Post-doc position:
An integrated atom-plasmon sensor

Atoms are extremely sensitive sensors for weak forces, but in order to measure their state with high fidelity, they must strongly couple to a light field reading out their state and bringing the information to a detector.

The objective of this project is to experimentally study the possible realization of quantum sensors based on atoms trapped near a nanostructured surface of a microchip or photonic metamaterial. The candidate will build experiments to study the photonic properties of the microchip, to optically cool atoms to microKelvin temperatures and trap them close to the microchip trying to achieve strong coupling between the atoms and evanescent or plasmonic light modes.

The work will be performed at the Instituto de Física de São Carlos (IFSC) of the Universidade de São Paulo (USP).

To apply to this position, please submit a letter of interest, CV and contact details of two referees to: philippe.courteille@ifsc.usp.br and bachelard.romain@gmail.com.

This opportunity is open to candidates of any nationalities. The selected candidate will receive a FAPESP's Post-Doctoral fellowship in the amount of R$ R$ 6.819,30 monthly (~US $2.000, tax-free); a research contingency fund, equivalent to 15% of the annual value of the fellowship, is available to be spent in items directly related to the research activity.