Jongguen Lee
School of Aerospace Systems
Aerospace Engineering

Dr. Lee’s research focuses on combustion and propulsion problems in air-breathing and rocket propulsion systems. He has many years of experience in combustion dynamics in gas turbine, ramjet and augmentor, the development of various laser-based optical diagnostic techniques/sensors with applications to propulsion systems, turbulent flame propagations and multi-phase combustion processes. He has been collaborating with many major gas turbine/aircraft industries such as GE Aviation, GE Energy, Pratt and Whitney, Siemens-Westinghouse, Solar Turbines as well as the NASA-GRC, AFRL (Air Force Research Lab.), ARL (Army Research Lab.) and DOE (Department of Energy) in those areas. His research interests also include supersonic combustion, plasma-aided combustion, solid-propellants and combustion of alternative fuels. Dr. Lee joined University of Cincinnati in January 2011. His laboratory is now under establishment and equipped with state-of-the-art optical diagnostic instrumentations enabling Planar Laser Induced Fluorescence, Time-resolved Spectroscopy, High Speed Imaging, Spray Characterization, Fuel/air Mixing Measurement, Infrared Absorption, etc. His research at UC continues to be focused on Combustion/Propulsion/Energy System. It includes researches to investigate the flame stabilization in a supersonic combustor (Figure 1), the effect of turbulence on pollutant emissions (Figure 2) and the fuel/air mixing characteristics in a micro-mixer of a gas turbine nozzle (Figure 3) which are supported by AFRL-Wright Patterson, GE-GRC and GE Energy, respectively.

Figure 1 Flame visualization (OH-PLIF) in a supersonic combustor (Ma=3.0)

Figure 2 Simultaneous measurement of velocity field and OH-PLIF of flame front in a multi-nozzle low NOx burner

Figure 3 Fuel/air mixing measurement in a micro-mixer of a gas turbine combustor
**Chia-Chi Ho**
School of Energy, Environmental, Biological and Medical Engineering (SEEBME)
Chemical Engineering

**Sorting Cells In Dishes**
Cell Chromatography: Patterned culture dishes can separate cells based on movement
By: Sarah Webb

Chia-Chi Ho of the [University of Cincinnati](http://www.uc.edu) and her colleagues demonstrated last year that they could [steer the movement of cells by printing a cell-resistant polymer background](http://doi.org/10.1021/la2000206) that surrounded teardrop-shaped, unmodified islands on a tissue culture dish (*Langmuir*, DOI:10.1021/la2000206).


**Stepping Stones**
A schematic shows a honeycomb pattern of teardrop-shaped islands on a culture dish, providing a simple method to guide and sort cells. A cell (red) is constrained to an island. Credit: *Anal. Chem.*

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**Ephraim Gutmark**
School of Aerospace Systems
Aerospace Engineering

**Professor Ephraim Gutmark to Be Named APS Fellow**
By: Desiré Bennett

College of Engineering and Applied Science Distinguished Professor, Ephraim Gutmark, PhD, has been elected to Fellowship in the American Physical Society.


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