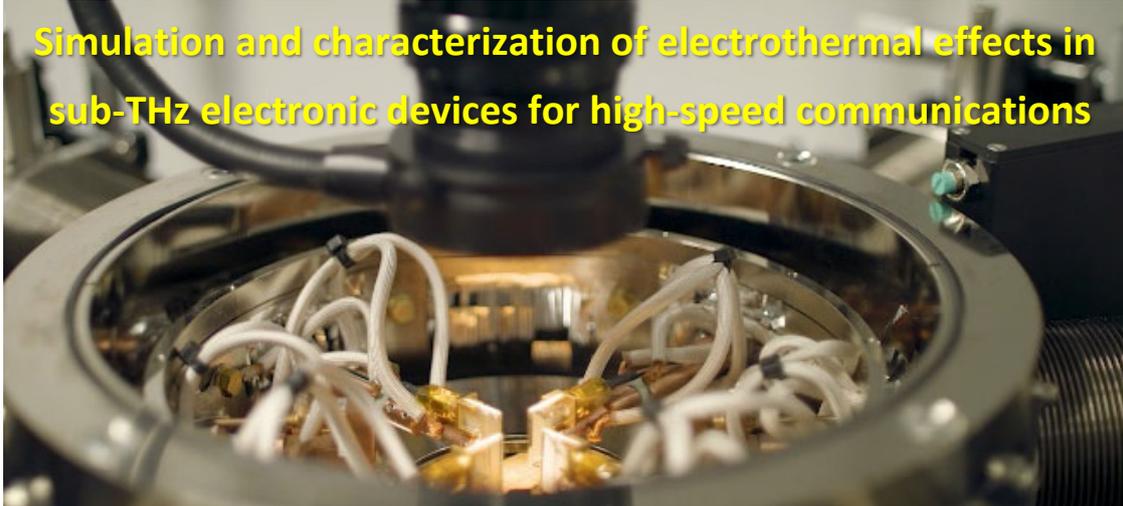


POSTDOC POSITION OFFER

Research group on High-Frequency Electronic Nanodevices - University of Salamanca
(<http://nanoelec.usal.es>)

We offer a contract of **21 months, starting April 1, 2019** (ending December 2020), with a gross salary of 2.530 €/month in the context of the project (SA254P18, Junta de Castilla y León):



The project aims at studying the electrothermal behavior of electronic nanodevices based on different technologies, able to operate in the sub-THz band, in order to optimize their performance as emitters or detectors in communication systems. Different types of advanced devices will be analyzed, some with novel architectures, like asymmetric semiconductor nanodiodes (ungated and gated, called SSDs and G-SSDs, respectively) and other with traditional designs, like Schottky diodes and heterojunction field-effect transistors (HEMTs); some fabricated with high-mobility semiconductors, like InGaAs (for low-power, very high-frequency operation), and others with wide band-gap semiconductors, like GaN (for high power, lower-frequency operation). Exhaustive DC and RF measurement campaigns of the different devices will be performed as a function of temperature (10-500 K).

Profile of candidates

Physicist or electronic/telecommunications engineer with a PhD on semiconductor devices or RF electronics

Expertise:

RF electrical characterization of semiconductor devices (experience in the use of vector network analyzers, spectrum analyzers, high-performance digital oscilloscopes, etc.).	Simulation of RF and THz semiconductor devices. In particular using simulators like HFSS, ADS or analogous .	Clean-room device fabrication techniques (photolithography, electron-beam lithography, etching, etc.).
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The **main tasks of the postdoc researcher** will be:

- DC and RF on-wafer electrical characterization of semiconductor devices for sub-THz applications, including temperature-dependent (10-500 K) and Hall measurements.
- Circuit and electromagnetic simulation of semiconductor-based electronic devices and circuits for the development of RF and THz emitters and detectors: impedance matching networks, antennas, resonant cavities, waveguide modules, etc.

Other possible tasks will be:

- Free-space characterization of electronic devices at sub-THz frequencies.
- Assistance in the fabrication of nanodevices in the clean room.

The call is available (in Spanish) at <https://bit.ly/2FIKITE> Deadline: **January 31, 2019**

Potential candidates please contact with

Tomás González (tomasg@usal.es) or Javier Mateos (javierm@usal.es)