

Gaël CLOSE

INNOVATION DIRECTOR · SENSOR DEVELOPMENT · FROM LAB TO MARKET



About me

Innovation director with 15+ years of experience in sensor development and microelectronics. Expertise in innovation management, technology roadmaps, and R&D team leadership. Track record of developing commercially-successful sensor technologies and building high-performing engineering teams. Prolific inventor, researcher and product architect. Keynotes speaker at international conferences.

Personal

Nationalities: Belgian and Swiss.
Languages: French and English.

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EDUCATION

- 2024 - 2025 **COS in Applied Data Science and Machine Learning**
EPFL 📍 LAUSANNE, SWITZERLAND
Capstone project: Force Plate Sensors for Gait Disorder Detection
- 2003 - 2008 **PhD in Electrical Engineering**
STANFORD UNIVERSITY 📍 STANFORD, CALIFORNIA
Thesis in Nanoelectronics
- 1998 - 2003 **Master in Electrical Engineering**
UNIVERSITY OF LIÈGE 📍 LIÈGE, BELGIUM
Greatest Distinction
- Various **Post-Graduate Training**
Coaching • Leadership • Technology Roadmap & Entrepreneurship • Design Thinking • Design for Six Sigma

PROFESSIONAL EXPERIENCE

- 2021 – Current **Innovation Manager → Innovation Director**
MELEXIS 📍 BEVAIX, SWITZERLAND
 - Established the corporate innovation team and lab from scratch.
 - Promoted to Innovation Director in 2024 as the lab and strategic scope grew.
 - Defined the technology roadmap aligned with business objectives.
 - Hired and led a team of 20 R&D engineers with annual budget of €5M.
 - Developed sensor technologies for Robotics and Digital Health applications.
 - Spun-off a new Robotics business unit with several products already launched.
 - Set-up joint R&D with universities (EPFL, VUB), institutes (CSEM) and start-ups.
- 2011 – 2020 **Design Engineer → Staff System Architect**
MELEXIS 📍 BEVAIX, SWITZERLAND
 - Started as circuit designer in charge of component design and verification.
 - Promoted several times as responsibilities grew to encompass the architecture of the complete magnetic position sensor product line.
- 2008 – 2011 **Post Doc → Research Staff Member**
IBM RESEARCH 📍 ZÜRICH, SWITZERLAND
 - Designed novel memory chips and built a FPGA-based setup.

R&D ACHIEVEMENTS

- Chief Architect **Melexis Triaxis Sensors Gen. III**
 - Magnetic sensors deployed in automotive applications cumulating €200M in revenue.
- Lead Inventor **Melexis Tactaxis Magnetic Force Sensor**
 - Novel magnetic force sensor technology for robotics applications.
- Lead Developer **Melexis Magnetic Simulator**
 - Free online tool for magnetic design and simulation.

R&D Outputs

- Multiple product architected (with cumulative revenue 300M€).
- 17 patents granted.
- 40 peer-reviewed publications.
- €4.1M in R&D grants (VLAIO Belgium, Innosuisse Switzerland, EU).
- 10+ EPFL master theses co-supervised in magnetic sensors, robotics and medtech.
- Multiple courses taught in sensor design and system engineering.

Technical Skills

Magnetic Sensors Sensors for Robotics

Sensors for Digital Health

Electronics Design and Prototyping

Data Science

Business Skills

Customer Needs Market Analysis

Product Strategy and Roadmap

Technology Partnership

Management

Team Leadership Talent Development

R&D Portfolio Risk Management

AWARDS

- 2018 **IEEE Senior Member**
Recognition of professional excellence and contributions.
- 2017 **American Society for Quality Six Sigma Black Belt**
Certification in process improvement and quality management.
- 2006 **Intel Foundation PhD Fellowship**
Award for outstanding doctoral research.
- 2003 **Belgian American Educational Foundation Fellowship**
Scholarship supporting international academic excellence.
- 2003 **Association of Engineers from the University of Liège Best Thesis Award**
Recognition for excellence in thesis research and presentation.
- 2015- **Various competitive R&D Grants**
INNOSUISSE, EU AND OTHERS
About 4M€ raised over the last decade.

KEY PUBLICATIONS

- 2025 **G. Close**, "Tactile Sensors for Physical Intelligence", *Presentation at IMEC Technology Forum World, 2025*, <https://tinyurl.com/8jya8phe>.
E. Gasparin, and **G. Close**, "Design of an Integrated MEMS Magnetic Gradiometer Rejecting Vibrations and Stray Fields", *IEEE Journal of the Electron Devices Society* 13, 2025, doi: 10.1109/JEDS.2025.3543662.
- 2023 B. Brajon, E. Gasparin, and **G. Close**, "A Benchmark of Integrated Magnetometers and Magnetic Gradiometers", *IEEE Access* 11, 2023, doi: 10.1109/ACCESS.2023.3325035.
B. Brajon, C. Schott, and **G. Close**, "Novel Rotary Encoder with Multi-Axis Hall Sensors", in *2023 IEEE SENSORS*, 2023, doi: 10.1109/SENSORS56945.2023.10324876.
- 2022 T. Le Signor, N. Dupre, and **G. Close**, "A Gradiometric Magnetic Force Sensor Immune to Stray Magnetic Fields for Robotic Hands and Grippers", *IEEE Robotics and Automation Letters* 7(2), 2022, doi: 10.1109/lra.2022.3146507.
G. Close, "Technical Writing and Publishing Data-Rich Articles with Quarto", *Towards Data Science*, 2022, <https://towardsdatascience.com/technical-writing-and-publishing-data-rich-articles-with-quarto-d61a56bcaa64>.
- 2017 S. Leroy, S. Rigert, A. Laville, A. Ajbl, and **G. Close**, "Integrated hall-based magnetic platform for position sensing", in *ESSCIRC 2017 - 43rd IEEE European Solid State Circuits Conference*, 2017, doi: 10.1109/esscirc.2017.8094600.
- 2011 **G. Close**, and et al., "A 512Mb phase-change memory (PCM) in 90nm CMOS achieving 2b/cell", in *2011 Symposium on VLSI Circuits - Digest of Technical Papers*, 2011, http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5986105.
- 2008 **G. Close**, S. Yasuda, B. Paul, S. Fujita, and H. P. Wong, "A 1 GHz integrated circuit with carbon nanotube interconnects and silicon transistors", *Nano Letters* 8(2), 2008, doi: 10.1021/nl0730965.