

# SCMS Seminar



## ON CURVE CORRESPONDENCES

**Speaker: Jin Qian**

**Shanghai Center for Mathematical Sciences**

**Time:** 4:00 p.m.-4:30 p.m., Monday, November 20, 2017

**Venue:** Room 2213, East Guanghua Tower (Main), Fudan University

### Abstract:

Let  $C$  and  $C'$  be two smooth projective curves over an algebraic closure of the rational numbers. We call  $C$  lies over  $C'$  if there is an unramified cover of  $C$  which admits a surjective map to  $C'$  and call  $C$  and  $C'$  are equivalent if  $C$  lies over  $C'$  and  $C'$  also lies over  $C$ . This relation between curves was first studied by Bogomolov and Tschinkel. Based on some geometric constructions, they have obtained several results for some classes of hyperbolic curves. They have also conjectured that all hyperbolic curves are equivalent. In this talk, I will report my work on this problem. I will also discuss some problems about Bogomolov's birational anabelian geometry program.

$$\Delta y_i = \int_{x_i}^{x_{i+1}} \frac{a_{ij} y_j^{(k)} - (\sum_{j=1}^n a_{ij} x_j^{(k)} + \sum_{j=1}^n a_{ij} x_j^{(l)})}{b_{ij}} dx$$
$$\int_{x_k}^{x_{k+1}} f(x, y) dx = \int_{x_k}^{x_{k+1}} y' dx = y(x)$$
$$= \sqrt{(y_n + 0.5\tau k_1)^2 + (t_n + 0.5\tau)^2}$$