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Seminar

Cuspidal Irreducible Representations of Connected Reductive *p*-adic Groups over Arbitrary Field

Professor Marie-France Vignéras
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Abstract: Let F be a non-archimedean field of residual characteristic p, G a connected reductive F-group and C a field of characteristic c. Cuspidal irreducible C-representations of the reductive p-adic group $G(F)$ are totally mysterious if $c = p$, their existence is even known only when the characteristic of F is 0. But when $c \neq p$, we conjecture that all cuspidal irreducible C-representations of $G(F)$ are compactly induced from compact mod center open subgroups, because we can prove it in many cases.

All known examples of cuspidal irreducible complex representations of $G(F)$ are of this form: cuspidal irreducible complex representations of $G(F)$ of level 0 (Moy-Prasad, Morris), all cuspidal irreducible complex representations of $G(F)$ if the semi-simple rank of G is 1 (Weissman), or (generalising Bushnell-Kutzko) if $G = SL(n)$, or G is an inner form of $GL(n)$, or G is a classical group or a quaternionic form of a classical group and p odd, or (generalising J.K. Yu), if G splits on a moderately ramified extension of F and p is prime to the order of the absolute Weyl group. The field of complex numbers has been replaced by an algebraically closed coefficient field of characteristic $c \neq p$ (many authors). In a work in progress with Henniart, we are able to drop the hypothesis that C is algebraically closed.

Date:	Tuesday, 21 January 2020
Time:	2:00 p.m. – 3:00 p.m.
Venue:	C5, Lady Shaw Building, The Chinese University of Hong Kong, Shatin

All are Welcome!