2017
The **15**th
Taiwan Geometry Symposium

NCTS

Sat., November 18

Lecture Room B, 4th Floor,
The 3rd General Building, NTHU

Schedule

AM

11:00 – 12:00 **Prof. Chih-Wei Chen (NCTS)**
Volume bounds of the Ricci flow on closed manifolds

PM

12:00 – 2:00 **Lunch Break**

2:00 – 3:00 **Prof. Mei-Heng Yueh (NCTU)**
Surface Parameterization: Theory, Practice, and Application

3:00 – 3:30 **Coffee Break**

3:30 – 4:30 **Prof. Ryuma Orita (NCTS)**
The number of fixed points of Hamiltonian diffeomorphisms

Organizing Committee:

River Chiang (NCKU)
Nan-Kuo Ho (NTHU)
Yng-Ing Lee (NTU)
Mao-Pei Tsui (NTU)

Contact:

Vickey Sun, *sunug@math.cts.nthu.edu.tw*

10:30 - 11:00   Registration

11:00-12:00 Prof. Chih-Wei Chen(陳志偉),NCTS

Title: Volume bounds of the Ricci flow on closed manifolds

Abstract: Let $g(t)_{t \text{ in } [0,T]}$ be the solution of the Ricci flow on a closed Riemannian manifold M^n with $n \geq 3$. Without any assumption, we derive lower volume bounds of the form $\text{Vol}_{g(t)} \geq C(T-t)^{n/2}$, where C depends only on n, T and the Sobolev constants A and B of $(M, g(0))$. This estimate is sharp in the sense that it is achieved by the shrinking unit sphere with scalar curvature $n(n-1)$, and Sobolev constants $A = 4\omega n^{-2/n}/n(n-2)$, $B = (n-1)\omega_n^{-2/n}/(n-2)$. This is a joint work with Zhenlei Zhang.

12:00-14:00 Lunch Break

14:00-15:00 Prof. Mei-Heng Yueh(樂美亨),NCTU

Title: Surface Parameterization: Theory, Practice, and Application

Abstract: A surface parameterization is a bijective mapping between the surface and a domain of simple shape. It has been widely applied in various fields of image science and engineering. In this talk, I will introduce algorithms for the computation of surface parameterizations, and demonstrate applications to 3D animation and medical images.

15:00-15:30 Tea break

15:30-16:30 Prof. Ryuma Orita (NCTS)

Title: The number of fixed points of Hamiltonian diffeomorphisms

Abstract: The Arnold conjecture indicates that the number of fixed points of a Hamiltonian diffeomorphism on a closed symplectic manifold is more than or equal to the total Betti number of the manifold. Today it is known that the conjecture is true for all closed symplectic manifolds. For the proof, a variant of Morse Theory, which is called Floer theory, was introduced. Then the well-known "Morse inequality" shows the conjecture. Actually, Hamiltonian diffeomorphisms tend to have infinitely many fixed points (Conley conjecture). Namely, the Conley conjecture claims that every Hamiltonian function has infinitely many periodic orbits. In the talk, I will introduce some recent results along these lines.

16:30-17:20 Forum discussion

17:40 Symposium Dinner

Location: Tien Hsiang Lo Liz

No.16, Daxue Rd., East Dist., Hsinchu (新竹市大學路 16 號)