

Modules	Harmonic Grammar: Models and Methods: December 14 – December 21 Number of participants for the course will be limited to fifty.
You Should Attend If...	you are a linguist interested in computational tools which explore models of grammar you are an engineer or researcher interested in computational modeling as well as models of grammar. you are a student or faculty from an academic institution interested in learning about Harmonic Grammar models.
Fee & Registration	The participation fees for taking the course is as follows: Participants from abroad : US \$500 Industry/ Research Organizations: 20000 Academic Institutions: 5000 1000: students (refundable, subject to joining the course) The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with guest house accommodation on payment (approx Rs. 200 per day) Students will receive a grade card if they require one (1 credit course) Last date of registration for the course: 15 th November 2016 Please also register here: http://www.gian.iitkgp.ac.in/GREGN Dr. Shakuntala Mahanta Phone: 03612582565/9435304913 E-mail: smahanta@iitg.ernet.in
Course Co-ordinator	

Harmonic Grammar: Models and Methods

Overview

Computational tools which explore models of grammar have been known to give rise to new and detailed linguistic insights. Harmonic Grammar (HG) is a synthesis of generative and connectionist/statistical approaches to language. The models of linguistic knowledge combine representations and constraints (or rules) from generative linguistics with the numerical weights used in connectionist and statistical frameworks. There now exist a number of variants of HG, along with a range of freely available computational tools for exploring these models of grammar. This course provides an introduction to both the models and the methods, assuming no background in either mathematics or computational modeling. Starting with a version of HG that closely resembles the well-known "classic" Optimality Theory model of Prince and Smolensky (1993/2004), the course then proceeds to introduce more elaborate probabilistic models (Goldwater and Johnson's 2003 Maximum Entropy Grammar, Boersma and Pater's 2008 Noisy HG), as well as versions of HG that use serial derivations (as Harmonic Serialism - McCarthy 2007 *et seq.*). It also shows how HG learning algorithms can be used to model human language acquisition, and how they can be applied to simulations of language change through iterated "agent-based" learning. Step-by-step instructions for working with the associated software tools will be provided, along with example input files and scripts. Course participants will learn about these topics through lectures and hands-on experiments. Also case studies and assignments will be shared to stimulate research. The faculty are as below:



Joe Pater is Professor in the Department of Linguistics, University of Massachusetts. He is also the Co - director of the Cognitive Science initiative at University of Massachusetts His area of research is mainly in the domain of phonology and his research interests include models of Grammar, Language Acquisition and Cognitive Science



Shakuntala Mahanta is Associate Professor of Linguistics in the Department of HSS, IIT Guwahati. Her research is mainly in the area of theoretical approaches to phonological processes. She also works on tone and intonation and some of her projects have dealt with digital preservation of languages in Northeast India.

<http://blogs.umass.edu/pater/>

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