**Critical values of L-functions**

**Don Blasius**

The first lecture will review Deligne's conjecture that critical values of motivic L-functions can be described, up to non-zero elements of the coefficient field, as certain period determinants. Results for automorphic forms, especially in the CM case and that of Hilbert modular forms, will be reviewed. A purely automorphic variant about relations of critical values of automorphic L-functions will be discussed.The second lecture is planned to review the case of Hecke L-series, showing how the conjecture is established over CM fields.

References:

1. Deligne, *Valeurs de Fonctions L et Periodes d'Integrales.*
2. Shimura, *The Special Values of the Zeta Functions associated with Hilbert modular forms.*
3. Hida, *On the Critical Values of L-functions of $GL(2)$ and $GL(2) \times GL(2)$.*
4. Harris and Kudla, *The Central Critical Value of a triple product L-function.*
5. Blasius, *On the Critical Values of Hecke L-series.*
6. Blasius, *Appendix to Orloff.*
7. Blasius, *Period Relations and the Critical Values of L-functions.*
8. Raghuram and Shahidi, *On Certain Period Relations for Cusp Forms on $GL(n)$.*
9. Mahnkopf, *Cohomology of Arithmetic Groups, Parabolic Subgroups, and the Special values of L-functions on GL(N).*