Prof. Peter Heinzner: *Kählerian reduction.*

In this talk we will consider Hamiltonian actions of groups of holomorphic Kähler isometries on Kählerian manifolds. In the rare cases where the orbit spaces are smooth it is well known that the corresponding quotient spaces in the sence of Marsden Weinstein are Kähler manifolds as well. In the talk we will explain that the result remains true in complete generality.

Prof. Laura Geatti: *Complex polar symplectic representations.*

In this talk we discuss complex polar representations in the sense of Dadok and Kac which are symplectic. We show that such representations are coisotropic and use this to give a classification. We also show that their moment maps separate closed orbits (in coll. with Claudio Gorodski).

Prof. Andrea Iannuzzi: *On the hyperkaehler structure on the crown domain of a non-compact hermitian symmetric space.*

Let G/K be a non-compact Hermitian symmetric space. On a G-invariant neighborhood of the zero section $Z = G/K$ in the cotangent bundle of G/K there exists a unique G-invariant hyperkaehler metric which extends the metric of G/K (Biquard-Gauduchon).

For G/K classical, Dancer and Szoeke show that such a structure can be obtained by combining the standard symplectic form on TG/K with a modification of the adapted complex structure (where defined) via a G-equivariant diffeomorphism.

Let D be the bounded realization of an arbitrary, irreducible, non-compact symmetric space G/K of rank r. The crown domain in TG/K is biholomorphic to the product DxD endowed with the standard complex structure $J \times J$ of $\mathbb{C}^n \times \mathbb{C}^n$. We present an explicit realization of the above G-invariant hyperkaeler structure on $D \times D$ which includes $J \times J$ and is obtained, along an r-dimensional G-slice of $D \times D$, as a suitable (unique) modification of the standard hyperkaehler structure of $\mathbb{C}^n \times \mathbb{C}^n$.

Prof. Roberto Paoletti: *Local scaling asymptotics for the Gutzwiller trace formula in Berezin-Töplitz quantization.*
Under certain hypothesis on the underlying classical Hamiltonian ow, we

produce local scaling asymptotics in the semiclassical regime for a Berezin-Töplitz version of the Gutzwiller trace formula on a quantizable compact Kähler manifold, in the spirit of the near-diagonal scaling asymptotics of Szegö and Töplitz kernels. More precisely, we consider an analogue of the Gutzwiller-Töplitz kernel, previously introduced in this setting by Borthwick, Paul and Uribe, and study how it asymptotically concentrates along the appropriate classical loci defined by the dynamics, with an explicit description of the exponential decay along normal directions. These local scaling asymptotics probe into the concentration behavior of the eigenfunctions of the quantized Hamiltonian ow. When globally integrated, they yield the analogue of the Gutzwiller trace formula.

Dott. Simone Calamai: *About Hermitian metrics whose scalar curvature of the Chern connection is constant.*
Given a smooth compact complex manifold, we consider the problem on existence, in a fixed conformal class, of Hermitian metrics whose scalar curvature induced by the Chern connection is constant. In particular, we describe the interesting role in the picture played by the Gauduchon metrics (joint work with Daniele Angella and Cristiano Spotti, to appear in Math. Res. Lett.)

Prof. Barbara Nelli: *Minimal Graphs in Heisenberg Space.*
I will talk about the existence and the non existence of minimal graphs in Heisenberg space, with a given boundary. Moreover height and area estimates for such graphs are obtained.

Dott. Michela Zedda: *The gradient moment map and analytical polystability.*
A gradient moment map is the moment map associated to the action of a reductive real Lie subgroup of a complex Lie group which acts holomorphically on a Käehler manifold. In this seminar we describe the problem of giving a numerical characterization of polystable points for the gradient moment map in terms of maximal weights, following the work of I. Mundet I Riera in the complex setting.