July 28 Monday

Time: 9:00-10:00

Speaker: Prof. Ngaiming Mok (University of Hong Kong)

Title: Γ-equivariant holomorphic maps from irreducible bounded symmetric domains of rank ≥ 2 into arbitrary bounded domains

Abstract: Let Ω be a bounded symmetric domain of rank ≥ 2 and $\Gamma \subset \mathrm{Aut}(\Omega)$ be a torsion-free irreducible lattice, and write $X_\Gamma := \Omega/\Gamma$. Let $D \Subset \mathbb{C}^N$ be any bounded domain, $\Gamma' \subset \mathrm{Aut}(D)$ be a discrete subgroup such that $Y_{\Gamma'} := D/\Gamma'$ is of finite volume with respect to the Kobayashi-Royden volume form. Let $F : \Omega \to D \Subset \mathbb{C}^N$ be a holomorphic map which is Γ-equivariant with respect to a group homomorphism $\Phi : \Gamma \to \Gamma'$. In a joint work with Kwok-Kin Wong, we proved that $F : \Omega \to D$ must be a biholomorphic map provided that $\Phi : \Gamma \to \Gamma'$ is a group isomorphism. We call this the Isomorphism Theorem.

Denote by $\beta : \Omega \hookrightarrow \widehat{\Omega}$ the Borel embedding of Ω into its compact dual $\widehat{\Omega}$, which is a Hermitian symmetric space of the compact type, in particular a uniruled projective manifold. The proof of the Isomorphism Theorem relies on harmonic analysis, ergodic theory and Kähler geometry. An irreducible bounded symmetric domain Ω of rank $r \geq 2$ can be realized as a Siegel domain holomorphically fibered over an irreducible bounded symmetric domain Ω_0 of rank $r-1 \geq 1$ corresponding to a partial Cayley transforms whose fibers are holomorphically and isometrically embedded copies of a complex unit ball $\mathbb{B}^{p+1}$ where p is the dimension of the variety of minimal rational tangents (VMRT) $\mathscr{C}_0(\widehat{\Omega})$ of $\widehat{\Omega}$. To prove that $F : \Omega \xrightarrow{\cong} D$ is a biholomorphism it suffices to be able to invert the holomorphic map. To do this we first construct a holomorphic map $R : D \to \Omega$ such that $R \circ F$ is the identity map which implies that $F : \Omega \xrightarrow{\cong} F(\Omega)$ such that, writing $\varphi : F(D) \to D$ for its inverse, we have $R = \varphi \circ \varpi$ for a holomorphic retraction $\varpi : D \to F(\Omega)$. To construct R we introduce an averaging process on bounded holomorphic functions on Ω belonging to $\mathbf{H} := F^* H^\infty(D)$. Harmonic analysis on the complex unit ball $\mathbb{B}^n$ enters when one studies non-tangential limits of restrictions to Cayley fibers $\cong \mathbb{B}^{p+1}$ of bounded holomorphic functions belonging to $\mathbf{H}$, and Moore's ergodicity theorem on semisimple groups allows us to (a) obtain elements of $\mathbf{H}$ of the form $\rho^* s$ where $s \in H^\infty(\Phi)$ for some maximal face $\Phi \subset \partial\Omega$ biholomorphic to Ω_0, and ρ

is some Cayley projection of Ω onto Φ, and (b) introduce an averaging process on $\mathbf{H}$ in order to reconstruct the identity map id_Ω from $\mathbf{H}$.

To prove the Isomorphism Theorem it remains to show that the retraction map $\varpi : D \to F(\Omega)$ has zero-dimensional fibers. When D is a domain of holomorphy we achieved this by exploiting the geometry of $Y_{\Gamma'} = D/\Gamma'$ as a complete Kähler-Einstein manifold of finite volume. In general we replaced D by its hull of holomorphy $\widehat{D}$ and proved the same by deducing from the hypothesis $\mathrm{Volume}(Y_{\Gamma'}, d\mu) < \infty$ with respect to the Kobayashi-Royden volume form $d\mu$ on $Y_{\Gamma'}$ that $\widehat{D}$ is a schlicht domain such that $\widehat{D} - D$ is of zero Lebesgue measure.

Time: 10:30-11:30

Speaker: Prof. Kefeng Liu (Chongqing University of Technology)

Title: Automorphic cohomology, Penrose transformation, and geometry of non-classical flag domains

Abstract: I will present my recent joint works with Yang Shen on the geometry and representation theory aspects of non-classical flag domains.

We prove several conjectures of Griffiths about the the structures of automorphic cohomology on compact quotients of non-classical flag domains.

We construct new complex structures on non-classical flag domains $D = G_{\mathbb{R}}/V$ with $G_{\mathbb{R}}$ of Hermitian type and their compact quotients. As applications, we give new examples of compact smooth manifolds on which there are two complex structures with very different geometric properties.

Building on these works, we construct Penrose transformations of the cohomology groups of homogeneous line bundles on flag domains $D = G_{\mathbb{R}}/T$ and identify conditions under which the Penrose transformation of the automorphic cohomology groups on compact quotients of flag domains is an isomorphism. As applications we prove that the higher automorphic cohomology groups of certain homogeneous line bundles are isomorphic to the groups of automorphic forms on the Hermitian symmetric domain.

Time: 14:00-15:00
Speaker: Prof. Zhiwei Wang (Beijing Normal University)
Title: On the Guedj-Rashkovskii's zero mass conjecture
Abstract: Plurisubharmonic functions play important roles in the research field of several complex variables, complex geometry and algebraic geometry. There are many invariants to study the singularity of plurisubharmonic functions, for instance, Lelong numbers, multiplier ideal sheaves and so on. However, these invariants are insensitive to the singularities of zero Lelong number. A famous conjecture, named zero mass conjecture, proposed independently by Guedj and Rashkovskii, states that if the Lelong number of an isolated singularity is zero, then the top Monge-Ampère mass at this singularity is zero. There are many groups made important progress on this conjecture. In this talk, we will present our recent progress towards this conjecture by introducing the concept log truncated threshold (lt for short) and establishing a sharp estimate on the Monge-Ampère mass for isolated singularity with finite lt number, which provides a new approach to the zero mass conjecture, unifying and strengthening well-known results about this conjecture. This work is joint with Yinji Li, Qunhuan Liu, Professors Fusheng Deng and Xiangyu Zhou.

Time: 15:30-16:30
Speaker: Prof. Jujie Wu (Sun Yat-Sen University)
Title: Density in weighted Bergman spaces and Bergman completeness of Hartogs domains
Abstract: We study the density of functions which are holomorphic in a neighborhood of the closure of a bounded non-smooth pseudoconvex domain Ω, in the Bergman space $H^2(\Omega, \varphi)$ with a plurisubharmonic weight φ. As an application, we show that the Hartogs domain

$$\Omega_\alpha := \{(z, w) \in D \times \mathbb{C} : |w| < \delta_D^\alpha(z)\}, \alpha > 0.$$

Where $D \subset \mathbb{C}$ and δ_D denotes the boundary distance, is Bergman complete if and only if every boundary point of D is non-isolated. This work is joint with Prof. Bo-Yong Chen and Prof. John Erik Fornaess.

Time: 17:00-18:00

Speaker: Xieping Wang (University of Science and Technology of China)

Title: Removable singularities of plurisubharmonic functions via the L^2 extension theorem

Abstract: I will present a removable singularity theorem for plurisubharmonic functions across a compact complete pluripolar set in Stein manifolds. To put this result in historical context, I will also review several related classical results on plurisubharmonic functions and closed positive currents. If time permits, I will also outline the proof of our theorem, which involves a version of the Ohsawa-Takegoshi L^2 extension theorem on complete Kähler manifolds and some basic geometric measure theory.

July 29 Tuesday

Time: 9:00-10:00
Speaker: Prof. Yum-Tong Siu (Harvard University)
Title: Effective subellipticity in terms of D'Angelo Finite Type
Abstract: Will prove the effective termination of Kohn's algorithm for subelliptic estimates with test $(0,1)$-forms in the $\bar{\partial}$-Neumann problem for weakly pseudoconvex domains with smooth boundary in terms of D'Angelo's finite type condition.

Time: 10:30-11:30
Speaker: Prof. Luka Boc Thaler (University of Ljubljana)
Title: Everything you always wanted to know about Long $\mathbb{C}^n$
Abstract: A complex manifold X of dimension n is said to be a *Long* $\mathbb{C}^n$ if it is the union of an increasing sequence of domains $X_1 \subseteq X_2 \subseteq X_3 \subseteq \cdots \subseteq \bigcup_{j=1}^{\infty} X_j = X$ such that each X_j is biholomorphic to the complex Euclidean space $\mathbb{C}^n$. It is immediate that any Long $\mathbb{C}$ is biholomorphic to $\mathbb{C}$. However, for $n > 1$, this class of complex manifolds is still very mysterious. In this talk I will explain what do we know about these manifolds and what are some of the main open questions.

Time: 14:00-15:00
Speaker: Prof. Song-Yan Xie (Academy of Mathematics and Systems Science, CAS)
Title: A second main theorem for entire curves intersecting three conics in $\mathbb{P}^2$
Abstract: We prove a Second Main Theorem for entire holomorphic curves $f\colon \mathbb{C} \to \mathbb{P}^2$ intersecting a generic configuration of three conics $\mathcal{C}_1, \mathcal{C}_2, \mathcal{C}_3$ in $\mathbb{P}^2$. Using negatively twisted logarithmic invariant

2-jet differentials, we establish the inequality:

$$T_f(r) \leq 5 \sum_{i=1}^{3} N_f^{[1]}(r, \mathcal{C}_i) + o\big(T_f(r)\big) \ \|,$$

where $T_f(r)$ is the Nevanlinna characteristic function and $N_f^{[1]}(r, \mathcal{C}_i)$ is the truncated counting function at level 1. This appears to be the first effective Second Main Theorem for three conics in general position.

The main technical tool is a generic vanishing theorem for global sections of twisted logarithmic invariant 2-jet differential bundles:

$$H^0\Big(\mathbb{P}^2, E_{2,3}T^*_{\mathbb{P}^2}(\log \mathcal{C}) \otimes \mathcal{O}_{\mathbb{P}^2}(-1)\Big) = 0,$$

where $\mathcal{C} = \mathcal{C}_1 + \mathcal{C}_2 + \mathcal{C}_3$. This is joint work with Dinh Tuan Huynh and Lei Hou.

Our methods have direct applications to Kobayashi hyperbolicity problems (in progress):

- **With Dinh Tuan Huynh, Lei Hou, and Joel Merker**, we prove Kobayashi hyperbolicity for generic surfaces in $\mathbb{P}^3$ of degree at least 15, improving Mihai Păun's previous bound of 18;
- **With the same collaborators**, we show Kobayashi hyperbolicity for complements of generic curves in $\mathbb{P}^2$ of degree at least 11, improving Erwan Rousseau's previous bound of 14.

Time: 15:30-16:30

Speaker: Prof. Lei Wang (Huazhong University of Science and Technology)

Title: Rigidity of proper holomorphic mappings between nonequidimensional Fock-Bargmann-Hartogs domains

Abstract: The Fock-Bargmann-Hartogs domain $D_{n,m}(\mu)(\mu > 0)$ in $\mathbb{C}^{n+m}$ is defined by the inequality $\|w\|^2 < e^{-\mu\|z\|^2}$, where $(z, w) \in \mathbb{C}^n \times \mathbb{C}^m$, which is an unbounded non-hyperbolic domain in $\mathbb{C}^{n+m}$. In this talk I will discuss the rigidity of proper holomorphic mappings between nonequidimensional Fock-Bargmann-Hartogs domains.

Time: 17:00-18:00

Speaker: Dr. Hui Yang (Peking University)

Title: Multiplier submodule sheaf of singular metric on vector bundle

Abstract: We will discuss some positivity concepts of singular metric on vector bundle and its multiplier submodule sheaf and show the sheaf satisfies the strong openness property and stability for singular Nakano semipositive metrics. We will give an L^2 extension result for singular Nakano semipositive metrics. We also extend the Le Potier isomorphism theorem to isomorphism of cohomologies twisted with multiplier subdmodule sheaves for Strong Nakano semipositive metrics. These works are joint with Yaxiong Liu, Zhuo Liu, Bo Xiao and Xiangyu Zhou.

July 30 Wednesday

Time: 9:00-10:00
Speaker: Prof. Takeo Ohsawa (Nagoya University)
Title: Generalized Levi problems
Abstract: In the theory of several complex variables, it is well known that a complex manifold M is holomorphically convex if there exists a locally biholomorphic map $\pi : M \to \mathbb{C}^n$ which is locally pseudoconvex in the sense that every point of $\mathbb{C}^n$ has a neighborhood whose preimage by π is holomorphically convex, or Stein equivalently in this situation. This basic fact is an immediate consequence Oka's solution of the Levi problem for Riemann domains over $\mathbb{C}^n$, which established that every connected component of the structure sheaf $\mathcal{O}_{\mathbb{C}^n}$ of $\mathbb{C}^n$ is holomorphically convex.

On the other hand, by a counterexample due to Fornaess, it is known that there exists a holomorphically nonconvex complex surface X with a locally pseudoconvex holomorphic map $p : X \to \mathbb{C}^2$ whose fibers are 0-dimensional. Roughly speaking, X is constructed from a domain $\Omega_\varphi = \{(z, w) \in \mathbb{C}^2;\ |z| < 1 \text{ and } e^{\varphi(z)} < |w|\}$, where φ is a subharmonic function on the disc $\mathbb{D} = \{z \in \mathbb{C}; |z| < 1\}$ defined by

$$\varphi(z) = \sum_{\mu=1}^{\infty} \frac{1}{m(\mu)} \log \left| z - \frac{1}{n(\mu)} \right|$$

with $m, n : \mathbb{N} \hookrightarrow \mathbb{N}$, in such a way that $\sup \varphi(z) < 1$.

More precisely, $\mathbb{C}^2$ is blown up at the points $\left(\frac{1}{m(\mu)}, 0\right)$ by the maps

$$(u, v) \mapsto \left(uv^{m(\mu)} + \frac{1}{n(\mu)}, v \right),$$

so that one can find a neighborhood U of the intersection of the exceptional set with the proper transform of the complex lines

$$\left\{ \left(\frac{1}{m(\mu)}, w \right) ; w \in \mathbb{C}, \mu = 1, 2, \dots \right\}$$

such that U can be patched with $\Omega_\varphi \setminus V$ for some neighborhood V of $\left\{ \left(\frac{1}{m(\mu)}, 0 \right) ; \mu = 1, 2, \dots \right\}$ to define a complex surface X with a locally pseudoconvex holomorphic map $p : X \to \mathbb{C}^2$ in such a way that $p^{-1}(z)$ are finite for all $z \in \mathbb{C}$ and X contains complex curves which

are mapped biholomorphically onto

$$L_\mu := \left\{ \left(\frac{1}{m(\mu)}, w \right) ; w \in \mathbb{C} \right\} \quad (\mu = 1, 2, \dots)$$

by p.

Holomorphic nonconvexity of X is an immediate consequence of the maximum modulus principle applied to the restrictions of holomorphic functions on X to $p^{-1}(L_\mu)$.

This example suggests, as well as counterexamples to the Serre problem on the Steinness of analytic fiber bundles with Stein fibers and bases, that there remains something to be explored on those non-Stein manifolds.

From such an interest, it might be still worthwhile to see whether or not the above mentioned patching procedure does not destroy the separatedness of the manifolds by holomorphic functions. This point is closely related to the following question which was raised by P. A. Griffiths in 1977.

Question. Let S be a locally closed complex submanifold of $\mathbb{C}^n$. Is S holomorphically convex if the inclusion map $S \hookrightarrow \mathbb{C}^n$ is locally pseudoconvex ?

The main purpose of the talk is to show that Fornaess's example can be modified to yield a negative answer to Griffiths's question.

More explicitly, we shall prove the following.

Theorem. *Let* $\varphi(z) = \sum_{\mu=1}^{\infty} 2^{-\mu} \log |z - 2^{-\mu}|$ *and let* $\Omega'_\varphi = \{(z, w) \in \mathbb{D} \times \mathbb{C}; e^{\varphi(z)} < |w| < e\}$. *Then,* Ω'_φ *is biholomorphically equivalent to a dense open subset of a holomorphically nonconvex locally closed submanifold* S *of* $\mathbb{C}^3$ *such that the inclusion map* $\Omega'_\varphi \hookrightarrow \mathbb{C}^2$ *is continuously extended to* S *by this correspondence as a locally pseudoconvex map* $q : S \to \mathbb{C}^2$ *satisfying* $q^{-1}((2^{-\mu}, 0)) \cong \mathbb{D}$ *for all* μ.

Corollary. *There exists a locally pseudoconvex but holomorphically nonconvex Riemann domain over* $\mathbb{C}^2$ *which is embeddable into* $\mathbb{C}^3$ *as a locally closed complex submanifold.*

Time: 10:30-11:30

Speaker: Prof. Wanke Yin (Wuhan University)

Title: Finite type conditions for smooth pseudoconvex hypersurfaces

Abstract: Finite type conditions arise naturally in the study of weakly pseudoconvex hypersurfaces in $\mathbb{C}^n$, where they serve to measure the degeneracy of the Levi form. Mathematicians have developed several distinct measurements of this degeneracy, resulting in various finite types, at least including Catlin multitype, Kohn's ideal type, Bloom-Graham type (regular type), and the D'Angelo type. In this presentation, I will discuss the relationships between these types and explain how they determine the analytic and geometric properties of the associated domain. In particular, I will present recent progress on the Bloom Conjecture and the D'Angelo Conjecture, which are joint works with Professor Xiaojun Huang.

July 31 Thursday

Time: 9:00-10:00

Speaker: Prof. Frank Kutzschebauch (University of Bern, Mathematical Institute)

Title: Factorization of holomorphic matrices

Abstract: Every complex symplectic matrix in $\mathrm{Sp}_{2n}(\mathbb{C})$ can be factorized as a product of the following types of unipotent matrices (in interchanging order).

- (i): $\begin{pmatrix} I & B \\ 0 & I \end{pmatrix}$, upper triangular with symmetric $B = B^T$.
- (ii): $\begin{pmatrix} I & 0 \\ C & I \end{pmatrix}$, lower triangular with symmetric $C = C^T$.

The optimal number $T(\mathbb{C})$ of such factors that any matrix in $\mathrm{Sp}_{2n}(\mathbb{C})$ can be factored into a product of T factors has recently been established to be 5 by Jin, P. Lin, Z. and Xiao, B.

If the matrices depend continuously or holomorphically on a parameter, equivalently their entries are continuous functions on a topological space or holomorphic functions on a Stein space X, it is by no means clear that such a factorization by continuous/holomorphic unipotent matrices exists. A necessary condition for the existence is the map $X \to \mathrm{Sp}_{2n}(\mathbb{C})$ to be null-homotopic. This problem of existence of a factorization is known as the symplectic Vaserstein problem or Gromov-Vaserstein problem. In this talk we report on the results of the speaker and his collaborators B. Ivarsson, E. Low and of his Ph.D. student J. Schott on the complete solution of this problem, establishing uniform bounds $T(d, n)$ for the number of factors depending on the dimension of the space d and the size n of the matrices. It seems difficult to establish the optimal bounds. However we obtain results for the numbers $T(1, n)$, $T(2, n)$ for all sizes of matrices in joint work with our Ph.D. students G. Huang and J. Schott and B.Tran.

References

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Time: 10:30-11:30

Speaker: Prof. Qingchun Ji (Fudan University)

Title: A notion of convexity for Levi-flat structures

Abstract: The Levi-flat structure originates from the seminal work of L. Nirenberg generalizing the Newlander-Nirenberg theorem on complex structures. Since then, it has become a central topic in the theory of involutive structures. In this work, we introduce a notion of convexity for Levi-flat structures, inspired by Morse theory and Grauert-type convexity from Several Complex Variables. Applications to the global and local solvability of the Treves complex will be presented. We will also talk about the extension problem for the canonical bundle associated with a Levi-flat structure.

Time: 14:00-15:00

Speaker: Prof. Sheng Rao (Wuhan University)

Title: Several rigidity theorems under smooth deformations

Abstract: We report on several rigidity theorems concerning smooth deformations of compact complex manifolds. Two main theorems therein can be described as follows. Let Δ be the unit disk in the complex plane, and consider a smooth family of compact complex manifolds over Δ. We show that the subset of Δ over which the fibers are isomorphic to a fixed hyperbolic manifold is either a discrete subset or all of Δ. Furthermore, for a smooth Kähler family over Δ, we prove a similar rigidity result: the set of points where the fibers are isomorphic to a fixed projective manifold with semiample canonical line bundle is also either a discrete subset or the whole Δ. This talk is based on three

preprints jointly authored with Jian Chen, Mu-Lin Li, I-Hsun Tsai, Kai Wang, and Mengjiao Wang.

Time: 15:30-16:30
Speaker: Prof. Taeyong Ahn (Inha University)
Title: Intersection of positive closed currents
Abstract: In this talk, we discuss the intersection of positive closed currents on domains. As tools, we use pluripotential theory and the theory of tangent currents. Tangent currents may be understood as a generalization of Harvey's characterization of the Lelong number. King's residue formula is used to relate tangent currents and complex Monge-Amperè type currents. Then, we introduce reasonable sufficient conditions for the definition of the wedge product of positive closed currents. Also, we will introduce an analytic formulation in the self-intersecting case, that is, the set theoretic fact $A \cap A = A$.

Time: 17:00-18:00
Speaker: Prof. Zhangchi Chen (East China Normal University)
Title: Recent progress on hypercyclic holomorphic mappings with slow growth
Abstract:

A holomorphic map $h : X \to Y$ is called *hypercyclic* with respect to a generalised translation $T \in \mathsf{Aut}(X)$ if the orbit $\{h \circ T^n\}_{n \geqslant 1}$ is dense in the space $\mathcal{O}(X, Y)$ equipped with compact-open topology. Dinh-Sibony asked what is the slowest growth rate of the Nevanlinna characteristic functions of hypercyclic entire curves $\mathbb{C} \to \mathbb{P}^1$.

We construct holomorphic entire curves $h : \mathbb{C} \to \mathbb{P}^m$ hypercyclic with respect to countably many translations with optimal slow growth rate. This result answers Dinh-Sibony's question.

An entire curve $h : \mathbb{C} \to Y$ is called *frequently hypercyclic* with respect to some translation T_a for some $a \in \mathbb{C}^*$ if for any non-empty open subset $U \subset \mathcal{O}(\mathbb{C}, Y)$, the set of positive integers $k \geqslant 1$ with $h(\cdot + k\,a) \in U$ has positive lower density. Any frequently hypercyclic entire curve into projective spaces $h : \mathbb{C} \to \mathbb{P}^m$ has order at least 1.

We construct order 1 entire curves $h : \mathbb{C} \to \mathbb{P}^m$ frequently hypercyclic with respect to translations in countably many directions. This result on the slow growth rate is optimal.

References

[1] Chen, Z. and Huynh, D. and Xie S-Y. Universal Entire Curves in Projective Spaces with Slow Growth. *J. Geom. Anal.*, 33, 308, 2023.

[2] Chen, Z. and Guo, B. and Xie S-Y. Frequently hypercyclic meromorphic curves with slow growth. arXiv:2409.08048.

August 1 Friday

Time: 9:00-10:00
Speaker: Prof. John Erik Fornæss (Norwegian University of Science and Technology)
Title: Increasing Sequences of Balls
Abstract: The aim is to complement the earlier lecture by Luka Boc Thaler on Long $\mathbb{C}^2$. There will be more emphasis on Short $\mathbb{C}^2$. Our aim is to understand complex manifolds which look like $\mathbb{C}^2$. The problem goes back to an old paper with Nessim Sibony where a complex surface is exhausted by copies of the unit ball. One can then ask what the possible such manifolds are.

Time: 10:30-11:30
Speaker: Wei Wang (Zhejiang University)
Title: On pluripotential theory associated to octonionic plurisubharmonic functions of two variables
Abstract: In this talk, I will discuss the generalization of pluripotential theory to octonionic plurisubharmonic functions of two variables and octonionic Monge-Ampère operator. The comparison principle and the quasicontinuity of bounded octonionic plurisubharmonic functions can be established based on integration by parts for mixed octonionic Monge-Ampère operator. I will also discuss octonionic relative extremal function and octonionic capacity. The definition of mixed octonionic Monge-Ampère operator is extended to locally bounded octonionic plurisubharmonic functions and the corresponding convergence theorem is proved, i.e. the Bedford-Taylor theory holds in this case. We also introduce the notion of the Lelong number of an octonionic closed positve current.

Time: 14:00-15:00
Speaker: Prof. Feng Rong (Shanghai Jiaotong University)
Title: On the boundary rigidity and the squeezing function
Abstract: We present some joint work with J.E. Fornaess and related results. In the first part, we focus on the boundary rigidity (following Burns-Krantz and Huang). In the second part, we talk about the squeezing function (introduced by Deng-Guan-Zhang).

Time: 15:30-16:30
Speaker: Dr. Chenghao Qing (Tsinghua University)
Title: On the cohomology of pseudoeffective line bundles over holomorphically convex manifolds
Abstract: In this talk, I will present my joint works with Prof. Xiangyu Zhou. We obtain a structure theorem for cohomology groups of pseudo-effective line bundles over holomorphically convex Kähler manifolds, which generalizes the results of Takegoshi, Demailly-Peternell-Schneider, Meng-Zhou. As applications, we first give an answer to a question proposed by Matsumura, and establish an injectivity theorem for purely log terminal pairs generalized to pseudo-effective line bundles with transcendental singularities, and then we obtain a Kollár-Nadel-Ohsawa type vanishing theorem which extends the results of Kollár, Ohsawa, Matsumura, Fujino, Meng-Zhou, and others.

Time: 17:00-18:00
Speaker: Prof. Yum-Tong Siu (Harvard University)
Title: Informal Talk on "Some Problems of Interest to Me in Several Complex Variables and Complex Geometry"