Schedule

Dec.22nd
Register

Dec.23rd	
9:00-10:00	Speaker 1
	Title:TBD
	Abstract:TBD
10:00-10:30	Tea Break
10:30-11:30	LIU JI HAO
	Minimal model program for algebraically integrable foliations
	I will report the establishment of the minimal model program for algebraically integrable foliations on klt varieties and it applications, such as the minimal model program for generalized pairs and the canonical bundle formula. If time permits, I will discuss some related open problems and their connections to moduli theory. This talk is partially based on a series of joint works of myself with Guodu Chen, Jingjun Han, Fanjun Meng, and Lingyao Xie.
11:30-13:00	Lunch
13:00-14:00	Chen Bingyi
	Explicit bounds of singularities on Fano fibrations
	It was conjectured by McKernan and Shokurov that given a Fano fibration from X to Z, the singularities on Z are bounded in terms of those on X. Recently this conjecture was proved by Birkar. In this talk, I will discuss explicit bounds of singularities on Z in this conjecture in relative dimension one and in the toric case.
14:00-14:30	Tea Break

14:30-15:30	Zou Yu
	Title:TBD
	Abstract:TBD
15:30-16:00	Jia Jia
16:00-17:00	Speaker 5
	Equivariant Kähler model for Fujiki's class C
	Let X be a compact complex manifold in Fujiki's class C, i.e., admitting a big (1,1)-class [\alpha]. Consider Aut(X) the group of biholomorphic automorphisms and Aut_{[\alpha]}(X) the subgroup of automorphisms preserving the class [\alpha] via pullback. We show that X admits an Aut_{[\alpha]}(X)-equivariant Kähler model. I will talk several applications. We show that Aut_{[\alpha]}(X) is a Lie group with only finitely many components, which generalises an early result of Fujiki and Lieberman on the Kähler case. We also show that every torsion subgroup of Aut(X) is almost abelian, and Aut(X) is finite if it is a torsion group. This is based on a joint work with Sheng Meng.
17:00-19:00	Dinner

	Dec.24th
9:00-10:00	Jeongseok Oh
	The quantum Lefschetz principle
	"Quantum Lefschetz" is a pretentious name for understanding how moduli spaces -- and their virtual cycles and associated invariants -- change when we apply certain constraints. (The original application is to genus 0 curves in P^4 when we impose the constraint that they lie in the quintic 3-fold.)

	When it doesn't work there are fixes (like the p-fields of Guffin-Sharpe-Witten/Chang-Li) for special cases associated with curve-counting. We will describe joint work with Richard Thomas developing a general theory.
10:00-10:30	Tea Break
10:30-11:30	Artan Sheshmani
	BV differentials and Derived Lagrangian intersections in moduli spaces of surfaces on Fano and CY threefolds.
	We elaborate on construction of a derived Lagrangian intersection theory on moduli spaces of divisors on compact Calabi Yau threefolds. Our goal is to compute deformation invariants associated to a fixed linear system of divisors in CY3. We degenerate the CY3 into a normall crossing singular variety composed of Fano threefolds meeting along a K3. The deformation invariance arguments, together with derived Lagrangian intersection counts over the special fiber of the induced moduli space degeneration family, provides one with invariants of the generic CY fiber. This is report on several joint projects in progress with Ludmil Katzarkov, Tony Pantev, Vladimir Baranovsky and Maxim Kontsevich.
11:30-13:00	Lunch
13:00-14:00	Hossein Movasati
	Detecting Gauss-Manin and Calabi-Yau differential equations
	In this talk I will review few conjectures which aim to detect which linear differential equations come from Gauss-Manin connections, that is, they are satisfied by periods of families of algebraic varieties. This includes conjectures due to Katz-Grothendieck, André and Bombieri-Dwork. I will discuss another finer

	criterion to detect differential equations coming from families of hypergeometric Calabi-Yau varieties. Finally, I will explain a classification list in the case of Heun and Painlevé VI equations (joint works with S. Reiter).
14:00-14:30	Tea Break
14:30-15:30	Yuuji Tanaka
	A blowup formula for sheaf-theoretic virtual enumerative invariants on projective surfaces and its applications
	After mentioning some backgrounds, I'll talk about a blowup formula for sheaf-theoretic virtual enumerative invariants on projective surfaces and its applications at the level of the generating series of those invariants. For instance, we obtain Goettsche-Kool's conjectural blowup formulae for the generating series of the virtual Euler characteristics and virtual χ_y-genera of the moduli spaces, in which modular forms appear in the same way as in Vafa-Witten's original paper in '94. This determines some of universal functions in the generating series of Vafa-Witten invariants on a projective surface, which were conjectured also by Goettsche-Kool and Goettsche-Kool-Laarakker. These are based on joint work arXiv:2107.08155 with Nikolas Kuhn and arXiv:2205.12953 with Nikolas Kuhn and Oliver Leigh.
15:30-16:00	Tea Break
16:00-17:00	Speaker 10
	Title:TBD
	Abstract:TBD
17:00-19:00	Dinner

Dec.25th	
9:00-10:00	Caucher Birkar

	Title:TBD
	Abstract:TBD
10:00-10:30	Tea Break
10:30-11:30	Speaker 12
	Title:TBD
	Abstract:TBD
11:30-13:00	Lunch
13:00-14:00	Speaker 13
	Title:TBD
	Abstract:TBD
14:00-14:30	Tea Break
14:30-15:30	Seung-Joo Lee
	Title:TBD
	Abstract:TBD
15:30-16:00	Tea Break
16:00-17:00	Speaker 15
	Title:TBD
	Abstract:TBD
17:00-19:00	Dinner

Dec.26rd	
9:00-10:00	Speaker 16
	Title:TBD
	Abstract:TBD
10:00-10:30	Tea Break
10:30-11:30	Speaker 1
	Title:TBD
	Abstract:TBD
11:30-13:00	Lunch