1106-17-353 **Jiafeng Lv**, **Xingting Wang** and **Guangbin Zhuang***, Department of Mathematics, University of Souther California, Los Angeles, CA 90089. *Universal enveloping algebras of Poisson Hopf algebras.*

For a Poisson algebra A, by exploring its relation with Lie-Rinehart algebras, we prove a Poincaré-Birkoff-Witt theorem for its universal enveloping algebra A^e. Some general properties of the universal enveloping algebras of Poisson Hopf algebras are studied. Given a Poisson Hopf algebra B, we give the necessary and sufficient conditions for a Poisson polynomial algebra $B[x;\alpha,\delta]_p$ to be a Poisson Hopf algebra. We also prove a structure theorem for B^e when B is a pointed Poisson Hopf algebra. Namely, B^e is isomorphic to $B\#_\sigma\mathcal{H}(B)$, the crossed product of B and $\mathcal{H}(B)$, where $\mathcal{H}(B)$ is the quotient Hopf algebra B^e/B^eB^+. (Received August 24, 2014)