

ChE 126b—Winter 2004

Focus: Gas conversion in sub-millisecond microplasma reactors
Instructor: K. Giapis x 4180

Requirements: 2x 3 hour sessions/week experimentation (times TBA)
1-page bi-weekly progress reports
Midterm/final presentations

Topics:

- 1) Hydrogen production through ammonia decomposition
- 2) Methane partial oxidation and conversion
- 3) Volatile organic carbon (VOC/Benzene) destruction
- 4) Ozon generation

Objectives: Built a plasma microreactor from components
Characterize microreactor operation
Use in conjunction with gas chromatographs for product detection
Thermodynamic/kinetic analysis of reactions
Parametric studies / yield optimization
Written / oral presentation of experimental results
Learn how to search scientific literature for background/reference

Bonus: High quality results/presentation gets trip to AIChE to present