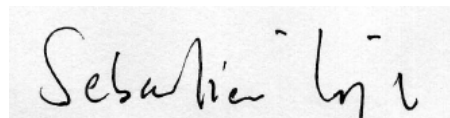


Research proposal for the CASSACA postdoctoral program

To Whom It May Concern,

please find below my research proposal for the upcoming announcement of CASSACA postdoctoral positions:

1. **Title:** Probing high-redshift galaxies with quasar absorption lines.
2. **Sponsor:** Prof. Sebastian Lopez, Universidad de Chile.
3. **Keywords:** Intergalactic Medium, Galaxies, Cosmology.
4. **Abstract:** A young astronomer is sought with skills in high-redshift spectroscopy, ideally quasar absorption line spectroscopy or multi-object spectroscopy (or both) to pursue research on the following two projects: **(1) XQ-100: A legacy survey of one hundred $3.5 < z < 4.5$ quasars observed with VLT/XSHOOTER.** This is an ESO Large Programme (PI S. López). The work proposed here is specifically on a MgII survey at $z < 4.5$ that will provide an independent measure of the cosmic star formation rate. XQ-100 spectra are already reduced; more details can be found at adlbitum.oats.inaf.it/XQ100survey and in Lopez et al. (2015). **(2) QbC: The Quasars behind Clusters Survey.** The QbC survey (PI S. López) is aimed at studying the effect of group and cluster-size environment on the gaseous content of galaxies at redshifts $0.2 < z < 1.2$. More details can be found at Lopez et al. (2008). The specific work here will be to conduct a survey of high-redshift CIV absorbers to probe proto-clusters. Part (2) is in collaboration with Prof. Luis Felipe Barrientos at Universidad Católica



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