Online ISU Algebra Seminar

Date and Time: November 11, 2021, from 1:00 pm to 1:50 pm

Speaker: Iana Anguelova, Ph.D. (College of Charleston, SC)

Title: Multilocal identities and chiral algebras.

Abstract: In this talk I will discuss the connection between some famous and some lesser-known identities, and the isomorphisms of chiral algebras associated to them. The Cauchy determinant identity can be viewed as the vacuum expectation value identity derived from the boson-fermion correspondence (of type A). The boson-fermion correspondence of type A is an isomorphism of two super vertex algebras. One of the defining properties of vertex algebras is locality--i.e., the singularities are only at "z=w". But there are identities like the Cauchy determinant identity which are "multilocal". For instance, the Schur Pfaffian identity is one such, with singularities both at "z=w" and "z=-w", yet it is associated to the boson-fermion correspondence of type B--an isomorphism of chiral algebras. In this talk I will discuss these and other multilocal identities and their associated chiral algebras.

About Speaker: Dr. Anguelova earned a M.Sc. in 2002 and Ph. D. in Mathematics in 2006 from University of Illinois at Urbana-Champaign. She spent two years in Montreal as a Research Assistant Professor at Department of Mathematics at Concordia University and CRM Postdoctoral Fellow at Centre de Recherches Mathematiques. Currently, Dr. Anguelova is a Professor of Mathematics at College of Charleston. Her current research interests are in conformal field theory and quantum vertex algebras.

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