

AMÉRICO DIAS, MSc, MBA

ANALOG IC DESIGNER | +351 938 675 407 | americo.dias@gmail.com | <https://s.dias.pt/linkedin> | Porto area, Portugal

PROFESSIONAL SUMMARY

Professional electronics experience since 2001, including professional analog/mixed-signal IC design since 2009, spanning circuit development, layout, verification, testing, and optimization. Proven ability to lead teams, improve design flows, and translate deep technical work into business impact. Expertise in problem-solving, advanced circuit analysis, EDA tooling, and low-power semiconductor product development.

PROFESSIONAL EXPERIENCE

ANALOG IC DESIGN ENGINEER / IC DESIGN MANAGER 2021–Present

Nanopower Semiconductor – ultra-low-power microelectronics for IoT | Porto, Portugal

- Built the initial 7-member IC design team from scratch, recruiting engineers, establishing engineering practices, and supporting delivery of multiple test chips and one full mask tapeout.
- Led a strategic EDA tool evaluation for analog/mixed-signal IC design, benchmarking Cadence, Synopsys and Siemens flows across schematic capture, layout, simulation, DRC/LVS, and migration risk; strengthened vendor negotiation and enabled significant EDA contract savings.
- Developed and documented an AI-assisted standard-cell generation workflow using open-source EDA tooling and autonomous coding agents in a DRC/LVS-driven engineering loop.
- Align technical work, specifications and roadmaps with CEO, CTO, stakeholders and business constraints.
- Design analog blocks and support layout, verification, debugging, and design-flow improvements for nPZero, the power supervisor IC recognized at the Elektra Awards 2025 (see Distinctions).

SENIOR ANALOG ASIC DESIGNER 2018–2021

Knowles Corporation – advanced audio and precision device solutions | Roskilde, Denmark

- Optimized a high-precision DAC by porting it from 180 nm to 130 nm, addressing accuracy and power consumption challenges and delivering improved performance and efficiency.
- Led sigma-delta ADC layout and a multidisciplinary team, completing critical sub-blocks on schedule.
- Designed a high-precision differential comparator, resolving calibration challenges for accurate auto-calibration and operational reliability.

SENIOR ANALOG IC DESIGN ENGINEER 2017–2018

Silicon Labs – smart-home/IoT SoCs; acquired Z-Wave business | Copenhagen, Denmark

- Developed a high-PSRR 120 mA LDO in TSMC 40 nm for sub-GHz PA applications, addressing noise challenges and improving power supply performance.
- Diagnosed and resolved critical oscillator stability issues through laboratory measurements and PEX simulations, ensuring reliable performance.
- Created a Delta-Sigma modulator model in SystemC-AMS with simulation speeds 100x faster than traditional macro-models without sacrificing precision.

SENIOR ANALOG DESIGN ENGINEER 2016–2017

Emerson Automation Solutions (Norway) – industrial/commercial automation | Stavanger, Norway

- Modelled electromagnetic propagation to assess feasibility and enable new industrial downhole products.
- Designed analog circuits for transmission-line fault detection, improving reliability and diagnostic accuracy in challenging environments.

ANALOG IC DESIGN ENGINEER 2013–2016

SiliconGate – power management IP, integration and verification | Porto, Portugal

- Designed ASIC/SoC power management IP, from topology selection and simulation to physical layout, optimizing performance within design constraints.
- Conducted stability and worst-case analysis to enhance reliability and efficiency in power management circuits.

PHYSICAL IC DESIGN ENGINEER 2011–2012

Synopsys – silicon design and verification tools | Porto, Portugal

- Delivered full-cycle RTL-to-GDSII design of high-performance PHYs, optimizing timing, power and area.

RESEARCHER 2009–2010

INESC Porto – science and technology R&D | Porto, Portugal

- Developed an AHRS prototype using MEMS and mixed-signal microelectronics for aerospace applications.

COUNTRY SALES REPRESENTATIVE

2007–2008

Venco Electrónica and RC Microelectronica | Porto, Portugal

- Established the electronic-component distributor's Portuguese market presence from scratch for future growth.
- Exceeded annual sales targets by a significant margin; secured key accounts and strong customer relationships.

HARDWARE TECHNICIAN & DEVELOPER

2001–2007

Corsisa Electrónica – industrial, consumer and optoelectronic solutions | Porto, Portugal

- Designed hardware and firmware and ensured production quality control for industrial applications.

EDUCATION

Executive MBA (Double Degree)

September 2024–July 2026

Porto Business School – University of Porto + Kozminski University
Porto, Portugal / Warsaw, Poland

Ph.D. Electrical and Computer Engineering (suspended)

2011

Faculdade de Engenharia do Porto – University of Porto

First-year GPA: 16/20; research on a bi-directional transceiver for biomedical implants.

M.Sc. Electrical and Computer Engineering

2010

Faculdade de Engenharia do Porto – University of Porto

Master's thesis: UWB transmitter for biomedical implants (19/20). Co-founded the Microelectronics Students' Group (μ SG) to advance IC design innovation.

DISTINCTIONS & SPEAKING

- **Carlos Barral Award 2026** – Porto Business School, Executive MBA class 2024/25. Elected best colleague by classmates through a formal vote, recognizing individual quality, commitment and participation in the group.
- **Elektra Award 2025** – Nanopower Semiconductor's nPZero power supervisor IC (product/team award). Winner: "Consumer Semiconductor – Energy-efficiency".
- **Cadence EMEA Design Contest 2009** – First place for a 3.5 GHz VCO in 0.35 μ m CMOS, with the Microelectronics Students' Group (μ SG).
- **POEMS Semiconductor Spring School** – Speaker, "The Journey of an Ultra-Low-Power Chip for IoT", University of Aveiro, 9 April 2026.

TECHNICAL & MANAGEMENT SKILLS

Analog/mixed-signal IC design, IC layout, power management, low-power circuits, DRC/LVS, laboratory testing and debugging, embedded systems, signal processing, Python, C/C++, Cadence Virtuoso, Spectre, ADE, Calibre, KLayout, EDA tooling and automation.

Engineering leadership, team recruitment, project planning and follow-up, staffing and task allocation, technical roadmapping, CEO/CTO/business development coordination, EDA vendor evaluation and negotiation, R&D execution, cost/trade-off analysis, business/technology interface.

OTHER SKILLS

Problem-solving, adaptability, effective communication, collaboration, creativity, attention to detail, decision-making, conflict resolution, leadership, emotional intelligence, time management.

SELECTED WRITING & PUBLICATIONS

- ***A Novel Low-Power Subthreshold Voltage Reference Circuit with Enhanced PSRR*** – DCIS 2024; ultra-low-power analog IC design for IoT and portable electronics.
- ***Generative Artificial Intelligence as a Research Partner in Orthopaedics*** – 2026 review; RAG-grounded evidence selection, synthesis and scientific writing.
- ***Generating a Standard-Cell Library with an AI Agent*** – AI-assisted EDA workflow for CMOS standard-cell layout generation, verification and benchmarking.
- Earlier work: impulse-radio UWB transmitters, remote electronics workbenches, CMOS frequency synthesizers and IC design education at CDNLive! EMEA and PAEE.

LANGUAGES

Portuguese Native, **English** C1, **Spanish** C2