

金沢数論ミニ集会 2018

日時: 2018年7月19日(木)

場所: 金沢大学サテライトプラザ2階講義室

世話人: 若槻 聡 (金沢大学)

(北陸数論セミナーとの併催)

プログラム

7月19日(木)

13:30 - 14:30 平野 雄一 (東京大学)

TBA

14:50 - 15:50 Soma Purkait (東京理科大学)

Local Hecke algebras and newforms

16:10 - 17:10 鈴木 美裕 (京都大学)

Quaternion distinguished representations and base change for unitary groups

17:30 - 18:30 Kimball Martin (オクラホマ大学)

The basis problem

19:00 - 懇親会

アブストラクト

平野 雄一 (東京大学)

タイトル: TBA

アブストラクト: TBA

Soma Purkait (東京理科大学)

タイトル: Local Hecke algebras and newforms

アブストラクト:

We describe genuine Hecke algebras of the double cover of $SL_2(\mathbb{Q}_p)$ with respect to certain open compact subgroups by generators and relations. We use these to define classical Hecke operators on the space of cuspidal modular forms of weight $k+1/2$ and level M where M is odd and square-free. We consider a subspace that is common -1 eigenspace of certain finitely many pair of conjugate operators and show that this subspace is Hecke isomorphic to the space of newforms of weight $2k$ and level $4M$.

鈴木 美裕 (京都大学)

タイトル: Quaternion distinguished representations and base change for unitary groups

アブストラクト:

Base change lift is a conjectural map from the set of cuspidal automorphic representations of a unitary group to the set of automorphic representations of a general linear group. Flicker and Rallis conjectured that a cuspidal automorphic representation of GL is in the image of the base change lift if and only if it is distinguished with respect to certain subgroup. Considering quaternion distinguished representations, we will propose a slight generalization of this conjecture and prove it for $GL(2)$ by using a relative trace formula.

Kimball Martin (オクラホマ大学)

タイトル: The basis problem

アブストラクト:

The basis problem, studied in depth by Eichler and others, asks what

spaces of modular forms can be generated by theta series, especially theta series attached to quaternion algebras. We will discuss a representation-theoretic approach to this problem using the Jacquet-Langlands correspondence. This approach both refines the solution to the basis problem by Hijikata-Pizer-Shemanske for elliptic modular forms and solves the basis problem for Hilbert modular forms. This has applications to computing spaces of modular forms and exhibiting congruences.