1086-20-797 **Cristian Lenart**, **Satoshi Naito**, **Daisuke Sagaki** and **Anne Schilling*** (anne@math.ucdavis.edu), Department of Mathematics, University of California, One Shields Ave, Davis, CA 95616, and **Mark Shimozono**. *A uniform combinatorial model for Kirillov-Reshetikhin crystals and specialized Macdonald polynomials.* Preliminary report.

Our goal is to prove that $P_\lambda(q) = X_\lambda(q)$, where $P_\lambda(q)$ is the Macdonald polynomial $P_\lambda(q,t)$ specialized at $t = 0$ and $X_\lambda(q)$ is the graded character of a simple Lie algebra coming from tensor products of Kirillov-Reshetikhin (KR) modules. In pursuit of this goal, we present a new explicit formula for the X polynomials, by characterizing the previously inexplicit formula using projected Lakshmibai-Seshadri (LS) paths, in terms of the parabolic quantum Bruhat graph (a combinatorial device coming from quantum cohomology of homogeneous spaces). This is achieved by establishing a lifting of the projected LS paths to the level-0 weight poset, which was first introduced by Littelmann. We also show a generalization of results by Deodhar which involves the compatibility of the quantum Bruhat graph with the cosets for every parabolic subgroup of the Weyl group. This should be the key structure to establish $P = X$. (Received September 12, 2012)