Le samedi 8 novembre 2008 / Saturday, November 8, 2008

08:00 - 08:55	Inscription et café-croissants (PK-5115) / Registration and Coffee & Croissants (PK-5115)
08:55 - 09:00	Mots de bienvenue / Welcoming addresses (SH-3420)
09:00 - 09:45	Séminaire / Seminar (SH-3420) Yum-Tong Siu (Harvard Univ) Title : Construction of rational curves in Fano manifolds without using positive characteristic
09:45 - 10:00	Pause café / Coffee break (SH-3420)
10:00 - 10:40	Séminaire / Seminar (SH-3420) Min Ru (Univ of Houston) Title : Chow weights, Hilbert weights and their application in Nevalinna theory
10:40 - 10:45	Pause / Intermission
10:45 - 11:25	Séminaire / Seminar (SH-3420) Carlo Gasbarri (Univ di Roma « Tor Vergata », Italy) Title : Horizontal sections of connections and transcendence
11:25 - 11:30	Pause / Intermission
11:30 - 12:15	Séminaire / Seminar (SH-3420) Junjiro Noguchi (Tokyo Univ) Title : Unicity, kobayashi hyperbolicity, rational points and examples
12:15 - 14:15	Pause-déjeuner / Lunch break
14:15 - 15:00	Séminaire / Seminar (SH-3420) Henri Gillet (Univ of Chicago) Title : Heights of Conics and the Spectrum of the Laplacian
15:00 - 15:15	Pause-café / Coffee break (SH-3420)
15:15 - 15:55	Séminaire / Seminar (SH-3420) Pietro Corvaja (Univ of Udine, Italy) Title : Upper bound for gcd (a^n-1, b^n-1) ; Arithmetic and geometric applcations
15:55 - 16:00	Pause/ Intermission
16:00 - 16:40	Séminaire / Seminar (SH-3420) Michael McQuillan (IHES, France /Glasgow Univ) Title : TBA
16:40 - 16:45	Pause/ Intermission

16:45 - 17:30	Séminaire / Seminar (SH-3420) Paul Vojta (Univ of California, Berkeley) Title : A Diophatine « tautological conjecture »
17:30 - 18:15	Réception vin et fromages (PK-5115) / Wine and cheese reception (PK-5115)

Le dimanche 9 novembre 2008 / Sunday, November 9, 2008

09:00 - 09:30	Café-croissants (PK-5115) / Coffee &Croissants (PK-5115)
09:30 - 09:45	Pause café / Coffee break (SH-3420)
09:45 - 10:25	Séminaire / Seminar (SH-3420) Xi Chen (Univ of Alberta) Title : Self rational maps of K3 surfaces
10:25 - 10:30	Pause / Intermission
10:30 - 11:10	Séminaire / Seminar (SH-3420) Erwan Rousseau (Univ Strasbourg, France) Title : Degeneracy of holomorphic maps via orbifolds
11 :10 - 11 :15	Pause / Intermission
11:15 - 12:00	Séminaire / Seminar (SH-3420) Bruno de Oliveira (Harvard / Univ of Miami) Title : Symmetric differentials on algebraic surfaces

Titles and abstracts

BRUNO DE OLIVEIRA :
TITLE : SYMMETRIC DIFFERENTIALS ON ALGEBRAIC SURFACES
Abstract: I will discuss my previous results on the existence of symmetric differentials on specializations of projective hypersurfaces in P^3 (this result has potential applications to new hyperbolicity results for hypersurfaces in P^3), jumping of the dimension of the space of symmetricdifferentials along deformations and specially the very recent results characterizing a class of symmetric differentials that encode information on the fundamental group (most symmetric differentials of degree > 1 do not encode topological information).These results are done jointly with F. Bogomolov.

XI CHEN:

TITLE: SELF RATIONAL MAPS OF K3 SURFACES

Abstract: Existence of self rational maps of a K3 surface is closely related to its hyperbolic geometry. It is expected that a generic K3 surface does not admit any nontrivial self rational maps. I'll give a proof for this conjecture.

CARLO GASBARRI :

TITLE : HORIZONTAL SECTIONS OF CONNECTIONS AND TRANSCENDENCE

PAUL VOJTA :

TITLE : A DIOPHANTINE "TAUTOLOGICAL CONJECTURE"

Abstract: In 1998, M. McQuillan proved an inequality in Nevanlinna theory, concerning the height relative to the tautological bundle $\mathscr O(1)$on $\mathbb P(\Omega_{X/\mathbb C})$, for a nonconstant holomorphic map from $\mathbb C$ to a smooth complex projective variety X. I will describe a possible diophantine translation of this statement (still conjectural), and discuss its ramifications and proofs in special cases.

PIETRO CORVAJA :

TITLE : UPPER BOUNDS FOR GCD(A^N-1,B^N-1); ARITHMETIC AND GEOMETRIC APPLICATIONS / MAJORATION POUR LE PGCD(A^N-1,B^N-1); APPLICATIONS ARITHMETIQUES ET GEOMETRIQUES

Abstract: In a joint work with Y. Bugeaud and U. Zannier the upper bound $$\gcd(a^n-1,b^n-1)\ll \exp(\epsilon n)$$ is proved for multiplicatively independent integers $a>b>1$. This result quantifies a previous one with U. Zannier, which provides the finiteness of integral values for the ratio $(a^n-1)/(b^n-1)$. In a series of papers with U. Zannier, some generalizations and applications of such results were worked out. Among the applications, I shall discuss the solution, in some particular cases, to the problem of Bogomolov of bounding the degree of rational curves on surfaces of general type. I shall also present some new results on integral points on surfaces obtained as applications of $\gcd$ estimates.

HENRI GILLET:

TITLE:HEIGHTS OF CONICS AND THE SPECTRUM OF THE LAPLACIAN

Abstract: The height of a point P in projective space over the rational numbers is a classical object measuring the size of the coordinates of P. Similarily, one can also define the height of a hypersurface (or equivalently of the homogeneous polynomial in Z[x_0, ..., x_n] which is its equation. It turns out that for conics in the projective plane, there is a relationship between this height and the derivative of at s=0 of the zeta function of the Laplacian of the conic. I shall outline why this is true, and then discuss some of the questions raised by this relationship.

MIN RU :

TITLE: CHOW WEIGHTS, HILBERT WEIGHTS AND THEIR APPLICATIONS IN NEVANLINNA THEORY

Abstract: Recently, Corvaja, Zannier and Evertse, Fretti made big progress in extending Schmidt's subspace theorem to non-linear forms. In this talk, I'll explain how to use their methods to obtain its counter-part result in Nevanlinna theory. In particular, we obtain some inequalities in estimating the average of Hilbert and Chow weights in terms of the growth function. These, together with Mumford's result on the relationship between the Hilbert weights and Chow weights will give a Second Main Theorem for holomorphic curves into smooth algebraic varieties intersecting hypersurfaces. If time permits, I'll also talk about the recent result with Julie Wang on effective Schmidt's subspace theorem of non-linear forms over function fields.

ERWAN ROUSSEAU

TITLE: DEGENERACY OF HOLOMORPHIC MAPS VIA ORBIFOLDS

Abstract: I will describe some recent results on the degeneracy of holomorphic maps using orbifolds, motivated by the framework of geometric orbifolds introduced by F. Campana.

JUNJIRO NOGUCHI

TITLE: UNICITY, KOBAYASHI HYPERBOLICITY, RATIONAL POINTS, & EXAMPLES.

Abstract: I will discuss the unicity problem for meromorphic functions in relation with the construction of a Kobayashi hyperbolic projective hypersurface with arithmetic finiteness property for rational points. Furthermore, I will discuss applications of S.M.T. for holomorphic curves into semi-ablelian varieties.