Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Gabriel BANARIE**

Work experience

Dates **2002 – present**

Name and address of employer **Analog Devices International, Raheen Business Park, Limerick, Ireland**

Type of business or sector Semiconductor Industry

Occupation or position held **Senior Analogue IC Design Engineer**

Main activities and responsibilities Top level architecture design for Sigma-Delta and SAR ADCs, embedded voltage references and temperature sensors.

Mentoring junior engineers.

Design and verification of analogue circuit blocks (amplifiers, voltage references, temperature sensors, etc.)

Main projects:

AD7745, AD7747 (monolithic capacitive to digital converters – CDC): Sigma-Delta modulator implementation, mathematical analysis of modified front-end and implementation of common mode correction interface (two US patents), work in top level mix-signal verification.

ADuC7030 (automotive battery sensor): design work in voltage reference and crystal oscillator blocks.

ADuC7224 (micro-converter ASIC for Velux): Design work on power line digital interface, work in top level mix-signal verification.

AD7150 (automotive CDC for keyless entry systems): Sigma-Delta modulator design and implementation, work in top level mix-signal verification.

AD7780 (low power, low cost ADC for weigh scales): Sigma-Delta modulator design and implementation, work in top level mix-signal verification.

AD7190 (industrial sigma-delta ADC): Sigma-Delta modulator design and implementation, input current cancelling design for capacitive programmable gain amplifier (PGA) front-end, work in top level mix-signal verification.

AD7154 (automotive complex impedance to digital converter): Signal chain design including complex calibration technique (patented) and Sigma-Delta modulator followed by single bin DFT filtering technique, design and implementation of various analogue blocks, work in top level mix-signal verification.

AD7180 (automotive ASIC for complex impedance measurement): providing technical expertise for implementation of complex calibration.

AD7175 (high FoM industrial Sigma-Delta ADC): multi-bit architecture design (patented), second order mismatch error shuffling architecture design (patented), design and implementation of various analogue blocks, work in top level mix-signal verification.

AD7124 (low power, high FoM Sigma-Delta ADC): lead analogue designer, architecture design, voltage reference architecture design and implementation.

AD7606B (16-bit, simultaneous sampling, analog-to-digital data acquisition system (DAS) with eight channels, each channel containing analog input clamp protection, a programable gain amplifier (PGA), a low-pass filter, and a 16-bit SAR ADC): architecture and implementation of converter cores.

Dates	**1999 – 2001**
Name and address of employer	**University Politehnica of Bucharest, Romania**
Type of business or sector	3rd level education
Occupation or position held	**Assistant Lecturer**
Main activities and responsibilities	Coordinating seminaries and laboratory activities for undergraduate engineering students in following modules: Signals, Circuits and Systems Coding and Compression of Audio Signals Adaptive Filtering.

Education and training

Dates	2015 – 2021
Title of qualification awarded	PhD in Electronic Engineering Thesis: “Advanced Monolithic Temperature Sensors”.
Name and type of organisation providing education and training	University Politehnica of Bucharest, Romania
Dates	2008 – 2010
Title of qualification awarded	Master of Engineering in VLSI Systems Final project “Multi-bit Sigma-Delta Modulator Suitable for DC Input Signals”.
Name and type of organisation providing education and training	University of Limerick, Ireland
Dates	1994 – 1999
Title of qualification awarded	Bachelor of Engineering in Digital Communications and Multimedia Systems Final project “Software Implementation for Blind Decoding using Viterbi Algorithm”.
Name and type of organisation providing education and training	University Politehnica of Bucharest, Romania

Personal skills and competences

Mother tongue(s): **Romanian**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
French	B1	Independent user	C1	Proficient user	B1	Independent user	B1	Independent user	B1	Independent user
Italian	A2	Basic user	B1	Independent user	A1	Basic user	A1	Basic user	A1	Basic user

(*) Common European Framework of Reference for Languages

Research	Co-author of nine US patents (US10236905B1, US9806552, US9800262, US9600014, US9389275, US9124290, US8653996, US7304483, US7235983) in the area of Sigma-Delta, sensor signals acquisition and measurement, voltage references, and temperature sensors. Author or co-author of seven papers presented to internal ADI technical conferences. Co-author of a paper at the ISSC 2018 technical conference, Belfast, UK. Co-author of a paper at the MIXDES 2018 technical conference, Gdynia, Poland. Co-author of a paper at the ISSCS 2017 technical conference, Iasi, Romania. Co-author of a paper at the MIXDES 2017 technical conference, Bydgoszcz, Poland. Co-author of a paper at the ISSC 2015 technical conference, Carlow, Ireland. Presenter of a paper at the ISSC 2008 technical conference, Galway, Ireland. Co-author of a paper presented at the ADDA 2005 technical conference, Limerick, Ireland. Co-author of a paper published in *Sensors* 2005 IEEE journal.
Computer skills and competences	MATLAB, C (for circuit blocks modelling purposes), ADICE (ADI proprietary SPICE), Spectre RF, VerilogA.
Additional information	Member of IEEE (UK & Rep. of Ireland Section) since 2002.