**Speaker:** Nadir Matringe

**Title:** The sign of linear periods

**Abstract:** Let $G$ be a group with subgroup $H$, and let $(\pi, V)$ be a complex representation of $G$. The natural action of the normalizer $N$ of $H$ in $G$ on the space $\mathrm{Hom}_H(\pi, \mathbb{C})$ of $H$-invariant linear forms on $V$, provides a representation $\chi_\pi$ of $\frac{N}{H}$, which is a character when $\mathrm{Hom}_H(\pi, \mathbb{C})$ is one dimensional. If moreover $G$ is a reductive group over a $p$-adic field, and $\pi$ is smooth irreducible, it is an interesting problem to express $\chi_\pi$ in terms of the possibly conjectural Langlands parameter $\phi_\pi$ of $\pi$. We will consider the following situation: $G = GL_m(D)$ for $D$ a central division algebra of dimension $d^2$ over a $p$-adic field $F$, $H$ is the centralizer of a non central element $\delta \in G$ such that $\delta^2$ is in the center of $G$, and $\pi$ has generic Jacquet-Langlands transfer to $GL_{md}(F)$. In this setting the space $\mathrm{Hom}_H(\pi, \mathbb{C})$ is at most one dimensional. When $\mathrm{Hom}_H(\pi, \mathbb{C}) \simeq \mathbb{C}$ and $H \neq N$, we prove that the value of the $\chi_\pi$ on the non trivial class of $\frac{N}{H}$ is $(-1)^m \epsilon(\phi_\pi)$ where $\epsilon(\phi_\pi)$ is the root number of $\phi_\pi$. This is a joint work with U.K. Anandavardhanan, H. Lu, V. Sécherre and C. Yang.