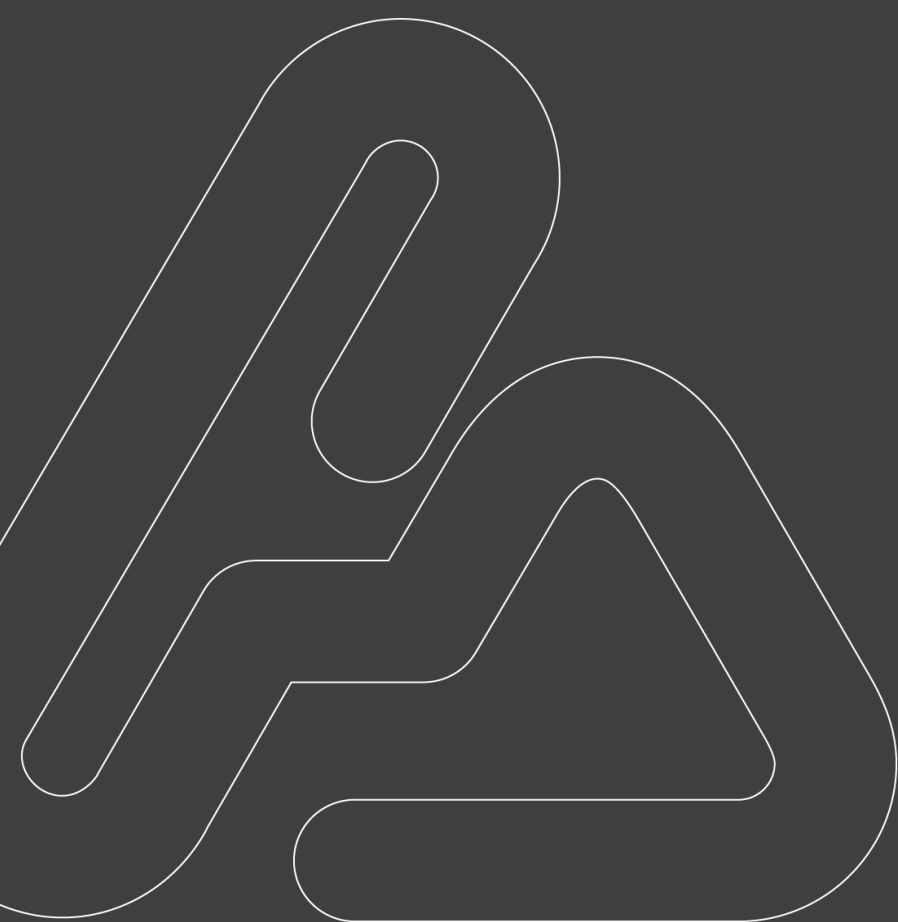
PROFESSIONAL DEVELOPMENT

- **[2019]** PC CAD.
- **[2002–2003]** Reinforced Concrete ("FFH") courses; final graduation project.
- **[2003–2004]** Professional courses and seminars.

TEACHING EXPERIENCE

- **[2005–2014]** Universidad Véritas — Professor, Architecture Program.
- **[2005–2017]** Co-founder, Argüello Ruiz Sauma Arquitectos S.A.
- **[2009–2014]** Universidad Véritas — Professor, Structures and Construction.
- **[2000–2002]** Universidad Véritas — Professor, Interior Design Program.
- **[2005–2014]** Universidad Véritas — Professor, "Complex Structures" Design Studio.
- **[1988–1992]** Tutor on more than 50 academic projects.

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JOSÉ PABLO AGUIAR MOYA

Ph.D_ Civil Engineer

Civil Engineer specializing in transportation engineering, with a Ph.D. from The University of Texas at Austin and a distinguished academic career spanning more than 15 years at Universidad de Costa Rica. His experience includes teaching, research, and academic administration, having served as Associate Professor and Associate Dean of Universidad Fidélitas, as well as Professor and Associate Professor at Universidad de Costa Rica and Visiting Professor at Instituto Tecnológico de Costa Rica. He has led international projects such as Erasmus+ and Horizon 2020. He has participated actively in geotechnical and pavement engineering projects. His expertise includes geometric and structural pavement design, materials analysis, pavement modeling and reliability, transportation engineering, both at the national level and in international professional and academic environments, and Building Information Modeling (BIM) as a researcher at LANAMME-UCR.

ACADEMIC BACKGROUND

- **[1999–2004]** Universidad de Costa Rica — Licentiate Degree in Civil Engineering, graduating with honors.
- **[2005–2007]** The University of Texas at Austin — M.S.C.E. in Civil Engineering – Transportation.
- **[2007–2011]** The University of Texas at Austin — Ph.D. in Engineering – Transportation.

PROFESSIONAL EXPERIENCE

- **[2024]** External Advisor, IDOM.
- **[2011–2021]** LANAMME, Universidad de Costa Rica, San José — Researcher, Materials and Pavements Unit, PITRA – Transportation Infrastructure Program.

TEACHING EXPERIENCE

- **[2021–Present]** School of Civil Engineering, Universidad Fidélitas, San José, Costa Rica — Associate Dean and Associate Professor.
- **[2014–Present]** School of Civil Engineering, Universidad de Costa Rica, San José, Costa Rica — Associate Professor.
- **[2024–Present]** Master's Program in Road Engineering, Instituto Tecnológico de Costa Rica, San José, Costa Rica — Visiting Professor.
- **[2005–2011]** The University of Texas at Austin, Austin, Texas — Research Assistant.
- **[2004–2005]** LANAMME, Universidad de Costa Rica, San José, Costa Rica — Junior Researcher and Undergraduate Research Assistant.

PUBLICATIONS

- **[2024]** Aguiar-Moya, J.P. *Workshop 5011: Latin America: Sustainability Aspects of Flexible Pavements Binders*, Comité AKM20, TRB, Academia Nacional de Ciencias, USA.
- **[2023]** Villegas-Villegas, R.E., Velásquez-Garnica, S.B., Velásquez-Garnica, P., Velásquez-Garnica, S., Velásquez-Capirola, B., Aguiar-Moya, J.P., Quirós-Vargas, R., Apestegui-Arias, J. *Six Sigma Production Implementation of PET-Modified HMA – A Latin American Case Study*. Journal of Testing and Evaluation, 50(5), 1–24.
- **[2022]** Chávez Arévalo, P.O., Tobón Cruz, O.A., Aguiar Moya, J.P., Cerda Hernández, O.N. *Modelo para predicción del contenido óptimo de asfalto en mezclas asfálticas de Centroamérica*. Congreso Ibero-Latinoamericano del Asfalto, CILA XXI.
- **[2022]** Estrada Escalante, V.R., Escalante Zegarra, J.R., Aguiar Moya, J.P., Herrera Pérez, W. *Análisis de desempeño de mezclas asfálticas densas tibias (HMA) producidas con distintos aditivos*. Congreso Ibero-Latinoamericano del Asfalto, CILA XXI.



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DOMINGO ERNESTO DELGADO MARTÍNEZ

Dr_ Geological / Civil Engineer

Geological Engineer, Civil Engineer, and Doctor of Technical Sciences, with more than 30 years of academic and professional experience in geotechnical engineering, pavements, and highways. He has worked in Cuba and Costa Rica as a university lecturer, researcher, consultant, and technical manager, holding senior positions including Full Professor, Academic Vice-Rector, and Manager of Geotechnical Engineering. He has led numerous geotechnical, road, and transportation engineering studies and projects and has conducted more than a decade of scientific research on soil mechanics, slope stability, and road safety. He is proficient in specialized software including AutoCAD Civil 3D, Plaxis, GEO5, and others, and has extensive experience in the design of foundations, retaining walls, pavements, and supervision of roadway construction projects.

ACADEMIC BACKGROUND

- **[2005]** Civil Engineer, Universidad Central “Marta Abreu” de Las Villas, Cuba.
- **[2003]** Doctor of Technical Sciences, Universidad Central “Marta Abreu” de Las Villas, Cuba.
- **[1999]** Master’s Degree in Geological Sciences, specialization in Geotechnical Engineering, Instituto Superior Minero Metalúrgico de Moa, Cuba.
- **[1990]** Geological Mining Engineer, with a Master of Science in Geology, Instituto Estatal de Minas de San Petersburgo, Russia.

PROFESSIONAL EXPERIENCE

- **[1990–1995]** Department of Geological Engineering, Empresa de Investigaciones y Proyectos Hidráulicos de Villa Clara (E.I.P.H.-V.C.) — Research Institute of Hydraulic Resources, Cuba.
- **[1995–1999]** Department of Construction, Faculty of Technical Sciences, Universidad Central “Félix Varela” de Villa Clara, Cuba.
- **[1999–2011]** Department of Civil Engineering, Faculty of Construction, Universidad Central de Las Villas (UCLV), Cuba.
- **[2011–Present]** Compañía Asesora de Construcción e Ingeniería, S.A. (CACISA) — Accredited under INTE-ISO/IEC 17025:2005, INTE-ISO/IEC 17020:2012, and ISO 9001:2015, Costa Rica.
- **[Present]** Consultant for technical projects and services.

TEACHING EXPERIENCE

- **[2014–Present]** Universidad Latina de Costa Rica — Academic Director, School of Civil Engineering, San Pedro Campus; professor, researcher, and undergraduate thesis advisor and examination committee member.

PUBLICATIONS

- **[2017]** *Análisis de la estabilidad de taludes en suelos y rocas blandas. Caso de estudio: taludes de la RN 856, Costa Rica.* Published in the proceedings of the XI International Symposium on Structures and Geotechnics, Universidad Central de Las Villas.
- **[2019]** *Estabilidad y probabilidad de falla en taludes de Costa Rica.* Published in the proceedings of the XII International Symposium on Structures and Geotechnics, Universidad Central de Las Villas.
- **[2020]** *Probabilistic Analysis of Slope Stability in Soils and Soft Rocks.* Published in the 5th International Conference on Geotechnical Research and Engineering (ICGRE’20), Toronto, Canada.
- **[2021]** *Modelos de velocidad de operación de carreteras rurales en terreno llano en Costa Rica.* Enfoque UTE, 12(2), 52–68.
- **[2022]** *Experiencias en el diseño y construcción de muros de suelo reforzado. Caso de estudio RN 2 en Costa Rica.* II Seminario de Reparación y Restauración de Taludes 2022.
- **[2023]** *Desarrollo de modelos de velocidad de operación de carreteras en terreno llano en Costa Rica.* Revista Ingeniería Investigación y Tecnología, Vol. XXIV, No. 4, October–December 2023, pp. 1–10.



MARIANELA MORA VALENCIANO

MAG_ Architect

Architect, lecturer, researcher, and feminist. She currently teaches at Universidad Véritas and the School of Architecture at Universidad Latina, where she serves as Research Area Co-Coordinator. She is a member of the Final Graduation Projects Committee and has served as a graduate thesis advisor and examination committee member. She is the author of several articles and the book *Arquitectas de Costa Rica, sus visiones y aportes* (2021). She also serves as Research Coordinator of the Equality and Gender Commission of the College of Architects of Costa Rica. Her professional practice has focused on architectural design, construction, renovation, and the development of residential projects, apartment buildings, and commercial spaces, among others.



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ACADEMIC BACKGROUND

- **[2021]** International Professional Master's Degree in Landscape and Building Design, Escuela de Posgrado de Ingeniería y Arquitectura, Spain.
- **[2009]** Licentiate Degree in Architecture, Universidad de Costa Rica.

PROFESSIONAL EXPERIENCE

- **[2024]** Universidad Latina de Costa Rica, School of Architecture — Research Area Co-Coordinator.
- **[2019–2024]** Universidad Latina de Costa Rica, School of Architecture — Research Area Coordinator.
- **[2009–Present]** Independent professional practice in the design and construction of projects of small and medium scale.

TEACHING EXPERIENCE

- **[2017–2018]** Universidad Latina de Costa Rica — University Lecturer.
- **[2019–2021]** Universidad Latina de Costa Rica — University Lecturer.
- **[2021–2024]** Universidad Latina de Costa Rica — Adjunct Lecturer.
- **[2022–Present]** Universidad Véritas — University Lecturer.
- **[2024–Present]** Universidad Latina de Costa Rica — Adjunct Lecturer and Researcher.

PUBLICATIONS

- “Breve genealogía de las arquitectas en Costa Rica: una reconstrucción.” 2023, pp. 10–63. *I Congreso: género*. DOI: 10.46925/4GCA2023.2023.16816. Contributor: Marianela Mora Valeriano.
- *Arquitectas de Costa Rica* — Collection of architecture projects from Costa Rica, 2022. Book. Conceptualization, research, writing, review, and editing. ISBN: 978-9968-933-21-6. Contributor: Marianela Mora Valeriano.
- “Mapas mentales como herramienta para conceptualizar un proyecto arquitectónico en el Taller de Diseño. Innovar y transformar desde las disciplinas 2022.” Book chapter. Writing – original draft, Part I. ISBN: 978-956-19-1251-9. Contributor: Marianela Mora Valeriano.
- “Reinventando/repensando el espacio público.” *Revista Vivienda y Ciudad*. ISSN 2422-670X (2021-12-21). Journal article.





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ENMANUEL SALAZAR CECILIANO

MAG_ Architect

Architect with extensive experience and academic training in bioclimatic architecture and architectural education. She has participated in international conferences on architectural heritage, sustainable construction, and education, and currently serves as Academic Coordinator and Professor at the Instituto Tecnológico de Costa Rica. She has also served as a speaker and moderator at several international conferences. Her professional work integrates architecture, sustainability, and education, and she currently coordinates specialized academic programs and teaches at the Instituto Tecnológico de Costa Rica.

ACADEMIC BACKGROUND

- **[2019–2021]** Universidad de Colima, Mexico & Isthmus Panama — Master's Degree in Bioclimatic Architecture.
- **[2020]** Isthmus Panama — Diploma in Architectural Design and Calculation for Bioclimatic Design.
- **[2019]** Fundación Universidad de Salamanca — Diploma in Teaching for University Architecture Education.
- **[2008–2014]** Escuela de Arquitectura y Urbanismo, TEC — Licentiate Degree in Architecture (SINAES-accredited program).

PROFESSIONAL EXPERIENCE

- **[2017–2019]** International Center for Heritage Conservation (CICOP), Costa Rica — President.
- **[2015–Present]** Independent Architect.
- **[2012–2017]** International Center for Heritage Conservation (CICOP), Costa Rica — Founder and Fiscal.
- **[2012–2014]** TEC Team — Co-Project Architect / Urban Designer / Community Manager for the Tropika Project.

TEACHING EXPERIENCE

- **[2022–Present]** Instituto Tecnológico de Costa Rica — Coordinator, Specialized Programs in Architecture and Urbanism.
- **[2022–Present]** Instituto Tecnológico de Costa Rica — Professor, Master's Degree in Sustainable Construction.
- **[2017–Present]** Instituto Tecnológico de Costa Rica — Professor and Researcher, School of Architecture and Urbanism.
- **[2016–Present]** Fundación Tecnológica de Costa Rica (FUNDATEC) — Professor, Bioclimatic Design and Engineering Design Technician Program.

PUBLICATIONS

- **[2025]** *Identification of Monitoring Variables' Impact Ranges for the National Theater of Costa Rica's Digital Twin*. Collaboration. Springer Nature.
- **[2023]** *Gemelo digital en edificios patrimoniales y la evolución de este concepto en la producción científica*. Collaboration. Revista Tecnología en Marcha.
- **[2023]** *El acercamiento al cliente como estrategia pedagógica en los cursos de arquitectura*. Collaboration. Revista Tecnología en Marcha.
- **[2021]** Libro *"Inventario de edificaciones de arquitectura caribeña costarricense en la ciudad de Limón"*. Collaboration. Editorial Tecnológica de Costa Rica.
- **[2021]** Chapter *"Prospección de la producción científica sobre los modelos HBIM y conservación programada"*. Collaboration. *Modelos digitales de información en la tutela sostenible del patrimonio cultural. Contribución al conocimiento e innovación social*. Sevilla: Editorial Universidad de Sevilla (Colección Arquitectura, No. 44).



MANUEL MORALES ALPÍZAR

Dr._ Architect

Architect and Doctor of Education. Since 2003, he has worked as a project director and architectural consultant, specializing in urban planning, housing, human settlements, sustainable development, and public policy. He has led more than 200 architectural and urban planning projects, served as an academic and research director, and actively promoted pedagogical approaches to housing, the right to the city, public space, and territorial development. He has also served as a lecturer, researcher, and university administrator.



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ACADEMIC BACKGROUND

- **[2017]** Doctorate in Education, with an emphasis in Pedagogical Mediation, Universidad de La Salle.
- **[2003]** Licentiate Degree in Architecture, Universidad de Costa Rica.

PROFESSIONAL EXPERIENCE

- **[2022–Present]** Director General of Housing and Human Settlements and Coordinator of the Technical Secretariat for Housing and Territorial Development, Office of the Minister, Ministry of Housing and Human Settlements (MIVAH).
- **[2002–2022]** Consultant in urban planning and design, housing and human settlements, community management, territorial management, and sustainable development.
- **[2003–2023]** Consultant and Advisor on architectural projects, Simbiosis Arquitectura.



TEACHING EXPERIENCE

- **[2007–Present]** Universidad de Costa Rica — University Professor, Director of Research and Extension Projects, and Academic Administrator.



GUSTAVO NÚÑEZ SEGURA

Dr._ Electrical Engineer

Electrical Engineer specializing in electronics and telecommunications, with a Doctorate in Computer Engineering from the University of São Paulo, where he also earned a master's degree in the same field. He currently serves as Director of the Department of Electronics and Telecommunications and as a professor at the University of Costa Rica. He also has experience as a university lecturer at several institutions. His academic background includes specialization in areas such as cybersecurity, the Internet of Things, and applied research. He has participated in various research projects related to telecommunications systems and technologies, and has published in international journals. His work focuses on electrical engineering and applied computing..



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ACADEMIC BACKGROUND

- **[Present]** Licentiate Degree in University Teaching, Universidad de Costa Rica (UCR).
- **[2013]** Doctorate in Sciences, Department of Electrical Engineering, specialization in Computer Engineering, Universidade de São Paulo.
- **[2004]** Master's Degree in Sciences, Department of Electrical Engineering, specialization in Computer Engineering, Universidade de São Paulo.
- **[1996]** Bachelor's Degree in Electrical Engineering, with emphasis in Electronics and Telecommunications, Universidad de Costa Rica (UCR).

PROFESSIONAL EXPERIENCE

- **[2025–Present]** Director, Department of Electronics and Telecommunications.
- **[2013–2014]** Electrical Engineer.
- **[2019–2024]** Participation in professional consulting projects.

TEACHING EXPERIENCE

- **[2024–Present]** Associate Professor, Department of Electronics and Telecommunications.
- **[2022–2024]** Invited Professor, Department of Electronics and Telecommunications.
- **[2023]** Professor, Professional Master's Program in Cybersecurity.
- **[2018–2020]** Professor, Master's Program in Internet of Things.
- **[2014–2016]** University Lecturer.
- **[2019–Present]** Participation in research projects.

PUBLICATIONS

- **[2021]** Gustavo A. Nunez Segura, Arsenia Chorti, Cintia B. Margi. *Centralized and Distributed Intrusion Detection for Resource-Constrained Wireless SDN Networks*. IEEE Internet of Things Journal, 2021.
- **[2021]** Gustavo A. Nunez Segura and Cintia B. Margi. *Centralized Energy Prediction in Wireless Sensor Networks Leveraged by Software-Defined Networking*. Energies, 2021, 14(17), 5379.
- **[2020]** Gustavo A. Nunez Segura, Arsenia Chorti, Cintia B. Margi. *Multimetric Online Intrusion Detection in Software-Defined Wireless Sensor Networks*. IEEE Latin-American Conference on Communications (LATINCOM), Santo Domingo, Dominican Republic, 2020, pp. 1–6.
- **[2019]** Renan C. A. Alves, Doriedson A. G. Oliveira, Gustavo A. Nunez Segura, Cintia B. Margi. *The Cost of Software-Defining Things: A Scalability Study of Software-Defined Sensor Networks*. IEEE Access, Vol. 7, pp. 115093–115108, 2019.





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IGNACIO DEL VALLE GRANADOS

M.Sc._ Mechanical Engineer

Mechanical Engineer with a strong academic background, including a Licentiate Degree in Mechanical Engineering from Universidad de Costa Rica, a Master's Degree in Energy Planning from Universidad de Costa Rica, and a Master's Degree in Generation and Energy Efficiency Management from Universidad de Cádiz. He has more than 25 years of professional experience as a consultant and designer of mechanical systems for industrial, commercial, institutional, and residential buildings. He has held management positions in several companies and served on boards of directors of professional organizations, including ACIMA and the Federated College of Engineers and Architects of Costa Rica (CFIA). He has been a university professor since 1995 at institutions including ITCR and Universidad Latinoamericana de Ciencia y Tecnología, teaching courses in thermodynamics, turbomachinery, ventilation, and air conditioning. He is the author of more than 20 technical articles on energy efficiency, maintenance, and air-conditioning system design published in specialized journals.

ACADEMIC BACKGROUND

- **[2015]** Master's Degree in Generation and Energy Efficiency Management, Universidad de Cádiz.
- **[2003]** Master's Degree in Electromechanical Engineering, with emphasis in Energy Management, Instituto Tecnológico de Costa Rica.
- **[1996]** Licentiate Degree in Mechanical Engineering, Universidad de Costa Rica.

PROFESSIONAL EXPERIENCE

- **[1998–Present]** Consultant in Mechanical Systems for Buildings, independent Mechanical Engineer.
- **[2004–2022]** Professional Engineering Corporation C.P.I. S.A. — Partner and Mechanical Engineer.
- **[2003–2006]** Multifrío S.A. — Project Manager.
- **[1999–2003]** A.F. Constructora S.A. — Operations Manager.
- **[1997–1999]** Instalaciones Electromecánicas I.E. de Costa Rica S.A. — General Maintenance Manager.
- **[1995–1996]** SIBAC S.A. — Maintenance Supervisor.
- **[1993–1994]** Dinámica de Fluidos S.A. — Research Assistant.

TEACHING EXPERIENCE

- **Instituto Tecnológico de Costa Rica**
 - **[2006–Present]** School of Electromechanical Engineering — Courses in Turbomachinery, Thermodynamics, Refrigeration, Air Conditioning, and Industrial Ventilation.
 - **[2004–Present]** Master's Program in Energy Management — Course: Advanced Energy Management.
 - **[1998–Present]** School of Occupational Safety and Environmental Hygiene Engineering — Course: Chemical Agents Control.
- **[1995–2007]** Universidad Latinoamericana de Ciencia y Tecnología — Professor of various engineering courses.

PUBLICATIONS

- **[2011]** *Refrigeration: A Contradiction of Thermodynamics?* Mantenimiento, No. 75.
- **[2010]** *Piping System Design for a Refrigeration Plant Due to Mechanical Friction.* Mantenimiento, No. 74.
- **[2010]** *Adequate Support Location for Piping in Air-Conditioning Systems.* Mantenimiento, No. 73.
- **[2010]** *Maintenance of Condenser Fins.* Mantenimiento, No. 72.
- **[2010]** *Selection of Material for Ducts in an Air-Conditioning System.* Mantenimiento, No. 71.
- **[2010]** *COP and Energy Efficiency Index in Air-Conditioning Equipment (COP and EER).* Mantenimiento, No. 70.
- **[2010]** *Area Load Factor: An Indicator of Energy Consumption in Air-Conditioning Systems.* Mantenimiento, No. 69.



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DANIEL ACUÑA ORTEGA

Surveying Engineer

Surveying Engineer with more than 30 years of professional experience, including participation in the Judicial Branch as a Court-Appointed Expert in Surveying and Land Registration. He has completed more than 20 years of professional development through activities, courses, and technical training in topography, photogrammetry, forensic surveying, and road accident investigation in Costa Rica. He has also served on technical committees and professional boards. His professional career is complemented by a strong academic background that includes a Licentiate Degree in Surveying Engineering, studies in metrology and geospatial surveying, and continuous training in geographic information systems, assessment and control of drones, surveying, road safety, and publications related to engineering, cadastre, and road accident investigation, demonstrating a strong commitment to professional education and continuous improvement in his field.

ACADEMIC BACKGROUND

- **[2017–Present]** Universidad de Costa Rica — Student, Bachelor's Degree Program in English.
- **[2013]** Universidad Nacional, Environmental Metrology Program (PROMEA), School of Chemistry — University Degree in Metrology.
- **[2004]** Universidad Nacional — Licentiate Degree in Surveying and Geodesy Engineering.
- **[1996]** Universidad de Costa Rica — Bachelor's Degree in Surveying.
- **[1988]** Universidad de Costa Rica — Diploma in Surveying.

PROFESSIONAL EXPERIENCE

- **[2013–Present]** Independent Professional Practice in Surveying — Surveying, Topography, Cadastre, and Forensic Investigation. Member of the Court of Honor of the Federated College of Engineers and Architects of Costa Rica (CFIA).
- **[1996–2012]** Department of Forensic Sciences, Judicial Investigation Agency (OIJ) — Forensic Surveyor; Road Accident Investigation.
- **[2010]** National Registry, Photogrammetry Section.
- **[1988–1996]** Aqueducts and Sewer Systems Administration (AyA) — Surveyor.
- **[1982–1988]** Aqueducts and Sewer Systems Administration (AyA) — Surveying Assistant.

PUBLICATIONS

- **[2023]** *Road Accident Investigation. A Perspective on Traffic Accidents.* Published 06/2023, category: Applied Sciences. ISBN: 978-9977-65-708-0. Keywords: expert investigation, road accident investigation, surveying, criminalistics, forensics.
- **[2016]** *Regularización de planos en Costa Rica.* Revista del CFIA, No. 267, 2016, p. 37.
- **[2016]** *Ingeniería topográfica en evolución.* Revista del CFIA, No. 266, 2016, p. 16.
- **[2015]** *Ley para mejorar la administración territorial.* Revista Azimuth, ISSN 1659-2948, No. 28, 2015, pp. 18–21.
- **[2010]** Editorial EUNA, Universidad Nacional, Heredia. *Planimetría Forense: Detalles de cómo realizar levantamientos forenses con técnicas sencillas.* ISBN-13: 978-9977-651-43.



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JUAN PABLO ARIAS CARTÍN

M. Eng. Industrial Engineer

Industrial Engineer specializing in fluid and gas systems and industrial processes, with extensive experience in industrial consulting, auditing, and regulation, particularly in the national energy sector. With more than a decade of leadership experience in energy-sector regulation and professional practice, he has also served since 2008 as a university lecturer and researcher at institutions including Instituto Tecnológico de Costa Rica, UNED, ULACIT, and USAM, teaching in areas such as electromechanics, industrial engineering, business administration, and maintenance and operations management. He has also participated in research and technical training activities on NFPA, ISO, ASME, occupational health, industrial standardization, and regulations governing the energy and hydrocarbon sectors.

ACADEMIC BACKGROUND

- **[Before 2010]** Master's Degree in Modern Manufacturing Systems, emphasis in Materials Management, Instituto Tecnológico de Costa Rica.
- **[Before 2010]** Licentiate Degree in Industrial Maintenance Engineering, Instituto Tecnológico de Costa Rica. Thesis: TE 5039.
- **[Before 2010]** Bachelor's Degree in Electromechanical Engineering, Universidad Internacional de las Américas.
- **[Before 2010]** **Bachelor's and Licentiate Degrees in Industrial Maintenance Engineering**, Instituto Tecnológico de Costa Rica.

PROFESSIONAL EXPERIENCE

- **[March 2012–Present]** Consulting Manager, Professional Energy and Transportation Management, Ltda.
- **[October 2005–March 2012]** Head of Plant and Head of Distribution; Head of Transportation and Maintenance Safety, RECOPE S.A., Costa Rica.
- **[March 2003–October 2005]** Head of Carburation and Transportation – Gas Agency, Nacional Z Gas S.A.
- **[November 2001–March 2003]** Head of Maintenance, Levis, La Lima Free Trade Zone.

PROFESSIONAL DEVELOPMENT

- **2025:** NFPA Conference & Expo, Las Vegas, Nevada.
- **2025:** *Valuation of Machinery for Industry and Construction*, San José.
- **2024:** CFIA BIM – COM CFIA, San José.
- **2024:** CICR International Administrative Contracting Program, San José.
- **2024:** CICR Leadership and Administration, Cartagena.
- **2024:** NFPA Conference & Expo, Orlando, Florida.
- **2024:** *Engineering Zero Congress*, Expoquimia, Lima, Peru.
- **2023:** CICR *Lean Power BI and SQL*, San José.
- **2023:** CIIEMI Seminar on Life Safety and Fire Protection Systems.
- **2023:** *Talent Incorporated*, ODS and Desarrollo.
- **2023:** NFPA Conference & Expo, Las Vegas.
- **2023:** NFPA 101, Fundamentals of Human Security.
- **2023:** NFPA 13, Standard for the Installation of Sprinkler Systems.
- **2022:** NFPA 58, Liquefied Petroleum Gas Code.
- **2022:** NFPA 13, Automatic Fire Sprinkler Systems.
- **2022:** NFPA Fundamentals of Industrial Safety.
- **2021:** ASME Course — Design of Gas Installations, Lima, Peru.
- **2020:** API 510 — Standard for the Inspection, Alteration, and Repair of Pressure Vessels, Lima, Peru.
- **2020:** NFPA 10 — Standard for Portable Fire Extinguishers.

TEACHING EXPERIENCE

- **[2013–Present]** Instituto Tecnológico de Costa Rica, Cartago.
- **[2013–Present]** Universidad Estatal a Distancia (UNED), San José.
- **[2012–2017]** ULACIT, San José.
- **[2008–2012]** USAM, San José.



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CARLOS LUIS ESPINOZA GUTIÉRREZ

Industrial Production Engineer

Industrial Production Engineer with a Master's Degree in Business Administration from Instituto Tecnológico de Costa Rica, specializing in Project Evaluation. He has served for more than 40 years as a university professor at TEC, where he has held positions including Dean, Founder of academic programs, Program Coordinator, and member of various academic and institutional governing bodies. He has also worked as an investment project evaluator and international peer reviewer, with experience in curriculum evaluation, manufacturing systems, investment analysis, and quality management. He is the author of books and academic articles and has extensive involvement in research projects and technical training at public and private institutions.

ACADEMIC BACKGROUND

- Industrial Production Engineer, Instituto Tecnológico de Costa Rica (TEC).
- Master's Degree in Business Administration, Instituto Tecnológico de Costa Rica.
- Specialization in Project Preparation and Evaluation, Pontificia Universidad Católica de Chile.
- Master's-level coursework in Manufacturing Systems, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Mexico.

TEACHING AND PROFESSIONAL EXPERIENCE

- Professor, School of Industrial Production Engineering, Instituto Tecnológico de Costa Rica — More than 40 years of teaching experience.
- Speaker at International Conferences and Congresses on Investment Project Evaluation.
- Founding Coordinator, Master's Program in Modern Manufacturing Systems.
- Founding Member, Fundación Tecnológico de Costa Rica, 1987.
- Founder, Laboratory of Modern Manufacturing Systems (SIMTEC), School of Industrial Production Engineering; established and equipped the laboratory during its first and second development stages.
- Director, School of Industrial Engineering, for 7 years.
- Founder, Modelo TEC de Formación de Técnicos, and Coordinator of the first Technical Supervisor Program in Industrial Production, for 5 years.
- Lecturer on Project Costs and Investment Evaluation, for RECOPE and private-sector companies in Costa Rica.
- Member, Board of Directors, School of Industrial Production Engineering, Costa Rica, and contributor of various articles to *Tecnología en Marcha*.
- Experience as an evaluator for the Canadian Engineering Accreditation Board (CEAB) and accreditation peer reviewer for Engineering programs, UCR.
- Coordinator, Curriculum Improvement and Accreditation Commission, School of Industrial Production Engineering, for 4 years.
- Member invited by CEAB as a peer reviewer for the Agricultural Engineering and Agricultural Materials Engineering programs at TEC.
- First Coordinator, Industrial Production Engineering Program, Limón Campus, from its establishment through its first cohort graduation.
- Academic Advisor for more than 35 Final Graduation Projects in Industrial Production Engineering and more than 40 undergraduate thesis projects in the program.
- Experience in Investment Project Evaluation.
- Member, External Evaluator Group, Central American Higher Education Accreditation System (SICEVAES), evaluating the Commercial Technical Program at Universidad Francisco Morazán, Honduras.
- Member, AAPIA Accreditation Committee for the AAPIA Accreditation Model.

PUBLICATIONS

- Co-author of books on Industrial Costs and Engineering Economics, Editorial Tecnológica de Costa Rica.
- Author of various articles, *Tecnología en Marcha*, Editorial Tecnológica de Costa Rica, on Statistics, Production Costs, Programming and Production Control for the Technical Supervisor Program.
- Designer of the RECOPE Technical Supervisor Program and author of its Course Teaching Materials.



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GIANNINA ORTIZ QUESADA

M.Sc._Construction Engineer

Construction Engineer with postgraduate studies at the Master's level in Computing, with emphasis on information systems and the application of technology, bridge assessment, monitoring systems, and quality management and sustainable development. Areas of interest include project management with an emphasis on construction and technology projects, the use of data-mining techniques to extract information and create indicators, and the development and application of information systems for decision-making and technology applications in engineering. Her work also includes applications of technology in the built environment, such as structural monitoring of bridges, information and data management, and technology-supported learning and development assessment.

ACADEMIC BACKGROUND

- **[2003]** Master's Degree in Computing, with emphasis in Information Systems, Instituto Tecnológico de Costa Rica.
- **[2000]** Licentiate Degree in Construction Engineering, Instituto Tecnológico de Costa Rica.
- **[1996]** Bachelor's Degree in Construction Engineering, Instituto Tecnológico de Costa Rica.

PROFESSIONAL DEVELOPMENT

- **[2004]** Implementation of INTE/ISO/IEC 17020:2012, Asesorías Creativas.
- **[2004]** Professional Certificate in Sustainable Urban Development, Universidad de Salamanca.
- **[2004]** International Course on Sustainable Urban Readjustment, Ministry of Housing and Human Settlements.
- **[2004]** Participation in the national workshop for the validation of the "Analysis of the Environment for the Planning and Management of Road Infrastructure Projects under Sustainability Principles," organized by PNUD.
- **[2004]** Public Policy for the Digital Transformation of Transportation, delivered by Banco Interamericano de Desarrollo through the AcademiaBID platform.
- **[2004]** Seminar on Public Works Planning and Urban Mobility, organized by Grupo Consenso for the *Revista de la Red Vial Nacional*.

PROFESSIONAL EXPERIENCE

- **[1998–2007]** Private-sector Consultant.
- **[1997–1998]** Project Engineer, Constructora Gálvez y Volio, Costa Rica.
- **[1996]** Project Engineer, Ministry of Public Works and Transport (MOPT), Road Safety Engineering Department, Costa Rica.
- **[1995]** Assistant Engineer, COMESA, Costa Rica.
- **[2011–Present]** Consultant for projects developed by CIVCO.
- **[2014–2019 / 2012–2025]** Head of Contract Management, CONAVI–TEC.

TEACHING EXPERIENCE

- **[1998–Present]** Instituto Tecnológico de Costa Rica — Full Professor, School of Construction Engineering.
- **[2014–2019 / 2022–Present]** CIVCO — Coordinator, Research Center for Housing and Construction.
- **[2011–Present]** Researcher and Extension Specialist.
- **[2019–2022]** Coordinator, Master's Program in Road Engineering.
- **[2014–2022]** CIVCO — Head, Inspection Area, Research Center for Housing and Construction.
- **[2011–Present]** CIVCO — Engineer for projects.
- **[2012–2013]** Coordinator of the Bridge Research Program.
- **[2007–2011]** Academic Vice-Rector.
- Experience in academic accreditation processes.
- Experience in higher-education planning and administration.
- Experience in research and extension projects.