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Workshop of Teichmueller Spaces
and related topics

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Place: Department of mathematics 1-410 , Josai University

Date: January 20, 2011

Morning session (10:00-12:00)

Masatoshi Iida (Dept. of Math., Josai University)

“Certain spherical function on the Hermitian symmetric space $Sp(2, R)/U(2)$ ”

The spherical function on a Riemann symmetric space G/K plays an important role in the representation theory of G , though their explicit formulae are known in few cases. In this talk, we see that the radial part of certain spherical function on $Sp(2, R)/U(2)$ is essentially the hypergeometric function of two variables (which was formally defined not in the context of the representation theory) and give its integral formula.

Takeyoshi Kogiso (Dept. of Math., Josai University)

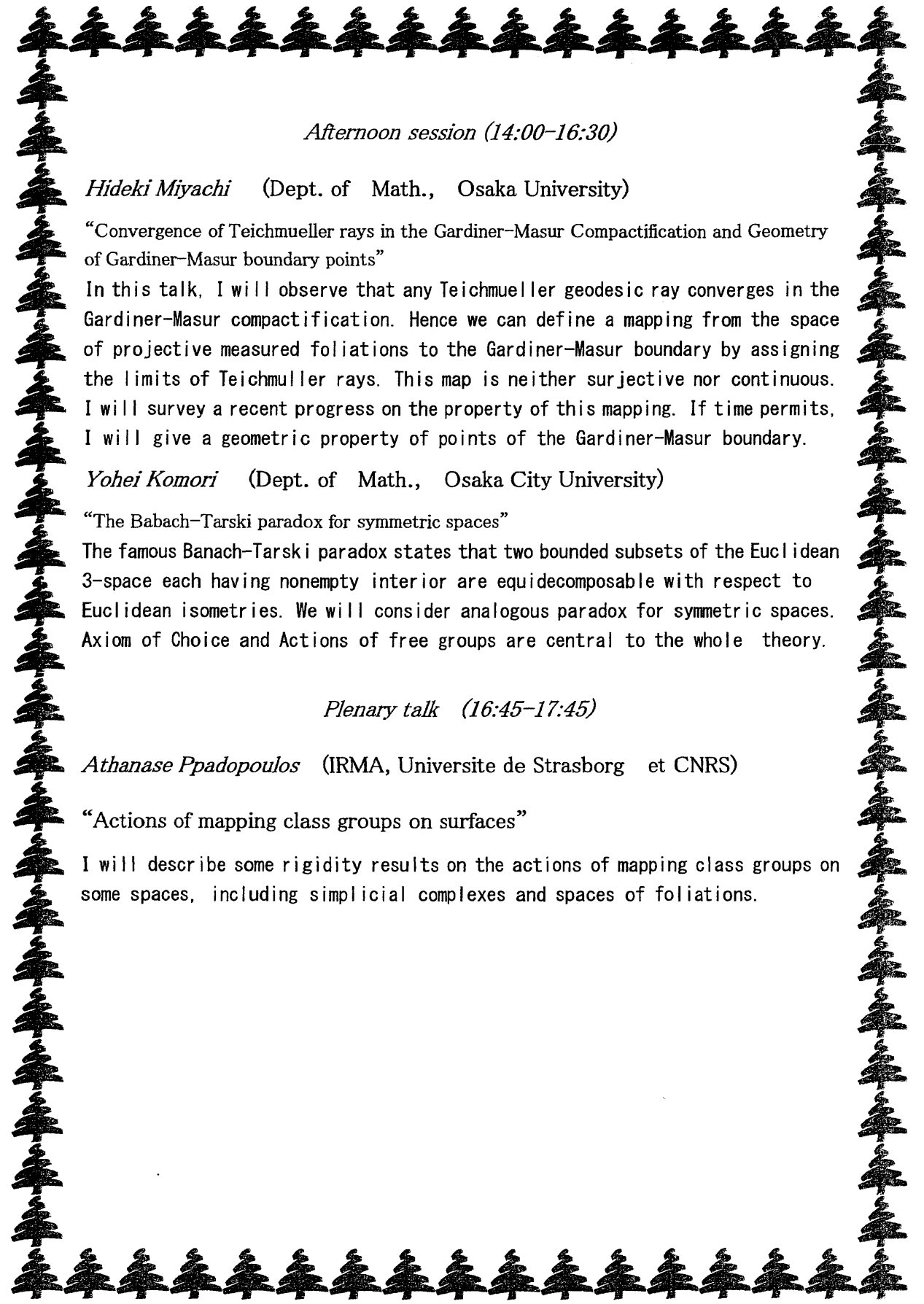
“Hopf mappings and functional equations of the Fourier transforms of polynomials”

In this talk, I will describe about polynomials which satisfy the local functional equations (abbreviated by LFE) of Fourier transforms of polynomials. I will mainly explain the history and the significance of LFE of polynomials. I will introduce our recent research (with Fumihiro Sato) associated to geometrical objects as long as time allows.

Haruko Nishi (Dept. of Math., Josai University)

“A metric on the once-punctured torus”

I will exhibit a metric on the moduli space of quadrilaterals and explain how it induces a metric on the Teichmueller space of once punctured torus.



Afternoon session (14:00–16:30)

Hideki Miyachi (Dept. of Math., Osaka University)

“Convergence of Teichmueller rays in the Gardiner–Masur Compactification and Geometry of Gardiner–Masur boundary points”

In this talk, I will observe that any Teichmueller geodesic ray converges in the Gardiner–Masur compactification. Hence we can define a mapping from the space of projective measured foliations to the Gardiner–Masur boundary by assigning the limits of Teichmuller rays. This map is neither surjective nor continuous. I will survey a recent progress on the property of this mapping. If time permits, I will give a geometric property of points of the Gardiner–Masur boundary.

Yohei Komori (Dept. of Math., Osaka City University)

“The Babach–Tarski paradox for symmetric spaces”

The famous Banach–Tarski paradox states that two bounded subsets of the Euclidean 3-space each having nonempty interior are equidecomposable with respect to Euclidean isometries. We will consider analogous paradox for symmetric spaces. Axiom of Choice and Actions of free groups are central to the whole theory.

Plenary talk (16:45–17:45)

Athanase Ppadopoulos (IRMA, Universite de Strasborg et CNRS)

“Actions of mapping class groups on surfaces”

I will describe some rigidity results on the actions of mapping class groups on some spaces, including simplicial complexes and spaces of foliations.