



GAIA Seminar

on Complex Analytic Geometry

 **Title : Characterizations of various convex regions**

 **Speaker : Seong-A Kim (Visiting professor)**

 **Abstract**

We present some characterizations of Euclidean convex regions and also spherical convex regions in the Riemann sphere P in terms of the relative hyperbolic densities of the hyperbolic metrics of the given regions to C or P equipped with the Euclidean metric of the complex plane C or the spherical metric of P . For a subregion Ω of a simply connected region X in C , we obtained analogous characterizations for hyperbolic convexity in terms of the relative hyperbolic density of the hyperbolic metric of the regions Ω to X . The notion of hyperbolic concavity relative to X for real-valued functions on Ω is also given to describe some sufficient conditions for hyperbolic convexity.

 **Date : 8-10 p.m., Tuesday, 21 May 2013**

 **Place : The GAIA (Math Science building room 106)**

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