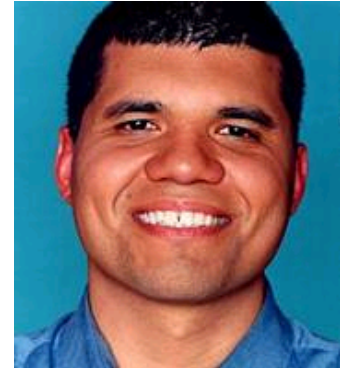


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Martin L. Culpepper

Professor

Room 35-235
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge MA 02139-4307
Phone: 617-452-2395
Fax: 617-812-0384
Email: culpepper@mit.edu
Web: <http://pcsl.mit.edu/>



People

FACULTY
EMERITUS FACULTY
ADMIN STAFF
TEACHING STAFF
LECTURERS
RESEARCH STAFF
TECHNICAL STAFF
SUPPORT STAFF
POSTDOCS
VISITORS
FACULTY CLOUD

Education:

Ph.D., Mechanical Engineering Massachusetts Institute of Technology,
Cambridge, MA
M.S., Massachusetts Institute of Technology, Cambridge, MA
B.S., Mechanical Engineering, Iowa State University, Ames, IA

MIT Service

2000-2000, Lecturer, MIT
2001-2006, Assistant Professor, Department of Mechanical Engineering, MIT
2006-Present, Associate Professor, Department of Mechanical Engineering, MIT

Other Related Experience

2006-Present, Assistant Director, MIT Laboratory for Manufacturing and Productivity

Consulting & Patents

Consulting

- Teradyne, Inc.
- Rogers, Powers & Schwartz LLP
- Bandwidth9

Patents

- Debris Cleaner With Compound Auger, US Patent No. 5, 784, 756
- QKC for Use in Assembly and Manufacturing Processes, US Patent No. 6,193,430
- Quasi-Kinematic Couplings for Use in Automotive Assembly, World Patent No. WO0062971A1
- Accurate, Precise, and Adjustable Kinematic Coupling Device, US Patent No. 6, 746,172
- Multiple Degree– of– Freedom Flexure Stage, Patent Pending.
- Multiple Degree– of– Freedom Compliant Mechanism," Patent Pending
- RIM Slot Filler Module and Method of Manufacturing the Same," Patent Pending.

Professional Registration

None

Principal Publications (last five years)

1. Culpepper, M. L., Slocum, A. H., Shaikh, F. Z., and Vrsek, G., "Quasi-kinematic Couplings for Low- cost Precision Alignment of High- volume Assemblies," J. of Mech. Des., 126 (4), 456- 63, 2004.
2. Culpepper, M. L., "Design of Quasi- Kinematic Couplings," Prec. Eng., 28 (3), 338- 57, 2004.
3. Culpepper, M. L. and Anderson, G., "Design of a Low- cost Nano- manipulator Which Utilizes a Monolithic, Spatial Compliant Mechanism," Prec. Eng., 28 (4), 469- 82, 2004.
4. Culpepper, M. L., Varadajan, K. M., and Dibiaso, C. M., "Design of Integrated Eccentric Mechanisms and Exact Constraint Fixtures for Micron- level Repeatability and Accuracy," Prec. Eng., 29 (1), 65- 80, 2005.
5. Culpepper, M. L. and Chen, S., "Design of a Compliant, Micro- scale, Six- axis Nanopositioner - The Micro- HexFlex," 30 (3), 314- 24, 2006.
6. Hubbard, N. B., Culpepper, M. L., and Howell, L. L., "Actuators for Micropositioners and Nanopositioners," Accepted for publication in Applied Mechanics Reviews.
7. Chen, S., and Culpepper, M. L., "Design of Contoured Micro-scale Thermomechanical Actuators," Accepted for publication in The Journal of Microelectromechanical Systems.
8. Mangudi K. V. and Culpepper, M. L, "Design of Hard Coated Hertzian Contacts for Precision Equipment," Accepted - pending final revisions.
9. Mangudi K. V. and Culpepper, M. L, "A Dual-purpose Positioner-fixture for Precision Six-axis Positioning and Precision Fixturing - Part I: Modeling and Design," Accepted - pending final revisions.
10. Mangudi K. V. and Culpepper, M. L, "A A Dual-purpose Positioner-fixture for Precision Six-axis Positioning and Precision Fixturing - Part II: Characterization and Calibration," Accepted - pending final revisions.

Scientific & Professional Societies

American Society of Mechanical Engineers

American Society for Precision Engineering (Director at large, 2006-present)

European Society for Precision Engineering and Nanotechnology

Honors & Awards

3M Innovation Grant (2006)

Presidential Early Career Award for Scientists and Engineers, NSF

Nanomanufacturing (2004)

TR100 award: One of the world' s top young innovators (2004)

Ruth and Joel Spira Award for Distinguished Teaching (2004)

Rockwell International Career Development Chair (2004)

R&D 100 Award: One of the 100 best new technical products of the year:

HexFlex (2003)

Institutional and Professional Service (Last Five Years)

MIT (abridged)

Graduate Admissions Committee (Departmental)

de Florez Award Coordinator (Departmental)

Hastopolous Award Committee (Departmental)

Manufacturing Search Committee (Departmental)

Design Search Committee (Departmental)

SEED Academy Advisory Board (Institute)

Committee for MLK Memorial Activities (Institute)

Converge Advisory Committee (Institute)

External (abridged):

Co– chair, 4th International Symposium on Nanomanufacturing (2006)