

Systèmes intégrables, modèles et algèbres exactement solubles  
19 septembre – 7 octobre 2022

Integrable systems, exactly solvable models and algebras  
September 19 – October 7, 2022

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## **Cluster algebras and combinatorics in representation theory**

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We introduce a cluster realization of Weyl groups for a finite dimensional semisimple Lie algebra, and consider its applications to

(1) the geometric R-matrix of symmetric power representations for the affine quantum algebra of A-type,

and to

(2) the q-characters of quantum non-twisted affine algebras introduced by Frenkel and Reshetikhin, when  $q$  is a root of unity.