

# The 2nd Shot of The 13th MSJ-SI “Differential Geometry and Integrable Systems”

The 5th International Workshop  
Geometry of Submanifolds and Integrable Systems

November 26 - December 1, 2022

## Supports

Mathematical Society of Japan

OCAMI (MEXT Joint Usage/Research Center on Mathematics and Theoretical Physics)

Takamatsu Convention and Visitors Bureau

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**The Mathematical  
Society of Japan**



**OCAMI**



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Franz Pedit (UMass Amherst)

# Timetable

Time	November 26	November 27	November 28	November 29	November 30	December 1
9:50-10:40	<b>Opening</b> (14:10-14:20)	Pak Tung Ho	<b>Short Communications</b> (10:00-12:00)	<del> </del> Indranil Biswas (13:00-13:50)	Robert Kusner (Online)	Emma Carberry
11:10-12:00		Hiroyasu Sato			Aya Ishizeki Takeyuki Nagasawa	Franz Pedit
14:20-15:10	Shu-Cheng Chang	<b>Short Communications</b> (14:20-18:20)	<b>Free Discussion</b>	Charles Ouyang	Mao-Pei Tsui	<b>Closing</b> (12:00-12:10)
16:00-16:50	Ryosuke Takahashi			Yuuki Tadokoro	Takashi Sakai	<b>Free Discussion</b>
17:20-18:10	Miyuki Koiso			Wayne Rossman	Reiko Miyaoka	
<b>Venue</b>	Exhibition Hall	Exhibition Hall	Exhibition Hall	Kagawa International Conference Hall	Kagawa International Conference Hall	Kagawa International Conference Hall

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## Program

### November 26.

- 14:20-15:10 Shu-Cheng Chang (National Taiwan University, Taiwan)  
*The Legendrian Mean Curvature Flow*
- 16:00-16:50 Ryosuke Takahashi (Kyushu University, Japan)  
*A Nakai-Moishezon type criterion for supercritical deformed Hermitian-Yang-Mills equation*
- 17:20-18:10 Miyuki Koiso (Kyushu University, Japan)  
*A variational problem for developable surfaces with curved folds*

### November 27.

- 9:50-10:40 Pak Tung Ho (Sogang University, Korea)  
*The weighted Yamabe problem*
- 11:10-12:00 Hiroyasu Sato (Nippon Institute of Technology, Japan)  
*The horosphere version of the Osserman conjecture and related topics*

### Short Communications I. (Parallel Session)

- 14:20-14:50 (A) Ryo Takenaka (Osaka Metropolitan University, Japan)  
*Fermionic character formulas of affine Lie algebras and related topics*  
(B) Shota Hamanaka (Mitsubishi Electric Corporation Advanced Technology R&D Center, Japan)  
 *$C^0$ ,  $C^1$  limit theorems for total scalar curvatures*
- 15:10-15:40 (A) Yuki Koto (Kyoto University, Japan)  
*Analytic decomposition of quantum cohomology*  
(B) Homare Tadano (Yamaguchi University, Japan)  
*A Zoo of Bonnet-Myers Type Theorems*
- 16:10-16:40 (A) Denis Polly (Kobe University, Japan)  
*Representations of discrete Bryant type surfaces*  
(B) Kuang-Ru Wu (Academia Sinica, Taiwan)  
*Positively curved Finsler metrics on vector bundles*

- 17:00-17:30 (A) Joseph Cho (TU Wien, Austria)  
*Closed discrete Darboux transforms*  
(B) Brian Harvie (National Taiwan University, Taiwan)  
*The Bartnik quasi-local mass of small geodesics balls*
- 17:50-18:20 (A) Artur Serdyeyev (Online, Silesian University in Opava, Czech Republic)  
*From contact geometry to multidimensional integrable systems*  
(B) Tetsuya Nakamura (UMass Amherst, USA)  
 *$Sp(C^4)$  Transformations of CMC 1 Surfaces in  $H^3$*

## November 28.

### Short Communications II. (Parallel Session)

- 10:00-10:30 (A) Ye-Kai Wang (Online, National Yang Ming Chiao Tung University, Taiwan)  
*A rigidity result for surfaces in Schwarzschild spacetime*  
(B) Albert Wood (National Taiwan University, Taiwan)  
*Cohomogeneity-One Lagrangian Mean Curvature Flow*
- 10:50-11:20 (A) Taiki Yamada (Shimane University, Japan)  
*Asymmetric allocation rule depending on graph structure*  
(B) Yen-Chang Huang (National University of Tainan, Taiwan)  
*Some integral geometric formulas in the Heisenberg groups*
- 11:40-12:10 (A) Chih-Wei Chen (National Sun Yat-sen University, Taiwan)  
*Hessian estimators on data manifolds*  
(B) Abhitosh Upadhyay (Indian Institute of Technology Goa, India)  
*On compact embedded Weingarten hypersurfaces in warped products*
- 12:10- **Free Discussion**

## November 29.

- 13:00-13:50 Indranil Biswas (Tata Institute of Fundamental Research, India)  
*Moduli spaces of framed logarithmic and parabolic connections on a Riemann surface*
- 14:20-15:10 Charles Ouyang (UMass Amherst, USA)  
*Compactifications of Hitchin components*
- 16:00-16:50 Yuuki Tadokoro (National Institute of Technology, Kisarazu College, Japan)  
*Nonlinear  $O(3)$  sigma model in discrete complex analysis*
- 17:20-18:10 Wayne Rossman (Kobe University, Japan)  
*Discrete Omega surfaces and their transformations*



## November 30.

- 9:50-10:40 Robert Kusner (Online, UMass Amherst, USA)  
*Steklov Eigenspaces and Free Boundary Minimal Surfaces*
- 11:10-12:00 Aya Ishizeki, Takeyuki Nagasawa (Saitama University, Japan)  
*Möbius energy for knots and links, and wave maps*
- 14:20-15:10 Mao-Pei Tsui (National Taiwan University, Taiwan)  
*A new monotone quantity in mean curvature flow implying sharp homotopic criteria*
- 16:00-16:50 Takashi Sakai (Tokyo Metropolitan University, Japan)  
*Variational problems for integral invariants of the second fundamental form of a map between Riemannian manifolds*
- 17:20-18:10 Reiko Miyaoka (Tohoku University, Japan)  
*Various aspects of isoparametric hypersurfaces*

## December 1.

- 9:50-10:40 Emma Carberry (The University of Sydney, Australia)  
*Constant Mean Curvature Tori in  $\mathbb{R}^3$  of Spectral Genus Two*
- 11:10-12:00 Franz Pedit (UMass Amherst, USA)  
*Higgs bundles, Monge-Ampere equations, affine spheres, and SYZ geometry*
- 12:00-12:10 **Closing**
- 12:10-18:00 **Free Discussion**