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**Georgia Benkart\*** ([benkart@math.wisc.edu](mailto:benkart@math.wisc.edu)), Department of Mathematics, University of Wisconsin-Madison, 480 Lincoln Dr., Madison, WI 53706, and **Tom Halverson** ([halverson@macalester.edu](mailto:halverson@macalester.edu)), Department of Mathematics & Computer Science, Macalester College, 1600 Grand Ave., St. Paul, MN 55105. *Motzkin Paths and Representation Theory.*

Motzkin paths are certain lattice paths that arise in combinatorics and also in physics in the study of Q-systems. This talk will relate them to the representation theory of  $\mathfrak{sl}(2)$  and its quantum analogue. Motzkin paths can be used as a basis for the irreducible modules of a certain cellular algebra that we introduce and call the Motzkin algebra. This is joint work with Tom Halverson. (Received January 28, 2010)