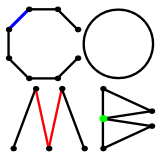

2020 年

九州大学 組合せ数学セミナー

Hakata Workshop 2020; Winter Meeting[1]

下記のようにセミナーを開催しますので, ご案内申し上げます。

世話人:	溝口 佳寛（九大 IMI）	谷口 哲至（広島工大）
	島袋 修（長崎大）	田上 真（九州工大）
	栗原大武（北九州高専）	千葉周也 (熊本大)
	三枝崎　剛 (琉球大)	Daniel GAINA(九州大)
	深作 亮也 (九州大)	
アドバイザー：	坂内 英一	

記

日時: February 21 and 22, 2020

場所: ・Firday, February 21 九州大学伊都キャンパス (福岡市西区元岡 744) ウェスト 1 号館 D 棟 4 階オーディトリアム前ホワイエ

・Saturday, February 22 Seminar Room P (4F) in Reference Eki Higashi Building. 1-16-14 Hakata-Eki-Higashi, Hakata-Ku, Fukuoka City, 812-0013

プログラム

Friday, February 21 Poster Session

16:00–17:30 Software in Mathematics Demonstration Track in Hakata Workshop 2020

Saturday, February 22 Talk

14:37–14:40 Opening （Tetsuji Taniguchi）

14:40-15:20 Shuya Chiba (Kumamoto University)
Induced nets and Hamiltonicity of claw-free graphs

15:30–16:10 Yuki Irie (Tohoku University)
Representations of Symmetric Groups and the Game of Maya

16:20–17:00 Hiroyasu Hamada(National Institute of Technology, Sasebo College)
C^*-algebras generated by multiplication operators and composition operators by functions with self-similar branches

17:10–17:50 Tatsuyoshi Hamada (Nihon University)
MathLibre : Mathematical Software Environment

17:50-17:55 Closing(Yoshihiro Mizoguchi)

18:30– Post-meeting party

[1] This conference was supported by Graduate School of Mathematics, Kyushu University, JSPS KAKENHI(Grant-in-Aid for Scientific Research (C)) Grant Number 25400217, 17K05346, 19K03425, 18K03245

Poster Session (February 21)

Theme: Software in Mathematics Demonstration Track
Speakers and Titles:

1. 伊藤 大世（専修大学）HIST の存在性を保証する次数和条件について
2. 太田 友, 鎌田 泰彰, 木本 雄也, 土井 悠太, 吉原 周 (九州大学大学院数理学府)　曲面グラフの 3D プリント
3. 石原 侑樹 (立教大学理学研究科)　Modular Techniques を用いた効率的な局所化操作の計算
4. 本田龍一 (九州大学確率解析研究センター)　Mathematica による干渉ブラウン運動の数値シミュレーションと可視化
5. 弓井 寛太 (長崎大学教育学部中学校教育コース数学専攻)　Haskell から学ぶ圏論
6. 新谷 樹生 (九州工業大学 大学院 情報工学府 学際情報工学科 システム情報工学専攻)　ゼロサプレス型二分決定グラフを利用したスリザーリンクソルバーの高速化
7. 中邑 聡史 (九州大学大学院数理学府)　格子上の基底簡約アルゴリズムの開発
8. 林 澪央 (九州工業大学大学院学際情報工学専攻)　位相的データ解析について-R 言語による実装-
9. 有賀 光佑 (九州大学大学院数理学府)　domineering に対する強化学習の適用
10. 江湖 信太郎 (九州工業大学大学院情報工学府学際情報工学専攻) 位相的データ解析による 2 次体整数環の素数分布解析

Abstract

Shuya Chiba (Faculty of Advanced Science and Technology, Kumamoto University)

Title: Induced nets and Hamiltonicity of claw-free graphs Abstract: The connected graph of degree sequence $3, 3, 3, 1, 1, 1$ is called a net, and the vertices of degree 1 in a net are called its end-vertices. In 1993, Broersma conjectured that a 2-connected graph G with no induced $K_{1,3}$ is hamiltonian if every end-vertex of each induced net of G has degree at least $(|V(G)| - 2)/3$, which is a generalization of two classical results obtained by Matthews and Sumner (1985) and by Duffus, Gould and Jacobson (1981). In this study, we prove this conjecture in the affirmative by analyzing the difference of the vertex degree between the Ryjáček closure and the original graph.

Yuki Irie (Research Alliance Center for Mathematical Sciences, Tohoku University)

Title: Representations of Symmetric Groups and the Game of Maya Abstract: In the 1970s, Mikio Sato conjectured that Maya, which is a game played with a Young diagram, is related to representations of symmetric groups. In support of this conjecture, he pointed out that its Sprague-Grundy function can be expressed in a form similar to the hook-length formula. Here, using the Sprague-Grundy function, we can give the winning way of the game.

In this talk, we present a relation between representations of symmetric groups and Maya. Irreducible representations with degree prime to p play an important role, where p is a prime.

Hiroyasu Hamada (National Institute of Technology (KOSEN), Sasebo College)

Title: C^*-algebras generated by multiplication operators and composition operators by functions with self-similar branches Abstract: I talk about definition and examples of C^*-algebras, definition and examples of composition operators, and my researches. In my researches, I explain C^*-algebras generated by multiplication operators and composition operators by functions with self-similar branches are isomorphic to the C^*-algebras associated with self-similar maps introduced by Kajiwara and Watatani under some condition.

Tatsuyoshi Hamada (Nihon University/OCAMI)

Title: MathLibre: Mathematical Software Environment Abstract: MathLibre is a project to archive open source mathematical software and free mathematical documents and offer them on Live Linux system. MathLibre Project is the direct descendant of KNOPPIX/Math Project. It provides a desktop for mathematicians that can be set up easily and quickly. If your machine is not DVD bootable, or has very special hardware devices which MathLibre cannot drive, we recommend you download virtual machine like “ Virtual Box ”. Once you have installed the virtual machine, you can start our live system from DVD or from ISO image file. The instructions for installing and using the virtual machine can be found in our DVD.