New course

• Linguistics 195S *Neuroscience and Multilingualism* (NS, STS, R)
Defining human language

Where language is NOT equal to speech
Human language is ... 

- Dynamic, learned, hierarchical relatively autonomous system of meaning-generating paradigmatic and syntagmatic signs that signify and communicate to self and others via speech communities and communities of practice throughout the life cycle
Central controversies of the field of *Brain and Language*

- Learned/innate
- Degree of localization
- Appropriate definitions of critical periods
- (predispositions)
- (modularity and connectivity)
- (specificity, plasticity, complexity)
Central disciplines of the field of *Brain and Language*

- **Neuroanatomy**
  - Ojemann, Dowling, Rose, Parnavelas, Huttenlocher

- **Neurophysiology**
  - Ojemann, Rose, Huttenlocher

- **Biochemistry**
  - Rose, Ojemann, Huttenlocher

- **Neurofunctionality**
  - Poeppel, Fabbro, Rosenfield

- **Neurolinguistics**
  - Lieberman, Poeppel, Fabbro, Andrews, Jakobson

- **Neuroimaging**
  - Huettel, Poeppel, Ojemann
Central topics of the field of *Brain and Language*

- **Linguistic theory**
  - Jakobson, Bolinger, Lieberman, Poeppel, Vygotsky
- **Lesion-deficit tradition**
  - Fabbro, Rosenfield, Damasio, Skotko/Andrews/Einstein, Sacks, Luria
- **Cultural anthropology**
  - Donald
- **Language, culture & identity**
  - Jakobson, Donald
- **Language and Memory (& collective memory)**
  - Rose, Jakobson, Donald, Squire, Rosenfield
- **Development neurobiology**
  - Dowling, Rose, Parnavelas, Ojemann, Huttenlocher
- **Evolutionary biology**
  - Lieberman, Donald
- **Imaging technology** (EEG, ERP, fMRI, PET, MEG, TMS, CSM)
  - Ojemann, Poeppel, Huettel
- **Developmental cognitive psychology** (consciousness/metaconsciousness)
  - Vygotsky
- **Phonology**
  - Jakobson, Bolinger, Rosenfield, Fabbro, Lieberman
- **Multilingualism**
  - Jakobson, Fabbro, Ojemann, deBot, Hernandez, Perani
Result ...

• New field of *Brain and Language*
  – Poeppel, Vygotsky, Jakobson, Andrews, Lieberman, de Bot, Bookheimer, Stowe, Price

• Deepened collaboration with other Duke units
  – Duke Institute for Brain Sciences
  – Brain Imaging & Analysis Center
  – Medical School Anatomy labs
  – Joint research projects (behavioral and imaging)