

# Influence of black hole spin on galaxy properties

S. A. Cora<sup>1,2</sup>, C. del P. Lagos<sup>3</sup> & N. D. Padilla<sup>3</sup>

<sup>1</sup> Facultad de Ciencias Astronómicas y Geofísicas de la Universidad Nacional de La Plata, and Instituto de Astrofísica de La Plata (CCT La Plata, CONICET, UNLP), La Plata, Argentina

<sup>2</sup> Consejo Nacional de Investigaciones Científicas y Técnicas, Buenos Aires, Argentina

<sup>3</sup> Departamento Astronomía y Astrofísica, Pontificia Universidad Católica de Chile, Santiago, Chile

We use a combination of a cosmological  $N$ -body simulation of the concordance  $\Lambda$  Cold Dark Matter ( $\Lambda$ CDM) paradigm and a semi-analytic model of galaxy formation (Lagos, Cora & Padilla 2008), to study the spins of central super-massive black holes (SMBH), and the relations between the BH spin and mass, and the morphology and radio-loudness of host galaxies. In order to compute BH spins we use the  $\alpha$  model (Shakura & Sunyaev 1973) and consider a warped disc treatment (King et al. 2005). The direction of the BH spin is inferred from the angular momentum of the source of the accreted material, which encodes information on the evolution of the surrounding large-scale structure.