Mark Godfrey Mungal
Professor of Mechanical Engineering, Emeritus

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Mechanical Engineering

Publications

PUBLICATIONS

- Single- and dual-band collection toluene PLIF thermometry in supersonic flows  *EXPERIMENTS IN FLUIDS*
  Miller, V. A., Gamba, M., Mungal, M. G., Hanson, R. K.
  2013; 54 (6)

- Plasma-assisted stabilization of laminar premixed methane/air flames around the lean flammability limit  *COMBUSTION AND FLAME*
  Bak, M. S., Do, H., Mungal, M. G., Cappelli, M. A.
  2012; 159 (10): 3128-3137

- The improvement of blowout limit in partially/fully premixed flames with geometrically modified bluffbody bases  *EXPERIMENTS IN FLUIDS*
  Kim, W., Do, H., Mungal, M. G.
  2011; 51 (5): 1315-1328

- The influence of boundary layers on supersonic inlet flow unstart induced by mass injection  *EXPERIMENTS IN FLUIDS*
  Do, H., Im, S., Mungal, M. G., Cappelli, M. A.
  2011; 51 (3): 679-691

- Visualizing supersonic inlet duct unstart using planar laser Rayleigh scattering  *EXPERIMENTS IN FLUIDS*
  Do, H., Im, S., Mungal, M. G., Cappelli, M. A.
  2011; 50 (6): 1651-1657

- DAMKOHLER NUMBER SIMILARITY FOR STATIC FLAME STABILITY IN GASEOUS-FUELED AUGMENTOR FLOWS  *COMBUSTION SCIENCE AND TECHNOLOGY*
  El-Asrag, H. A., Pitsch, H., Kim, W., Do, H., Mungal, M. G.
  2011; 183 (7): 718-737

- Plasma assisted flame ignition of supersonic flows over a flat wall  *COMBUSTION AND FLAME*
  Do, H., Im, S., Cappelli, M. A., Mungal, M. G.
  2010; 157 (12): 2298-2305

- Plasma assisted cavity flame ignition in supersonic flows  *COMBUSTION AND FLAME*
  Do, H., Cappelli, M. A., Mungal, M. G.
  2010; 157 (9): 1783-1794

- Flame liftoff height dependence on geometrically modified bluffbodies in a vitiated flow  *EXPERIMENTS IN FLUIDS*
  Kim, W., Im, S., Do, H., Mungal, M. G.
  2010; 49 (1): 27-41

- Concentration flux measurements in a polymer drag-reduced turbulent boundary layer  *JOURNAL OF FLUID MECHANICS*
  Somandepalli, V. S., Hou, Y. X., Mungal, M. G.
  2010; 644: 281-319
The role of in situ reforming in plasma enhanced ultra lean premixed methane/air flames  
**COMBUSTION AND FLAME**
Kim, W., Mungal, M. G., Cappelli, M. A.
2010; 157 (2): 374-383

A Study of Plasma-Stabilized Diffusion Flames at Elevated Ambient Temperatures  
**IEEE TRANSACTIONS ON PLASMA SCIENCE**
Kim, W., Do, H., Mungal, M. G., Cappelli, M. A.
2008; 36 (6): 2998-2994

Jet Flame Ignition in a Supersonic Crossflow Using a Pulsed Nonequilibrium Plasma Discharge  
**IEEE TRANSACTIONS ON PLASMA SCIENCE**
Do, H., Mungal, M. G., Cappelli, M. A.
2008; 36 (6): 2918-2923

Optimal discharge placement in plasma-assisted combustion of a methane jet in cross flow  
**COMBUSTION AND FLAME**
Kim, W., Do, H., Mungal, M. G., Cappelli, M. A.
2008; 153 (4): 603-615

Streamwise development of turbulent boundary-layer drag reduction with polymer injection  
**JOURNAL OF FLUID MECHANICS**
Hou, Y. X., Somandepalli, V. S., Mungal, M. G.
2008; 597: 31-66

Cross-talk in multiple dielectric barrier discharge actuators  
**APPLIED PHYSICS LETTERS**
Do, H., Kim, W., Cappelli, M. A., Mungal, M. G.
2008; 92 (7)

Formation and role of cool flames in plasma-assisted premixed combustion  
**APPLIED PHYSICS LETTERS**
Kim, W., Mungal, M. G., Cappelli, M. A.
2008; 92 (5)

Mechanics and prediction of turbulent drag reduction with polymer additives  
**ANNUAL REVIEW OF FLUID MECHANICS**
White, C. M., Mungal, M. G.
2008; 40: 235-256

On the role of oxygen in dielectric barrier discharge actuation of aerodynamic flows  
**APPLIED PHYSICS LETTERS**
Kim, W., Do, H., Mungal, M. G., Cappelli, M. A.
2007; 91 (18)

Turbulent boundary layer drag reduction with polymer injection  
**11th EUROMECH European Turbulence Conference**
Hou, Y. X., Somandepalli, V. S., Mungal, M. G.
SPRINGER-VERLAG BERLIN.2007: 38–40

Investigation of NO production and flame structure in plasma enhanced premixed combustion  
**PROCEEDINGS OF THE COMBUSTION INSTITUTE**
Kim, W., Do, H., Mungal, M. G., Cappelli, M. A.
2007; 31: 3319-3326

Plasma-discharge stabilization of jet diffusion flames  
**IEEE TRANSACTIONS ON PLASMA SCIENCE**
Kim, W., Do, H., Mungal, M. G., Cappelli, M. A.
2006; 34 (6): 2545-2551

Aerodynamic modification of flow over bluff objects by plasma actuation  
**EXPERIMENTS IN FLUIDS**
Sung, Y., Kim, W., Mungal, M. G., Cappelli, M. A.
2006; 41 (3): 479-486

A technique to determine total shear stress and polymer stress profiles in drag reduced boundary layer flows  
**EXPERIMENTS IN FLUIDS**
Hou, Y. X., Somandepalli, V. S., Mungal, M. G.
2006; 40 (4): 589-600

Time evolution and mixing characteristics of hydrogen and ethylene transverse jets in supersonic crossflows  
**PHYSICS OF FLUIDS**
Ben-Yakar, A., Mungal, M. G., Hanson, R. K.
2006; 18 (2)
• Experimental investigation of stabilization mechanisms in turbulent, lifted jet diffusion flames  COMBUSTION AND FLAME
Su, L. K., Sun, O. S., Mungal, M. G.
2006; 144 (3): 494-512

• An experimental and numerical investigation of drag reduction in a turbulent boundary layer using a rigid rodlike polymer  PHYSICS OF FLUIDS
Paschkewitz, J. S., Dimitropoulos, C. D., Hou, Y. X., Somandepalli, V. S., Mungal, M. G., Shaqfeh, E. S., Moin, P.
2005; 17 (8)

• Velocity fields in mixing-enhanced compressible shear layers  JOURNAL OF FLUID MECHANICS
Watanabe, S., Mungal, M. G.
2005; 522: 141-177

• Determination of total shear stress and polymer stress profiles in drag reduced boundary layer flows with polymer injection  ASME Fluids Engineering Division Summer Meeting
Hou, Y. X., Somandepalli, V. S., Mungal, M. G.
AMER SOC MECHANICAL ENGINEERS.2005: 23–32

• Mixing efficiency measurements using a modified cold chemistry technique  EXPERIMENTS IN FLUIDS
Rossmann, T., Mungal, M. G., Hanson, R. K.
2004; 37 (4): 566-576

• Simultaneous measurements of scalar and velocity field evolution in turbulent crossflowing jets  JOURNAL OF FLUID MECHANICS
Su, L. K., Mungal, M. G.
2004; 513: 1-45

• A laser induced cavitation pump  JOURNAL OF MICROMECHANICS AND MICROENGINEERING
Wang, G. R., Santiago, J. G., Mungal, M. G., Young, B., Papademetriou, S.
2004; 14 (7): 1037-1046

• The turbulence structure of drag-reduced boundary layer flow  11th International Symposium on Applications of Laser Techniques to Fluid Mechanics
White, C. M., Somandepalli, V. S., Mungal, M. G.
SPRINGER.2004: 62–69

• Nitric-oxide planar laser-induced fluorescence applied to low-pressure hypersonic flow fields for the imaging of mixture fraction  APPLIED OPTICS
Rossmann, T., Mungal, M. G., Hanson, R. K.
2003; 42 (33): 6682-6695

• Simultaneous measurements of velocity and CH, distribution. Part II: deflected jet flames  COMBUSTION AND FLAME
Han, D., Mungal, M. G.
2003; 133 (1-2): 1-17

• Simultaneous measurements of velocity and CH distributions. Part 1: jet flames in co-flow  COMBUSTION AND FLAME
Han, D., Mungal, M. G.
2003; 132 (3): 565-590

• Jets in crossflow - Scalar mixing via PLIF  Advanced School on Manipulation and Control of Transverse Jets
Mungal, M. G., Smith, S. H.
SPRINGER-VERLAG WIEN.2003: 15–24

• Jets in crossflow - NOX control using the Two-Stage Lagrangian model  Advanced School on Manipulation and Control of Transverse Jets
Mungal, M. G., Han, D. H.
SPRINGER-VERLAG WIEN.2003: 183–92

• Jets in crossflow - Effects of heat release  Advanced School on Manipulation and Control of Transverse Jets
Mungal, M. G., Hasselbrink, E. F.
SPRINGER-VERLAG WIEN.2003: 173–82

• Jets in crossflow - Simultaneous PIV/PLIF measurements  Advanced School on Manipulation and Control of Transverse Jets
Mungal, M. G., Su, L. K.
SPRINGER-VERLAG WIEN.2003: 39–48
• Evolution and growth of large-scale structures in high compressibility mixing layers  *JOURNAL OF TURBULENCE*
  Rossmann, T., Mungal, M. G., Hanson, R. K.
  2002; 3

• Stabilization in turbulent lifted deflected-jet flames  *29th International Combustion Symposium*
  Han, D. H., Mungal, M. G.
  ELSEVIER SCIENCE INC.2002: 1889–1895

• Reply to H. Eickhoff's comment on "Direct measurement of entrainment in reacting/non-Rreacting turbulent jets"  *COMBUSTION AND FLAME*
  Han, D., Mungal, M. G.
  2002; 128 (1-2): 198-198

• Transverse jets and jet flames. Part 1. Scaling laws for strong transverse jets  *JOURNAL OF FLUID MECHANICS*
  Hasselbrink, E. F., Mungal, M. G.
  2001; 443: 1-25

• Transverse jets and jet flames. Part 2. Velocity and OH field imaging  *JOURNAL OF FLUID MECHANICS*
  Hasselbrink, E. F., Mungal, M. G.
  2001; 443: 27-68

• Effects of heat release and buoyancy on flow structure and entrainment in turbulent nonpremixed flames  *COMBUSTION AND FLAME*
  Muniz, L., Mungal, M. G.
  2001; 126 (1-2): 1402-1420

• Planar velocity measurements in compressible mixing layers  *JOURNAL OF FLUID MECHANICS*
  Urban, W. D., Mungal, M. G.
  2001; 431: 189-222

• Direct measurement of entrainment in reacting/nonreacting turbulent jets  *COMBUSTION AND FLAME*
  Han, D. H., Mungal, M. G.
  2001; 124 (3): 370-386

• Gross-entrainment behavior of turbulent jets injected obliquely into a uniform crossflow  *AIAA JOURNAL*
  Han, D. H., Orozco, V., Mungal, M. G.
  2000; 38 (9): 1643-1649

• Electroosmotic capillary flow with nonuniform zeta potential  *ANALYTICAL CHEMISTRY*
  Herr, A. E., Molho, J. I., Santiago, J. G., Mungal, M. G., Kenny, T. W., Garguilo, M. G.
  2000; 72 (5): 1053-1057

• Observations on the transition from flame liftoff to flame blowout  *28th International Symposium on Combustion*
  Han, D., Mungal, M. G.
  ELSEVIER SCIENCE INC.2000: 537–543

• Measurements of velocity and fuel concentration in the stabilization region of lifted jet diffusion flames  *28th International Symposium on Combustion*
  Su, L. K., Han, D. H., Mungal, M. G.
  ELSEVIER SCIENCE INC.2000: 327–334

• Simultaneous measurement of velocity and CH layer distribution in turbulent non-premixed flames  *28th International Symposium on Combustion*
  Han, D. H., Mungal, M. G.
  ELSEVIER SCIENCE INC.2000: 261–267

• Prediction of NOx control by basic and advanced gas reburning using the Two-Stage Lagrangian model  *COMBUSTION AND FLAME*
  Han, D. H., Mungal, M. G., Zamansky, V. M., Tyson, T. J.
  1999; 119 (4): 483-493

• Mixing enhancement in compressible shear layers via sub-boundary layer disturbances  *PHYSICS OF FLUIDS*
  Island, T. C., Urban, W. D., Mungal, M. G.
  1998; 10 (4): 1008-1020
• Mixing, structure and scaling of the jet in crossflow *JOURNAL OF FLUID MECHANICS*
Smith, S. H., Mungal, M. G.
1998; 357: 83-122

• An experimental investigation of the effects of compressibility on a turbulent reacting mixing layer *JOURNAL OF FLUID MECHANICS*
Miller, M. F., Bowman, C. T., Mungal, M. G.
1998; 356: 25-64

• Observations on the stabilization region of lifted non-premixed methane transverse jet flames *27th International Symposium on Combustion*
Hasselbrink, E. F., Mungal, M. G.
COMBUSTION INSTITUTE. 1998: 1167–1173

• Characteristics of the velocity field near the instantaneous base of lifted non-premixed turbulent jet flames *27th International Symposium on Combustion*
Hasselbrink, E. F., Mungal, M. G.
COMBUSTION INSTITUTE. 1998: 867–873

• PLIF measurements in aqueous flows using the Nd:YAG laser *EXPERIMENTS IN FLUIDS*
KARASSO, P. S., Mungal, M. G.
1997; 23 (5): 382-387

• Instantaneous flame-stabilization velocities in lifted-jet diffusion flames *COMBUSTION AND FLAME*
Muniz, L., Mungal, M. G.
1997; 111 (1-2): 16-31

• Mixing and reaction in curved liquid shear layers *JOURNAL OF FLUID MECHANICS*
KARASSO, P. S., Mungal, M. G.
1997; 334: 381-409

• The structure of OH fields in high Reynolds number turbulent jet diffusion flames *COMBUSTION SCIENCE AND TECHNOLOGY*
Clemens, N. T., Paul, P. H., Mungal, M. G.
1997; 129 (1-6): 165-184

• Scalar mixing and reaction in plane liquid shear layers *JOURNAL OF FLUID MECHANICS*
KARASSO, P. S., Mungal, M. G.
1996; 323: 23-63

• Some observations of a large, burning jet in crossflow *EXPERIMENTS IN FLUIDS*
Mungal, M. G., Lozano, A.
1996; 21 (4): 264-267

• Instantaneous three-dimensional flow visualization of a supersonic mixing layer *EXPERIMENTS IN FLUIDS*
Island, T. C., PATRIE, B. J., Mungal, M. G., Hanson, R. K.
1996; 20 (4): 249-256

• Curvature effects on mixing and reaction in turbulent shear layers *3rd International Symposium on Engineering Turbulence Modelling and Measurements*
KARASSO, P. S., Mungal, M. G.
ELSEVIER SCIENCE BV. 1996: 521–530

• LARGE-SCALE STRUCTURE AND ENTRAINMENT IN THE SUPERSONIC MIXING LAYER *JOURNAL OF FLUID MECHANICS*
Clemens, N. T., Mungal, M. G.
1995; 284: 171-216

• Instantaneous velocity measurements in laminar and turbulent premixed flames using on-line PIV *COMBUSTION SCIENCE AND TECHNOLOGY*
Mungal, M. G., Lourenco, L. M., Krothapalli, A.
1995; 106 (4-6): 239-265

• INSTANTANEOUS 3-DIMENSIONAL CONCENTRATION MEASUREMENTS IN THE SELF-SIMILAR REGION OF A ROUND HIGH-SCHMIDT-NUMBER JET *JOURNAL OF FLUID MECHANICS*
Yoda, M., Hesselink, L., Mungal, M. G.
1994; 279: 313-350
• DRAG AND WAKE MODIFICATION OF AXISYMMETRICAL BLUFF-BODIES USING COANDA BLOWING. *Journal of Aircraft*
  Freund, J. B., Mungal, M. G.
  1994; 31 (3): 572-578

• EXPERIMENTS ON THE STRUCTURE OF AN ANNULAR COMPRESSIBLE REACTING SHEAR-LAYER. *AIAA Journal*
  Barlow, R. S., Fourguette, D. C., Mungal, M. G., Dibble, R. W.
  1992; 30 (9): 2244-2251

• THE EVOLUTION AND NATURE OF LARGE-SCALE STRUCTURES IN THE TURBULENT JET. *Physics of Fluids A-Fluid Dynamics*
  Yoda, M., Hesselink, L., Mungal, M. G.

• 2-DIMENSIONAL AND 3-DIMENSIONAL EFFECTS IN THE SUPERSONIC MIXING LAYER. *AIAA Journal*
  Clemens, N. T., Mungal, M. G.
  1992; 30 (4): 973-981

• A STUDY OF THE LAMINAR FLAME TIP AND IMPLICATIONS FOR PREMIXED TURBULENT COMBUSTION. *Combustion Science and Technology*
  Poinsot, T., Echekki, T., Mungal, M. G.
  1992; 81 (1-3): 45-73

• LARGE-SCALE DYNAMICS IN HIGH REYNOLDS-NUMBER JETS AND JET FLAMES. *Experiments in Fluids*
  Mungal, M. G., Lozano, A., Vancruyningen, I.
  1992; 12 (3): 141-150

• TIME EVOLUTION OF THE SHEAR-LAYER OF A SUPERSONIC AXISYMMETRICAL JET. *AIAA Journal*
  Fourguette, D. C., Mungal, M. G., Dibble, R. W.
  1991; 29 (7): 1123-1130

• LARGE-SCALE STRUCTURES AND MOLECULAR MIXING. *International Symp on Fluid Mechanics of Stirring and Mixing*
  Broadwell, J. E., Mungal, M. G.
  Amer Inst Physics. 1991: 1193–1206

• A PLANAR MIE SCATTERING TECHNIQUE FOR VISUALIZING SUPERSONIC MIXING FLOWS. *Experiments in Fluids*
  Clemens, N. T., Mungal, M. G.
  1991; 11 (2-3): 175-185

• THE VISIBLE STRUCTURE OF TURBULENT JET DIFFUSION FLAMES - LARGE-SCALE ORGANIZATION AND FLAME TIP OSCILLATION. *Combustion Science and Technology*
  Mungal, M. G., Karasso, P. S., Lozano, A.
  1991; 76 (4-6): 165-185

• PASSIVE SCALAR TAGGING FOR THE STUDY OF COHERENT STRUCTURES IN THE PLANE MIXING LAYER. *Physics of Fluids A-Fluid Dynamics*
  Ramaprian, B. R., Sandham, N. D., Mungal, M. G., Reynolds, W. C.
  1989; 1 (12): 2034-2041

• VISUAL OBSERVATIONS OF A TURBULENT-DIFFUSION FLAME. *Combustion and Flame*
  Mungal, M. G., O’Neil, J. M.
  1989; 78 (3-4): 377-389

• ORGANIZED MOTION IN A VERY HIGH REYNOLDS-NUMBER JET. *Physics of Fluids A-Fluid Dynamics*
  Mungal, M. G., Hollingsworth, D. K.
  1989; 1 (10): 1615-1623