Tachung (T.C.) YIH, Ph.D., Fellow ASME

Associate Vice President for Research/Chief Research Officer
Professor of Engineering
Office of Research & Sponsored Programs
California State University, Long Beach
1250 Bellflower Boulevard
Long Beach, CA 90840
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VISION STATEMENT

To advance the university from 'Good to Great'[1] and cultivate the university with sustainable growth by means of continuous quality improvement

PROFESSIONAL EXPERIENCE

❖ **8/10 ~ *present*** **Associate Vice President for Research/Chief Research Officer**
Office of Research & Sponsored Programs
California State University, Long Beach (CSULB)

Accomplishments:
- Initiated the new Multidisciplinary Research Award
- Initiated and chaired the Research Advisory Committee (meet monthly)
- Chaired the *ad hoc* University Research Advisory Committee
- Actively involved in securing grants under the programs of Title V: HSI (Hispanic-Serving Institutions) and Title III: AANAPISI (Asian American & Native American Pacific Islander-Serving Institution)
  – secured $4.6 million for the Title V HSI program
  – secured $1.9 million for the Title III AANAPISI program
- Developed the new policy for research management and F&A (Indirect) cost return
- Initiated and developed guidelines for Grants/Contracts vs. Gifts
- Reorganized the research office
- Improved and streamlined pre-award grant application process
- Improved IRB application and review processes
- Initiated and developed monthly research reports
- Point of contact with the lobby firm to initiate new research programs
- Assisted in promoting undergraduate research

❖ **8/06 ~ 8/10** **Vice Provost for Research/Chief Research Officer**
Grants, Contracts and Sponsored Research (GCSR)
2/09 ~ 8/10 **Founding Director**, NanoTech R&D Institute
Oakland University (OU), Michigan

Accomplishments:
- Steering Committee member, OU William Beaumont School of Medicine (*9/06~09)*
  – One of the 12 founding members to establish an allopathic School of Medicine at OU

[1] Jim C. Collins (2001), ***Good to Great***, HarperCollins Publishers Inc., New York, USA. (ISBN 0-06-662099-6)

  - Co-chaired the Research Sub-committee
  - Participated in LCME self-study task force and accreditation process
  - Initiated contact to develop a Traditional Chinese Medicine (TCM) program with China
  - Assisted in developing research initiatives and strategic plans
- Founding Director, NanoTech R&D Institute *(2/09~8/10)*
  - Fundraising for the Institute
  - Outreaching to industrial partners to secure R&D projects
  - Collaborating with Oakland Community College to develop 2+2 Nanotechnology curriculum and Certificate Programs
- Assisted in bargaining with AAUP faculty union on different issues such as IP, royalty distribution, salary compliance, etc. *(2009)*
- Identifying funding opportunities and making connections for faculty to secure research grants and contracts (e.g., visiting federal funding agencies and Capital Hills, arranging meetings with industrial partners, etc.)
- Assisting in securing federal earmarks (9 since July 2008; totaling ~$7.5 million)
- Assisted in securing $424,000 from the Department of Education for "Research Security and Campus Emergency Management Plans" *(9/08~9/10)*
- Involving in State initiatives: Management Teams of MIIE (Michigan Initiative for Innovation & Entrepreneurship) and NEI-SM (New Economy Initiative for Southeast Michigan)
- Secured funds from the State of Michigan Universities Commercialization Initiative (MUCI)
- Working closely with the Oakland County to support local small and medium businesses as well as to attract businesses from other states and countries
- Initiated and developing institutional policies such as Export Controls, Conflict of Interest/Conflict of Commitment, Research & Scientific Misconduct, etc.
- Developed Intellectual Property (IP) policies and procedures
- Oversee research compliance and the University Research Committee
- Oversee regulatory compliance and committees: IRB, IACUC, IBC, RSC
- Initiated and acquired the AAALAC accreditation *(1/08~7/09)*
  - Securing animal study projects from industrial partners
- Initiated to apply for AAHRPP accreditation *(3/09~8/10)*
- Initiated and edited the 12-chapter "OU Research Guidelines: A Comprehensive Research Reference Manual" *(6/08~7/09)*
- Edit and publish the OU Research Magazine and Newsletter
- Develop monthly grants and contracts reports
- Organize grant writing, research, and compliance training workshops
- Supervise and coordinate OU-Beaumont Multi-disciplinary Research Awards
- Supervise and coordinate OU faculty and student research awards
- Reformed the Center for Biomedical Research *(1/07~10/08)*
- Initiated to develop the electronic Sponsored Research Management System *(5/08~10)*
- Initiated and organized the Nanoscale Science & Engineering Conference *(5/07~8/08)*
- Initiated the Michigan Alliance in Nano Science & Engineering (MANSE) and organized the 1st MANSE Annual Conference *(9/06~5/07)*
- Co-hosted MichBio Expo/Conference & Career Day *(11/08)*

❖ **9/04 ~ 8/06** **Chair & Professor,** Department of Mechanical Engineering & Biomechanics
6/05 ~ 8/06 **Professor,** Core faculty of Biomedical Engineering Department
Join UTSA/UTHSC-SA PhD Program in Biomedical Engineering
The University of Texas at San Antonio (UTSA)

Accomplishments:

- Passed six-year ABET accreditation for the MEB Department (2005). Comments quoted from the ABET Final Statement on ME Program–Program Strengths:
  - The leadership provided by and the high regard given by the faculty to the new department head.
  - The imaginative ways developed by the department head to assist faculty members in dealing with the need to commit to increased involvement in research and graduate education while simultaneously coping with large increases in the number of undergraduate students.
  - The collegial working atmosphere reported by faculty and staff members alike.
- Serve as an ABET Program Evaluator (2007~2012, *2006 ASME/ABET observer*)
- Experienced four six-year ABET accreditations
  (1991 & 1997 FIU–The State U of Florida at Miami, 2000 UT Arlington, 2005 UTSA)
- Coordinated Nanotechnology, MEMS, and BioMEMS research efforts at UTSA
- Initiated the ME PhD degree program (2007/08)
- Initiated and received nanotechnology equipment donation (Zyvex L100 nanomanipulator, AFM, and three laser systems; a total of $400,000 original tag price, 2004)
- Initiated to contact and recruited a $1 million Endowed Chair Professor
- Initiated and published the MEB Newsletter to promote research and recruitment
- Initiated new faculty awards (MEB Excellence in Service Award; MEB Excellence in Teaching Award– exclusively organized and confidentially voted by MEB students)
- Initiated & revamped MEB website
- Mentored all Assistant Professors (2004~2006)
- Reformed MEB undergraduate and graduate curricula
- Increased MEB annual research expenditures
- Increased undergraduate and graduate students enrollment
- Planned on laboratory facilities for two new buildings
- Conducted national and international graduate student recruitment (e.g., Mexico, China)
- Assisted in spinning out the joint UTSA/UTHSCSA Biomedical Engineering PhD program from MEB as a new Biomedical Engineering Department (6/2005)
- Assisted in establishing a Homeland Security Center (CREST: Center for Response and Security Engineering and Technology, 5/2005)

❖ **8/99 ~ 04** **Professor,** Department of Mechanical & Aerospace Engineering
Group Leader, BEMS Research, Automation & Robotics Research Institute
The University of Texas at Arlington (UTA)

❖ **8/97 ~ 99** **Professor**
8/92 ~ 97 **Associate Professor**
8/88 ~ 92 **Assistant Professor**
8/87 ~ 88 **Post-Doctoral Research Associate**
Department of Mechanical & Materials Engineering
Florida International University (FIU) – *The State U of Florida at Miami*

The duties as a professor are to (1) conduct research in the areas of specialty, (2) develop new research fields, (3) teach and develop graduate/undergraduate courses and labs, (4) supervise Masters and Ph.D. students as well as post-doctoral research fellows, (5) direct undergraduate senior design projects, and (6) provide professional services.

❖ **6~8/1997, 98, 99** **Senior Summer Research Fellow** *(Security clearance: Secret)*
Naval Air Systems Command (NAVAIR)

Software Technology & Environments Branch, Patuxent River, MD
In collaboration with **ASTL** *(Advanced Software Technology Laboratory)* on R&D projects for advanced software technology and E2C MIST system hardware design improvement.

- **6/95 ~ 8/95** **Summer Research Fellow** *(Security clearance: Confidential)*
  Robotics & Process Systems Division
  DOE ORNL (Oak Ridge National Laboratory), Oak Ridge, TN

Involved in the **TWR** *(Tank Waste Retrieval)* R&D projects for underground storage tank cleanup: real-time inverse kinematic control, dynamic modeling of redundant **LRM** *(Long Reach Manipulators),* modeling and analysis of **WD&C** *(Waste Dislodging and Conveyance)* system, and Tele/IGRIP interface for the **MLDUA** *(Modified Light Duty Utility Arm)*, **LDUA** and **TWRMS** (*Tank Waste Retrieval Manipulator Systems)*.

- **7/93 ~ 8/94** **Staff Scientist/Faculty Fellow** *(Security clearance: Confidential)*
  Mechanical Engineering Department
  DOE LBNL (Lawrence Berkeley National Laboratory), Berkeley, CA

The assignments included (1) assisting in laboratory CAD/CAM integration, (2) instructing laboratory staffs with 3D solid modeling CAD/CAM package (HP ME10/ME30), and (3) involving in laboratory automation (AMTEX) project.

- **5/90 ~ 8/90** **Summer Research Fellow** *(Security clearance: Confidential)*
  Advanced Technology Development Group, Fuel Recycle Division
  DOE ORNL (Oak Ridge National Laboratory), Oak Ridge, TN

Conducted research related to the **ER/WM** *(Environmental Restoration & Waste Management)* project in collaboration with the *National Robotics Technology Development Group*. Conceptual and preliminary design and analysis of the ER/WM robot manipulator has been initiated.

- **5/87 ~ 8/87** **Research Associate, Neurosurgery Laboratory**
  Department of Neuropath Science
  Medical School, University of Maryland at Baltimore, MD

The responsibility involved with (1) computer interface and instrumentation, (2) experiment, using ultrasonic digitizer, on dog neck bone and lumbar spine, (3) experiment on the artificial model of human neck, and (4) experimental data acquisition and analysis.

- **9/84 ~ 5/87** **Research Assistant, Biomedical Laboratory**
  Department of Mechanical Engineering, CUA, Washington DC

Research subjects were (1) static motion analysis of femur for total hip replacement, (2) dynamic motion analysis of femur for total hip replacement, (3) joint force and moment analyses of lower extremities, and (4) computerized motion simulation of lower extremities.

- **9/85 ~ 5/87** **Research/Teaching Assistant, CAD Laboratory**
  Department of Mechanical Engineering, CUA, Washington DC

Teaching assignments were (1) teaching computer graphic and analytical methods, (2) teaching graphic terminal operations, and (3) assisting graduate/undergraduate student design projects. Research topic contained (1) computer analysis and simulation of robotic systems, (2) computer analysis and simulation of 4-bar, 5-bar and general linkage systems, and (3) theoretical and analytical developments for mechanisms and robots.

- **5/83 ~ 9/84** **Research Assistant, Robotics Laboratory**
  Department of Mechanical Engineering, CUA, Washington DC

Research projects included (1) computer analysis/simulation of kinematic spaces (workspace,

velocity space and acceleration space) of robots, (2) path generation/control of robots, (3) error analysis of path generation/control, and (4) feedback control of robots with external payloads.

❖ **1/85 ~ 5/85 Teaching Assistant, Thermal Science Laboratory**
Department of Mechanical Engineering, CUA, Washington DC

Taught laboratory experiment: ***(1) Heat Transfer***– (a) Lab techniques for temperature measurement, (b) Thermal radiation and property measurement, (c) Electric analogy to 2-dimensional heat conduction, (d) Heat conduction through a tapered bar, (e) Combined radiative and connective heat transfer, (f) Analysis of a double pipe heat exchanger; ***(2) Thermodynamics and Thermal Systems***– (a) Lab techniques for humidity measurement, (b) Performance of the air conditioning and heat pump system, (c) Thermal efficiency of a low-pressure steam boiler, (d) Test of a flat plate solar collector system.

EDUCATION

Ph.D. Mechanical Engineering, specialized in **Design/Analysis of Mechanical Systems, CAD/CAE, Knowledge-Based Software Development, and Biomedical Engineering**
The Catholic University of America (CUA), Washington D.C., U.S.A., February 1988.
Dissertation: "Computer-Aided Mechanical System Design and Analysis: A Unified Analysis of Mechanical System by Means of Spherical-Euler Transformation Method."
Software Package Developed: AMS: Analysis of Mechanical Systems.

M.S. Mechanical Engineering, emphasized on Thermal Science and Solar Energy
CUA, Washington D.C., U.S.A., May 1983.

B.S. Oceanography/Marine Engineering, majored in Offshore/Coastal Engineering
National Taiwan Ocean Univ./College of Marine Science & Technology, Taiwan, 1981.

PROFESSIONAL SPECIALTY

- Nanomedicine, Nanomanipulation, BEMS *(Bio-Electro-Mechanical Systems)*
- BioMEMS, Drug Delivery System, Biomechanics of Musculoskeletal System, Rehabilitation Engineering, Prosthetic Devices, Motion/Gait Analysis
- CAD/CAE, Design/Kinematics/Prototyping of Mechanical Systems *(Robots & Mechanisms)*
- Knowledge-Based Software Development, Virtual Reality, Digital Image Processing

SECURED RESEARCH GRANTS & CONTRACTS *(A total of $15,967,746)*

46. **"OU-Beaumont Multidisciplinary Research Initiative,"** *William Beaumont Hospital*, $190,000, 9/08~10, PD.
45. **"Application of Nanoparticles to Solar Cells,"** *Octillion Corp.*, $728,066, 9/08~10, PD.
44. **"Development of Wafer-level Microfabrication Technology for CMOS-MEMS Sensors and Actuators,"** *MUCI Challenging Fund*, $60,679, 5/08~09, PI.
43. **"Structural DNA Nanotechnology,"** *Fieldman Sims Foundation*, $10,000, 1/08~10, PI.
42. "**Oakland University Technology Transfer Initiative,"** *MUCI Fast Track*, $20,000, 1/07~09, PI.
41. **"Investigation of a New Composite Material for PEM Fuel Cell Bipolar Plates,"** *Michigan University Commercialization Initiative (MUCI) Challenging Fund*, $82,087, 9/07~09, PI.
40. **"Conductive Polymer for Self-regulated Drug Delivery,"** *Michigan University*

Commercialization Initiative Challenging Fund, $11,250, 9/07~08, PI.

39. **"Academic Partnership Grant Award,"** *UGS Corp.*, $5,197,600, 8/05~10, PD/PI.
38. **"American Academy of Nanomedicine,"** *SmithBucklin*, $46,000, 5/05~06, PI.
37. **"American Academy of Nanomedicine,"** *Elsevier*, $50,000, 5/05~06, PI.
36. **"Nanosystems Manipulation and BEMS Initiatives,"** UTSA Research Initiation Grant, $150,000, 9/04~06, Sole-PI.
35. **"Nanomanipulator, AFM, and Laser Micromachining,"** UTSA equipment fund, $38,000, 8/04, Sole-PI.
34. **"BEMS & MEMS,"** *UTA ARRI*, $138,760, 5/02~5/04, Sole-PI.
33. **"Large Scale PV Module Manufacturing Using Ultrathin Cell Technology,"** *BP Solar International LLC*, $295,000, 9/02~9/05, Co-PI.
32. **"Remotely Operated Dual Manipulator Arms,"** *Duratek, Inc*., $251,250, 10/01-9/06, Sole-PI.
31. **"vCollab: Virtual Environment Collaboration,"** *InfoVision, Inc. & Virtual E3D Info Pvt. Ltd*., $36,000, 3/02~3/04, Sole-PI.
30. **"R&D of Jewel Compression for Advanced Data Compression Architecture and Algorithm,"** *DoD NAVAIR (Naval Air Systems Command)*, $35,000, 6/00~6/02, PI.
29. **"Establishing an Industry-Targeted Biomedical Engineering Program at the Master's Degree Level,"** *The Whitaker Foundation*, Biomedical Engineering Special Opportunity Awards, $1,000,000, 6/98~6/01, Co-PI.
28. **"BEMS, MEMS and NEMS Research Initiatives,"** *UTA Research Initiation Grant*, $127,499, 9/99~9/01, Sole-PI.
27. **"Bio-Mechatronics & Nanotechnology Research Initiative,"** *UTA ARRI*, $26,950, 9/99~9/01, Sole-PI.
26. **"Hemispherical Center for Environmental Technology,"** DOE, $5,000,000, 9/95~8/00, Co-PI.
25. **"Automated Drilling and Fastening of Composite Drive Shafts,"** *Bell Helicopter Textron, Inc.*, $30,000, 9/99~9/00, Co-PI.
24. **"Preliminary Study on the Advanced Jewel Data Compression,"** *NAWCAD (Naval Air Warfare Center Aircraft Division)/NAVAIR, Software Technology & Environments Branch*, $21,000, 6/99-8/99, Sole-PI.
23. **"Advanced Data Compression Technology–The Jewel Compression,"** DoD *NAWCAD/ NAVAIR, Software Technology & Environments Branch*, $21,000, 6~8/98, Sole-PI.
22. **"FEA and Dynamic Simulation of the WD&C *(Waste Dislodging & Conveyance)* System for Underground GAAT Waste Remediation and Cleanup,"** *DOE,* $57,500, 4/97~4/98, Sole-PI.
21. **"Development of Advanced Software Data Compression Technology,"** *NAWCAD/ NAVAIR, Software Technology & Environments Branch*, $21,000, 6/97~8/97, Sole-PI.
20. **"Increasing the Number of Undergraduate Students into the Pipeline for Engineering Majors,"** *Department of Education (ED)*, $299,938, 8/95~8/98, Co-PI.
19. **"Development of an Automated Wood Bar Cutting System,"** *LER Enterprises, Inc.*, Miami, Florida, $25,000, 9/95~2/96, Co-PI.
18. **"Computer Controller Development,"** *FIU Foundation*, $12,240, 8/95~8/96, PI.
17. **"Enhancement and Improvement of Environmental and Robotic Engineering,"** *Department of Education* (*ED)*, $2,155, 8/95~8/96, Co-PI.
16. **"Preliminary Design and Dynamic Control of the WD&C System,"** *ORNL/DOE*, $25,000, 6/95~8/95, Sole-PI.
15. **"Development of Manufacturing Research Center,"** *DoD*, $398,454, 4/95~4/98, Co-PI.
14. **"Design/Analysis/Simulation of the MLDUA, LDUA and TWRMS for Underground Storage Tank Cleanup,"** DOE *ORNL*, $88,766, 3/95~11/95, Sole-PI.
13. **"Nicolet Imaging Automated X-Ray System,"** ***Motorola***, $135,650, 3/95, Sole-PI.

12. **"DOE PREP in Engineering,"** *DOE*, $42,128, 11/94~2/97, Co-PI.
11. **"NASA Technology Transfer Initiative,"** *NASA Goddard Space Center*, $300,000, 9/94~9/97, Co-PI.
10. **"Improvement and Enhancement of Engineering Education,"** *Department of Education (ED),* $299,966, 8/93~8/96, Co-PI.
9. **"Fundamentals of Cutting Mechanics & AMTEX Project,"** *DOE LBNL (Lawrence Berkeley National Laboratory)*, $52,321, 7/93~8/94, Sole-PI.
8. **"PREP Project at FIU,"** *DOE,* $40,316, 9/92~9/94, Co-PI.
7. **"Pre-Freshman Enrichment Program,"** *U.S. Army*, $40,000, 9/92~9/93, Co-PI.
6. **"Research Experience for Undergraduates in Robotics and Materials,"** *Wright Laboratory, Wright-Patterson AFB,* Ohio, $91,450, 9/91~1/93, PI.
5. **"Undergraduate Training for Energy-Related Career,"** *DOE*, $409,551, 9/90~9/95, Co-PI.
4. **"Design and Analysis of ER/WM *(Environmental Restoration & Waste Management)* Robot Manipulator,"** *DOE ORNL*, $18,320, 5/90~8/90, Sole-PI.
3. **"Integration of Creativity in the ME Curriculum,"** *NSF/ASEE Faculty Development Program scholarship grants,* $1,850, 6/89~7/89, Sole-PI.
2. **"Computer-Assisted Rehabilitative System for Human Gait and Motion,"** *FIU Academic Affairs Summer Research,* $12,000, 5/89~8/89, Sole-PI.
1. **"Development of Low Cost Portable Gait Analysis Equipment,"** *Florida High Technology & Industrial Council (FHTIC),* $28,000, 1/88~4/89, Sole-PI.

PUBLICATION – Book, Book Chapter & Conference Proceedings *(in reversed chronicle order)*

1. **Yih TC** and Talpasanu I (Editors, December 2008), **Micro and Nano Manipulations for Biomedical Applications**, McGraw Hills.
   (Ranked by Tower Books in Medicine/Biotechnology: **#10** "This Month's Tower Recommendations" (Sept 2009) & **#31** "Books Top 100" best sellers (July 2010))*
2. Meldrum DR, Zhang M, Lin L, Robertson CR, **Yih TC**, Wei C (Guest Editors, 2009), Special Section on **Drug Delivery Automation,** IEEE Transactions Automation on Science & Engineering.
3. **Yih TC** and Willner S (Editors, 2009), "OU Research Guidelines – A Comprehensive Research Reference Manual**.**"
4. **Yih TC** (Editor) and Moudgil VK (2008, 09), "Research @ OU: **Look into the Future.**" *(OU Research Magazine)*
5. **Yih TC** (Editor, 2008), *Proceedings of the 1st Annual Conference on Nanotechnology*.
6. **Yih TC** (2007), *Proceedings of the First MANSE Annual Symposium*.
7. **Yih TC** (Editor) and Keithly BK (2001), *Proceedings of the Era of Nano-Bio-Info.*
8. **Yih TC** (Editor) and Dickey J (2000), "Research Guide for the Department of Mechanical & Aerospace Engineering."
9. Tosunoglu S, **Yih TC** and Tansel IN (1997), *Proceedings of Florida Conference on Recent Advancements in Robotics.*
10. **Yih TC** (Editor) and Rooney HL (1994), "Research Handbook for the Department of Mechanical Engineering."
11. Gupta KC, Kazerounian K, Roth B, Singh VK and **Yih TC** (1993), **"Chapter 10: Computational Kinematics," Modern Kinematics–Developments in the Last Forty Years**, Wiley Series in Design Engineering, John Wiley & Sons, Edited by A.G. Erdman.
12. **Yih TC** (Editor) and Shen LD (1993), **Six-Year National Development: Together for a Better Tomorrow**, CASAF.
13. **Yih TC** (Editor) and Rooney HL (1992), "Research Handbook for the Department of

Mechanical Engineering."

14. **Yih TC** (Editor, 1990), "Research Handbook for the Department of Mechanical Engineering."

PUBLICATION – Peer Reviewed Journal Article *(in reversed chronicle order)*

15. Al-Fandi M, Jaradat MAK, Fandi K, Beech JP, Tegenfeldt JO and **Yih TC** (2010), "Nano-engineered Living Bacterial Motors for Active Microfluidic Mixing," *IET Nanobiotechnology Journal.*
16. Meldrum DR, Zhang M, Lin L, Robertson CR, **Yih TC**, Wei C (2009), Special Section on Drug Delivery Automation, IEEE Transactions Automation on Science & Engineering 6(2): 205-208.
17. **Yih TC** and Moudgil VK (Dec 2007), "Nanotechnology Comes of Age to Trigger the Third Industrial Revolution," *Nanomedicine: Nanotechnology, Biology, and Medicine,* 3(4): 245.

(* Ranked #8, Jan-April 2008, on ScienceDirect as the "Top Downloaded Articles")

18. Talpasanu I, **Yih TC**, and Simionescu PA (2006), "Application of Matroid Method in Kinematic Analysis of Parallel Axes Epicyclic Gear Trains," *ASME Journal of Mechanical Design,* 128:1307-1314.
19. **Yih TC** & Al-Fandi M (2006), "Engineered Nanoparticles as Precise Drug Delivery Systems," *Journal of Cellular Biochemistry*, 97:1184-1190.
20. **Yih TC** (2005), "Application of Nanotechnology to Drug Delivery Systems," *Nanomedicine: Nanotechnology, Biology, and Medicine,* 1(3): 244-245.
21. **Yih TC**, CM Wei and B Hammad (2005), "Modeling and Characterization of Nano-Liter Drug Delivery MEMS Micropump with Circular Bossed Membrane," *Nanomedicine: Nanotechnology, Biology, and Medicine,* 1(2): 164-175.
22. **Yih TC** and CM Wei (2005), "Nanomedicine in Cancer Treatment," *Nanomedicine: Nanotechnology, Biology, and Medicine*, 1(2): 191-192.
23. Tayeh V and **Yih TC** (2003), "Development of 2-D Scapular X-Ray Imaging Index to Improve the Protocol of Rehabilitating Shoulder Impingement Syndrome," *McNair Research Journal*, UTA, Vol. 7, pp. 12-13.
24. Shiakolas PS, Conrad KL and **Yih TC** (2002), "On the Accuracy, Repeatability and Degree of Influence of Kinematic Parameters for Industrial Robots," *International Journal of Modeling and Simulation*, 22(3): 1-9.
25. **Yih TC**, Burks BL and Eluri S (1999), "Kinematic Modeling and Simulation of the RTD Systems," *Transactions of American Nuclear Society,* April.
26. Jin J and **Yih TC** (1998), "Direct Electrostatic Levitation and Propulsion of Silicon Wafers," *IEEE Transactions on Industry Applications*, 34(5): 975-984.
27. **Yih TC**, Burks BL and Wang TY (1996), "Inverse Dynamic Analysis of General Robot Manipulators," *Transactions of American Nuclear Society,* (74): 342-343.
28. **Yih TC**, Burks BL and Kwon DS (1995), "Control of Robotic Trajectory with Predetermined Deviative Errors," *Transactions of American Nuclear Society,* (73): 454-455.
29. **Yih TC**, Burks BL and Kwon DS (1995), "Inverse Kinematic Control of LDUA and TWRMS," *Transactions of American Nuclear Society,* (73): 456-457.
30. **Yih TC** (1991), "A New Method for the Geometric Modeling of Lower Pairs and Its Application to the Kinematic Spaces of Spatial Robots," *Journal of Robotic Systems*, 8(4): 415-442.
31. Ebadian MA and **Yih TC** (1990), "Analytical/Numerical Solution of Heat Conduction in a Rectangular Rod Subjected to an N-Cascade Wall Temperature," *The International Communications in Heat and Mass Transfer Journal*, 17(5): 657-687.
32. **Yih TC** and Youm Y (1989), "Analysis of Spatial Open-Loop System by Means of Direction

Cosine Transformation Matrices," *ASME Journal of Mechanisms, Transmissions, and Automation in Design*, 111(4): 508-572.

33. **Yih TC** and Ray G (1989), "3-Dimensional Femoral Torque Analysis for Total Artificial Hip during Simulated Normal Physiological Activities," *International Journal of Biomaterials, Artificial Cells, and Artificial Organs*, 17(4): 485.
34. Ebadian MA, **Yih TC** and Arnas OA (1989), "Heat Conduction in an Equilateral Triangular Rod under a Step-Change Wall Temperature," *The International Communications in Heat and Mass Transfer Journal*, 16(5): 703-712.

PUBLICATION – Peer Reviewed Conference Papers *(in chronicle order)*

35. Youm Y and **Yih TC** (1985), "The Kinematic Spaces of Planar Open-Loop Systems," *SIAM Proceedings of Geometric Modeling & Robotics*, Albany, NY, July 15-19, pp. 23-29.
36. Youm Y and **Yih TC** (1985), "Displacement Analysis of Spatial Open-Loop Systems by the Direction Cosine Matrix Method," *SIAM Proceedings of Geometric Modeling and Robotics*, Albany, NY, July 15-19, pp. 41-47.
37. Youm Y and **Yih TC** (1986), "The Kinematic Spaces of Planar n-R Open-Loop System with Rotating Base," *ASME Paper No. 86-DET-98*.
38. Youm Y and **Yih TC** (1986), "Position Analysis of Spatial n-R Open-Loop System by the 3x3 Direction Cosine Matrix Method," *Proceedings of Applied Robotics and Factory Automation Conference*, St. Louis, Missouri, November 10-12, pp. 3.1-3.10.
39. **Yih TC** and Youm Y (1986), "UKAMS-Unified Kinematic Analysis for Mechanical System, Part 1: General Approach Based on the Spherical (Coordinate) Transformation," *Proceedings of Applied Robotics & Factory Automation Conf.*, St. Louis, Missouri, November, pp. 1.1-1.8.
40. **Yih TC** and Youm Y (1986), "UKAMS-Unified Kinematic Analysis for Mechanical System, Part 2: Kinematics," *Proceedings of Applied Robotics and Factory Automation Conference*, St. Louis, Missouri, November, pp. 1.9-1.16.
41. Lewis CG, Tansey JS, Youm Y and **Yih TC** (1986), "Torque about the Femoral Shaft: Computer Modeled Analysis," *Proceedings of 32nd Annual ORS*, February 15-17, New Orleans, pp. 10-15.
42. Youm Y and **Yih TC** (1987), "On the Displacement Analysis of Open-Loop System by the Direction Cosine Matrix Method," *ASME Proceedings of Advances in Design Automation*, Vol. 2, pp. 429-435.
43. Youm Y and **Yih TC** (1987), "Kinematic Simulations of Normal and Abnormal Gaits," *ASME Proceedings of Biomechanics of Normal and Prosthetic Gait*, ASME Winter Annual Meeting, December 13-18, Boston, Massachusetts, pp. 23-29.
44. **Yih TC** (1988), "A New Symbolism for the Kinematic Pairs," *ASME Proceedings of Trends and Developments in Mechanisms, Machines and Robotics*, Vol. 2, pp. 71-76.
45. **Yih TC** and Youm Y (1988), "Geometrical Modeling of Lower-Pairs Based on Spherical-Euler Geometry," *ASME Proceedings of Trends and Developments in Mechanisms, Machines and Robotics*, 1:435-440.
46. **Yih TC** and Youm Y (1988), "Kinematics and Kinematic Spaces of Robots," *ASME Proceedings of Trends & Developments in Mechanisms, Machines & Robotics*, 3:363-370.
47. **Yih TC** and Youm Y (1988), "Matrix Solution for the Inverse Kinematics of Robots," *ASME Proc. Trends and Developments in Mechanisms, Machines & Robotics*, 3:371-376.
48. **Yih TC** and Youm Y (1988), "Kinematics of Spatial Mechanisms in Matrix Notation," *Proceed. Trends & Developments in Mechanisms, Machines & Robotics*, 1:429-434.
49. **Yih TC** and Youm Y (1988), "Analysis of Spatial Open-Loop System by Means of Direction Cosine Transformation Matrices," *ASME Proceedings of Trends and Developments in Mechanisms, Machines and Robotics-1988*, 3:377-382.

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51. **Yih TC** and Ray G (1988), "Dynamic 3-D Femoral Torque Analysis for Total Artificial Hip during Normal Physiological Activities," ASME WAM, Chicago, pp. 23-30.
52. **Yih TC** and Ray G (1988), "Estimation of 3-D Dynamic Forces on the Ligament and Vertebral Disc During Physiological Activities," *Proceed. of the Seventh Southern Biomedical Engineering Conf.,* October 27, Clemson, SC, pp. 69-74.
53. Ebadian MA, **Yih TC** and Arnas OA (1988), "Heat Conduction in an Equilateral Triangular Rod under a Step-Change Wall Temperature," *ASME Proceed. of Heat Transfer*, 3:89-92.
54. **Yih TC** and Donoso B (1989), "On the Three-Dimensional Workspace of Robots by Applying C-B Notation," *Proceedings National Conference on Applied Mechanisms and Robotics*, Cincinnati, Ohio, November 5-8, pp. 45-52.
55. **Yih TC**, Hall E and Donoso B (1989), "Design Criterion of a Spherical Joint Based on the Numerical Constraint Formulated in C-B Notation," *Proceedings of National Conference on Applied Mechanisms and Robotics*, Cincinnati, Ohio, Nov. 5-8, pp. 63-69.
56. Ebadian MA and **Yih TC** (1989), "Analytical/Numerical Solution of Heat Conduction in a Rectangular Rod Subjected to an N-Cascade Wall Temperature," *Paper No. 89-HT-5, ASME/AIChE National Heat Transfer Conference*, August, Philadelphia, PA.
57. **Yih TC**, Ray G and Donoso B (1989), "Three-Dimensional Femoral Torque Analysis for Total Artificial Hip During Simulated Normal Physiological Activities," *Proceedings of 8th Southern Biomedical Engineering Conference*, Oct. 15-16, Richmond, VA, pp. 1-4.
58. **Yih TC** and Shen QS (1990), "Minimization of Via Points for the Functional Path Generation of Robot with Predetermined Maximum Deviation," *ASME Proceedings of Dynamic Systems and Control*, ASME WAM, Nov. 25-30, Dallas, Texas, pp. 25-39.
59. **Yih TC** and Shen QS (1990), "Functional Straight-Line and Circular Paths Control for Robot with Minimized Via Points," *ASME Proceedings of Dynamic Systems and Control*, ASME WAM, Nov., Dallas, Texas, pp. 51-60.
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61. **Yih TC**, Ray G and Donoso B (1990), "Automated Computer Synthesis and Simulation of Human Gait," *Proceed. of the 14th Annual Meeting of the American Society of Biomechanics*, Nov., Miami, FL, pp. 195-196.
62. Ray G, **Yih TC** and Hopkins GR (1990), "An Interactive Computer-Aided Training and Testing Courseware in Statics," *Proceedings of the International Conference on Computer Aided Training in Science and Technology*, 8-12 July 1990, Barcelona, Spain, pp. 82-88.
63. **Yih TC** (1990), "An Alternative Homogeneous Matrix Method for Geometric Modeling of Lower Pairs and Its Application to the Kinematic Spaces of Spatial Robots," *ASME Proceedings of Mechanisms Conference*, September 16-19, Chicago, ILL, 25:331-339.
64. Shen QS and **Yih TC** (1991), "A New Method for the Analysis of Grabbing Capacity," *Proceed. Design Productivity and Int'l Conf.*, Feb. 3-9, Honolulu, Hawaii, pp. 101-109.
65. **Yih TC** and Ji K (1991), "Functional Trajectory Planning and Control of Robot: Part 1 - Theory," *5th International Conference on Advanced Robotics*, June 20-22, Pisa, Italy.
66. **Yih TC** and Ji K (1991), "Functional Trajectory Planning and Control of Robot: Part 2 - Experiment," *5th International Conference on Advanced Robotics*, June 20-22, Pisa, Italy.
67. **Yih TC** (1991), "Inverse Kinematics of Spatial Robots," *International Conference on Industrial and Applied Mathematics*, July 8-12, Washington, D.C. pp. 241.
68. **Yih TC** and Donoso B (1991), "The Matrix Solutions for General n-Link Robot and Mechanism by Applying the Newton-Euler Dynamic Equations," *Applied Mechanisms and Robotics Conference*, November 3-6, Cincinnati, Ohio, pp. 35-42.

69. Donoso B and **Yih TC** (1992), "General Matrix Solution for the Dynamics of Robots," *CSME Forum*, June 1-4, Montreal, Quebec, Canada, pp. 496-504.
70. **Yih TC** and Donoso B (1992), "RaMIP: Knowledge Based Design and Analysis Tool," *Test Technology Symposium V*, July 14-16, Laurel, MD, pp. 43-48.
71. **Yih TC**, Donoso B and Tansel IN (1992), "Minimization of Control Points for the Execution of a Robotic Trajectory with Assigned Maximum Deviation," *SIAM 40th Anniversary Meeting*, July 20-24, L.A., CA, pp. 29-41.
72. **Yih TC** (1992), "Computerized Gait Analysis and Synthesis," *7th Int'l Conference on Biomedical Engineering*, Dec. 2-5, Singapore, pp. 81-84 ***(competed for "Young Investigator Award").***
73. Donoso B and **Yih TC** (1993), "General Matrix Solution for the Dynamics of n-Link Robots," *2nd US Nat'l Congress on Computational Mechanics*, August, Washington DC.
74. Ji K and **Yih TC** (1993), "Inverse Kinematic Control for Robot Manipulators," *CASAF Annual Conf.*, June, Tampa, Florida, pp. 168-176.
75. **Yih TC** (1994), "A Dynamic Model for the Motion Analysis of Lower Extremity," *2nd World Congress of Biomechanics*, July 10-15, Amsterdam, Netherlands, pp. 145-152.
76. **Yih TC** and Donoso, B. (1994), "Dynamics of Robots Solved in C-B Notation," *SIAM Annual Meeting*, July 25-29, San Diego, CA, pp. 69-74.
77. **Yih TC** (1994), "Path Generation and Control for Robots with Assigned Error: Theory," *SIAM Annual Meeting*, July, San Diego, pp. 125-130.
78. **Yih TC** (1994), "Path Generation and Control for Robots with Assigned Error: Control," *1994 SIAM Annual Meeting*, San Diego, pp. 131-136.
79. **Yih TC** and Ji K (1995), "Minimum Trajectory Control of Robot: Minimization of Intermediate Points," *ICES '95 Conf.*, Hawaii, pp. 2606-2611.
80. **Yih TC** and Ji K (1995), "Minimum Trajectory Control of Robot: Control Experiment," *ICES '95 Conference*, August, Hawaii, pp. 2612-2616.
81. Tansel IN, **Yih TC** and Tosunoglu S (1995), "Estimation of the Prefailure Phase in Microdrilling Operations Using Laser Vibrometer," *Proceed. Int'l Conf. On Recent Advances in Mechatronics*, August 14-16, Ankara, Turkiye, pp. 328-332.
82. **Yih TC**, Burks BL and Kwon DS (1995), "On the Inverse Kinematics of LDUA and TWRMS," *ANS Proceed. Robotics & Remote Systems*, Oct. 29-Nov. 2, San Francisco, CA.
83. **Yih TC**, Burks BL and Kwon DS (1995), "Control of Robotic Trajectory under the Consideration of Deviative Errors," *ANS Proceed. Robotics & Remote Systems*, Oct. 29-Nov. 2, San Francisco, CA.
84. Ji K and **Yih TC** (1995), "Inverse Kinematic Control of Robots by Applying the C-B Notation," *Proceed. IECON '95*, Nov. 6-10, Orlando, FL, pp. 98-103.
85. Tansel IN, Arkan TT, Bao WY, Show CA, Velez CA, **Yih TC**, Tosunoglu S and Fernandez I (1996), "Solving Industrial Problems in Mechatronics Class," *Proceed. Mechatronics '96*, June, pp. 328-332.
86. **Yih TC**, Burks BL, Jin J and Kwon DS (1997), "Trajectory Error Control of Hazard-Environment Robot," *Proceed. Florida Conf. on Recent Advances in Robotics*, pp. 167-178.
87. Jin J and **Yih TC** (1997), "Contactless Gripper for Silicon Wafers," *Proceed. Florida Conference on Recent Advances in Robotics*, April 10-11, Miami, FL, pp. 12-18.
88. Jin J and **Yih TC** (1997), "Contactless Electrostatic Manipulation: Potentials and Problems," *The 25th Annual Conf. of the Electrostatic Society of America*, Athens, GA.
89. Jin J and **Yih TC** (1997), "Electrostatic Manipulator for 300mm Wafer," *IEEE 32nd Industry Applications Society Annual Meeting*, October, New Orleans, LA.
90. Jin J and **Yih TC** (1998), "AC Electrostatic Levitation," *The ESA/IEJ Joint Symposium on Electrostatics*, June 23-26, Stanford Univ., CA.
91. Jin J and **Yih TC** (1998), "Electrostatic Levitation in Engineering," *IEEE Industry Applications Society Annual Meeting*, October 12-16, St. Louis, Missouri.

92. **Yih TC**, Burks BL and Eluri B (1999), "FEA of Flexible Laminated Hose," *CASAF Annual Meeting*, Melbourne, FL.
93. **Yih TC**, Burks BL and Eluri B (1999), "Modeling and Case Study of TWR RTD Systems," *ANS 8th Int'l Topical Meeting on Robotics & Remote Systems*, Pittsburgh, PA.
94. **Yih TC** (2000), "Introduction to Bio-Mechatronics," *DARPA-EHPA Workshop*, VA.
95. Wilhite DC, Shiakolas PS and **Yih TC** (2000), "Matlab Simulations through the World Wide Web," *8th IEEE Mediterranean Conf. on Control and Automation*, July, Rio, Greece.
96. **Yih TC**, Shiakolas PS, Burks BL and Eluri BS (2000), "On the Kinematics and Dynamics of Dual-Gripper Robot Manipulator," *8th IEEE Mediterranean Conference on Control and Automation*, July 17-19, Rio, Greece.
97. Conrad KL, Shiakolas PS and **Yih TC** (2001), "Robotic Calibration Issues: Accuracy, Repeatability, and Calibration," ARRI, UTA ***(ARRI Student Paper Award).***
98. **Yih TC** (2001), "Nanotechnology: Challenge and Opportunity," *Conference on the Era of Nano-Bio-Info*, Special Session of the Workshop on Biotechnology and Nano-Biotechnology, October 18, Dallas, TX.
99. **Yih TC**, Shurpali MV, Pemmaraju S and Apsangi SG (2001), "Design of Tyche – An Anthropometric Humanoid," *Conference on the Era of Nano-Bio-Info*, Special Session of the Workshop on Biotechnology and Nano-Biotechnology, October 18, Dallas, TX.
100. **Yih TC**, Brunson KW, Wordinger RJ, Hu Z and Chen RS (2002), "Development of Micro-Pump for Localized Delivery of Controlled Drug Release Hydrogel Nanoparticles to Improve Cancer and Glaucoma Treatment," *NanoTech 2002*, September 9-13, Houston, TX.
101. **Yih TC**, Chen RS, Lee HH, Lee GB and Liu CC (2002), "Optimal Efficiency of an Electromagnetically Actuated Micro-Pump under the Consideration of Micro-Viscosity Effect," *NanoTech 2002*, September 9-13, Houston, TX.
102. **Yih TC**, Shurpali MV, Pemmaraju S and Apsangi SG (2002), "Design and Analysis of the Leg of an Anthropometric Humanoid – Tyche," *ASME Int'l Mechanical Engineering Congress & Expo., Symposium on Advances in Robot Dynamics and Control,* New Orleans.
103. Shurpali MV, **Yih TC** and Pemmaraju S (2002), "Design and Analysis of the Arm of an Anthropometric Humanoid – Tyche," *ASME Int'l Mechanical Engineering Congress & Expo., Symposium on Advances in Robot Dynamics and Control,* New Orleans.
104. Gillella SR and **Yih TC** (2003), "Analysis of Membrane Deflection with and without Membrane Pillar," UTA Academic Excellence Graduate Research ***(Dean of Engineering Award, recognized at the President's Convocation for Academic Excellence).***
105. Hammad B and **Yih TC** (2003), "Characterization of an Intelligent Micro-Sensor/Pump by Stroke Volume and Flow Rate," *TexMEMS V Conference and Workshop*, Ft. Worth, TX.
106. Mayyas MA and **Yih TC** (2003), "Analytical Modeling of Circular Micropump Membrane Actuated by an Electromagnetic Actuator," *TexMEMS V Conference and Workshop*, TX.
107. Gillella SR and **Yih TC** (2003), "Membrane Deflection Analysis of the Intelligent Micro-Sensor/Pump under the Consideration of Micro-Viscosity and Membrane Pillar," *TexMEMS V Conference and Workshop*, Ft. Worth, TX.
108. Tayeh V and **Yih TC** (2003), "Development of 2-D Scapular X-Ray Imaging Index to Improve the Protocol of Rehabilitating Shoulder Impingement Syndrome," *McNair Scholars Research Forum*, UTA.
109. Tayeh V and **Yih TC** (2004), "Imaging Approach for Rehabilitation of Shoulder Impingement Syndrome," UTA Academic Excellence Undergraduate Research.
110. Hammad BK and **Yih TC** (2004), "Characterization of Smart Micropump," UTA Academic Excellence Graduate Research.
111. Talpasanu I and **Yih TC** (2004), "Kinematics of Open-Chain Manipulator Based on Graph-Matroid Theory," *IEEE Mechatronics & Robotics Conference,* Aachen, Germany, Vol. 3, pp. 1176-1181.

112. Talpasanu I, **Yih TC** and Simionescu PA (2005), "A General Method of Kinematic Analysis of Parallel Axes Epicyclic Gear Trains Based on Graph-Cycle Matroid Theory," *ASME Power Transmission and Gearing Conference,* September, Long Beach, CA.
113. **Yih TC** and Gillella SR (2005), "Characterization of MEMS Micropump Based on Membrane Deflection under the Consideration of Microviscosity Effect," *ASME IMECE*, November, Orlando, FL.
114. Jaradat MA, Al-Fandi M and **Yih TC** (2008), "A Prototype Vision-Servo System for Automation of a Nano-Assembly Workstation," 1st Annual *Conf. on Nanotechnology*, MI.
115. Al-Fandi M, Jaradat MA, Abusaif A and **Yih TC** (2010), "A Real-time Vision Feedback System for Automation of a Nano-assembly Manipulator Inside Scanning Electron Microscope," *IEEE 7th International Multi-Conference on System, Signals & Devices SSD-10*, June, Amman, Jordan.

NEWS/PRESS RELEASE

116. Rita M. Washko (Roco MC, Fleischer EL, Von Ehr J, Blume M, **Yih TC** and Vayssieres L) (2006), "Nanotechnology: Editorial Issues Posed by a New Field," *Science Editor*, 29(3): 82~83.
117. "OU hosts May 14 Michigan Alliance in Nano Science & Engineering (MANSE) Conference," (2007), *Michigan Press Reading Service*, W/CIRC 12,527.
118. "OU Expands Nanotechnology Research Role," (2007), *Michigan SmallTech – Growing the micro and nano industry*, April.
119. "Innovation U," (2007), *metromode*, July.
120. "Michigan's Nanotech Companies Are Thinking Big," (2007), *X-OLOGY*, Summer issue.
121. "Beaumont Research Institute Adds to Its Board of Governors," (2007).
122. "Octillion Announces Appointment of Nanotechnology & Engineering Expert to Advisory Board," (2008).
123. "Nanotechnology: SE Michigan's Industrial Revolution," (2008), *metromode*, April.
124. "OU, Octillion Agree on Solar Energy Project," (2008), *Crain's Detroit Business*, August.
125. "NanoTech R&D Institute at OU," (2009), *Rochester Regional Chamber of Commerce Press Conference*, February.
126. "People Profile: Dr. Tachung (T.C.) Yih," (2010), *X-OLOGY*, Spring issue.

PUBLICATION – Technical & Research Reports

127. **Yih TC** and Youm Y (1983), "*Analysis and Synthesis of Path Generation/Control of Robot Arms*," Technical report on the robotic project, The Catholic University of America.
128. **Yih TC** and Youm Y (1984), "*Error Analysis and Feed Back Analysis on Robot Control*," Technical report on the robotic project, CUA.
129. **Yih TC** and Nieh S (1985), "*Manual for Thermal Science Laboratory*," CUA.
130. **Yih TC** and Youm Y (1986), "*CAD in Mechanical Design*," CUA.
131. **Yih TC** and Youm Y (1986), "*Manual for ME/CAD Laboratory*," CUA.
132. **Yih TC**, Youm Y and Tensey JJ (1987), "*Force/Moment Analysis of Femur for Total Hip Replacement - Static Motion*," The Catholic University of America.
133. **Yih TC** (1987), "*Reference Manual for AMS*," Manual for the AMS software package.
134. **Yih TC** (1988), "*User's Manual for AMS*," Manual for the AMS software package.
135. **Yih TC** (1988), "*Development of Low Cost Portable Gait Analysis Equipment*," Planning Phase #081588, Research progress report on the project sponsored by the Florida High Technology & Industrial Council.
136. **Yih TC** (1989), "*Computer-Assisted Rehabilitative System for Human Gait and Motion*," Research report on the summer research project sponsored by the FIU.

137. **Yih TC** (1990), "*Design and Analysis of ER/WM Robot Manipulator*," Summer Faculty Research, DOE ORNL.
138. **Yih TC** (1990), "*The 4x4 Homogeneous Transformation Matrix Method*," Summer Faculty Research, DOE ORNL.
139. **Yih TC**, Tansel IN and Wu K (1991~92), "*Research Experience for Undergraduates in Robotics and Materials*," ***Monthly Report***, Wright Laboratory, Wright Patterson AFB.
140. Levy C, **Yih TC** and Ebadian MA (1991~95), "*MUTEC Project*," ***Quarterly Report***, DOE.
141. **Yih TC** and Obegi G (1994), "*ME30 Quick Reference Manual*," Mechanical Engineering Department, DOE LBNL, Berkeley, CA.
142. **Yih TC**, Fong C, Pope B, Louie D, *et al.* (1994), "*Fundamentals of Cutting Mechanics: **Volumes 1-3***," Mechanical Engineering Department, DOE LBNL, Berkeley, CA.
143. **Yih TC**, Burks BL and Kwon DS (1995), "*Kinematic Modeling and Analysis of TWRMS and LDUA,"* ORNL, DOE.
144. **Yih TC**, Burks BL and Kwon DS (1995), "*Kinematic Modeling and Analysis of MLDUA by Applying the C-B Notation,"* ORNL, DOE.
145. Levy C, **Yih TC** and Ebadian A (1992~96), "*PREP Project*," ***Quarterly Report***, DOE.
146. **Yih TC** and Walker JB (1997), *"RECAP – REquirements Capture and Analysis Prototype,"* Advanced Software Technology Laboratory, NAWACD/NAVAIR.
147. **Yih TC** and Burks BL (1997), *"Modeling of Phase II RTD Locomotor and Orion Slave Arm for Phase III Locomotor," ORNL, DOE*.
148. **Yih TC** and Burks BL (1998), *"FEA of Flexible Laminated Hose for the WD&C System," ORNL, DOE*.
149. **Yih TC** and Burks BL (1998), *"Modeling and Case Study of RTDS," ORNL, DOE*.
150. **Yih TC** and Walker JB (1998), *"Design Evaluation of the E2C MIST System and Development of Jewel Data Compression Technology,"* Advanced Software Technology Laboratory, NAWCAD/NAVAIR.
151. **Yih TC**, Kirianov I and Burks BL (1999), *"Kinematic and Dynamic Analyses of Closed-Chain RTDS Configurations," ORNL, DOE*.
152. **Yih TC** and Burks BL (1999), *"FEA of the RTD Structure and Gripping Stress Exerted on the Structural Beams," ORNL, DOE*.
153. **Yih TC**, Reyes A, Espino J and Walker JB (2000~02), *"R&D of Jewel Compression – Advanced Data Compression Algorithm & Architecture,"* NAVAIR.
154. Fernandez R and **Yih TC** (2002~05), *"Automation of Submicron Solar Cells Manipulation,"* ***Quarterly Report***, BP Solar International.
155. **Yih TC** (2002~07), *"Installation of the Dual Arm Manipulator System and Cooperative Manipulation of Dual Arms,"* ***Annual Report***, Duratek, Inc.

AWARDS & HONORS

28. **Yih TC** and Talpasanu I (Editors, December 2008), **Micro and Nano Manipulations for Biomedical Applications**, Artech House.

    (* Ranked by Tower Books in Medicine/Biotechnology: #10 *"This Month's Tower Recommendations" (Sept 2009) &* ***#31*** *"Books Top 100" best sellers (July 2010))*

27. **Yih TC** and Moudgil VK (2007), "Nanotechnology Comes of Age to Trigger the Third Industrial Revolution," *Nanomedicine: Nanotechnology, Biology, and Medicine,* 3(4): 245.

    (* Ranked #8, Jan-April 2008, on ScienceDirect as the "Top Downloaded Articles")

26. **Fellow**, ASME (American Society of Mechanical Engineers, 2006)
25. Marquis Who's Who in the World (2006)
24. Marquis Who's Who in Science and Engineering (2004 ~ 2009)
23. AcademicKeys Who's Who in Engineering Education (2005)

22. **Dean of Engineering Award,** UTA Academic Excellence Graduate Research Competition, recognized at the President's Convocation for Academic Excellence (2003), "Analysis of Membrane Deflection with and without Membrane Pillar." *($100 cash award for student).*
21. Who's Who in Engineering & Computer Science Education (2002).
20. **UTA ARRI Student Paper Award** (2001), "Robotic Calibration Issues: Accuracy, Repeatability, and Calibration." *($500 cash award for student).*
19. Marquis Who's Who in Science and Engineering 2000~2001.
18. Lexington Who's Who (2000).
17. **Senior Summer Research Fellow** (1997, 98, 99), NAWCAD/NAVAIR, Software Technology & Environments Branch, Patuxent River, MD.
16. Outstanding Young Americans (1996 & 1998), in recognition of outstanding professional achievement, superior leadership ability and exceptional service to the community.
15. Florida State Teaching Incentive Program Teaching Award (1997).
14. University Award for Excellence in Teaching (1996).
13. **Summer Research Fellow** (1995), DOE ORNL (Oak Ridge National Laboratory), TN
12. University Award for Excellence in Research (1995).
11. **DOE/LBNL Faculty Fellow/Staff Scientist** (1993–94), to conduct full time research in the DOE Lawrence Berkeley National Laboratory (LBNL). This fellowship is awarded in recognition of one's scientific achievements.
10. University Award for Excellence in Service (1993).
9. CASAF *(Chinese American Scholars Association of Florida)* Presidential Award for Excellence (1993), acknowledgment of one's outstanding academic and professional accomplishments.
8. CASAF Presidential Award for Service (1993).
7. Foreign Nationality Council Member (10/92-99)**,** specially invited by the Society of Packaging Dynamics, the Chinese Society of Vibration Engineering (CSVE).
6. Coordinator (9/92-95), authorized by the United States Achievement Academy (USAA) as the official coordinator at FIU for *National Collegiate Engineering Awards Program*.
5. One of the five finalists *(out of 40 international competitors)* competed for the **"**Young Investigator Award" in the *7th Int'l Conference on Biomedical Engineering*, Singapore, December 1992.
4. Excellence in Service (1992), CASAF*.*
3. University Outstanding Achievement Award (1990), recommended by Department Chairperson and College Committee in recognition of one's diligent pursuit of excellence.
2. **Summer Research Fellow** (1990), DOE ORNL (Oak Ridge National Laboratory), TN
1. Award for Excellence in Teaching (1988-89), confidentially selected by the students as the faculty member who has shown exemplary dedication to the students of Mechanical Engineering and professions.

PATENT

1. Skew Pantograph Robotic Apparatus (U.S. Patent # 6314828), 11/13/01.
2. Prosthetic Devices for Upper and Lower Limbs (U.S. Patent # 6676707), 1/13/04.

PROFESSIONAL SERVICE

National, International, State, Professional Society, Industrial

1. **Council of Chief Research Officers**, California State University (CSU) system, CA *(08/10~present)*
2. **Planning Committee**, CSU system Undergraduate Research Leadership Conference,

Channel Islands, CA *(04/15/2011)*

3. **Board of Governors**, Research Institute, William Beaumont Hospital, Royal Oak, MI *(8/07~8/10)*
4. **Advisory Board**, Oakland Community College (OCC) Center for Nanotechnology in Materials Sciences *(6/08~8/10)*
5. **Governing Board**, Michigan Initiative for Innovation & Entrepreneurship (MIIE) *(1/08~8/10)*
6. **Management & Planning Team**, Michigan New Economy Initiative (NEI) *(2/08~8/10)*
7. **Review Committee**, MIIE Industry & Economic Engagement Fund *(6/08~8/10)*
8. **Honorary Board** *(1/09~present)*; **Co-Editor-in-Chief & Founder***(3/04~12/08)*, Journal of *Nanomedicine: Nanotechnology, Biology, and Medicine*, Elsevier
9. **Advisory Board**, Octillion Corp., *(1/08~2/09)*
10. **Co-Host**, MichBio Expo/Conference & Career Day *(11/08)*
11. **ABET** (Accreditation Board of Engineering & Technology) program evaluator *(2007~2012)*
    – **PEV**, Wichita State University *(2007)*
    – **Observer**, University of California/Davis *(2006)*
12. **NIH Center for Scientific Review Special Emphasis Panel** *(1996~2005)*
    – **BRP (Bioengineering Research Partnership)**, Surgical Sciences, Biomedical Imaging and Bioengineering, ZRG1 SBIB-S(50), *9/2005*.
    – NIBIB (National Institute of Biomedical Imaging and Bioengineering) – **Medical Imaging, Biosensors, Tissue Engineering, BioMEMS, and Bioengineering**, ZEB1 OSR-C (S) review panel, *2004~05.*
    – Roadmap Review Committee, National Center for Research Resources – **Exploratory Centers for Interdisciplinary Research**, ZRR1 BT-B (01), *7/2004.*
    – NICHD (National Institute of Child Health & Human Development) ZHD1 DSR-T (13) – **Accessible Health Promotion and Fitness for Persons with Disabilities**, *7/2004.*
    – NICHD ZHD1 DRG-A (C7) – **Robotics for Rehabilitation**, *8/2003.*
    – NCI (National Cancer Institute) ZCA1 SRRB-C (01) – **Innovative Technologies for the Molecular Analysis of Cancer**, *7/2003, Teleconference review.*
    – SSS-8 (10/50) – **Bioengineering & Physiology** *(2001~03)*
    – SSS-8 (41) – **Surgery & Bioengineering**, SBIR/STTR Medical Devices *(1996~2001)*
13. **Associate Editor,** IEEE Transactions on Automation Science & Engineering *(2/08~09)*
14. **Guest Editor,** IEEE Transactions on Automation Science & Engineering–Special issue on "Drug Delivery Automation." *(2006~2008)*
15. **Conference Chair**, Nanoscale Science & Engineering Annual Conference *(5/07~8/08)*
16. **Executive Committee Member**, Robotics & Remote Systems Division, American Nuclear Society *(6/07~6/10)*
17. **Panel Moderator**, Envision Conference on Health Care Technology, Education and Entrepreneurship in the 21st Century, Troy, MI *(10/07)*
18. **Conference Chair**, Michigan Alliance in Nanoscale Science & Engineering Annual Conference *(12/06~5/07)*
19. **Program Committee member**, SPIE International Symposium: Nano-, Bio-, Info-Tech Sensors & Systems *(2008, 09)*.
20. **Program Committee**, SPIE MEOMS-MEMS Photonics West: Micromachining & Microfabrication Process *(5/08~1/09)*
21. **Program Committee**, Asia Symposium, 2007 SPIE MEOMS/MEMS Technologies & Applications *(8/06)*
22. **Advisory Committee on Nanotechnology Program**, Northwest Vista College, San Antonio, TX *(3/06~9/06)*
23. **Mentor**, UTSA-UTHSCSA Summer Undergraduate Research Mentoring Program *(2006)*
24. **Program Committee Member,** IEEE SMC (Systems, Man, and Cybernetics) System of

Systems Engineering (SoSE) Conference, LA, CA *(2006)*

25. **Program Committee**, SPIE MEOMS-MEMS Photonics West: Micromachining & Microfabrication Process *(4/05~1/06)*
26. **Faculty Advisor**, NASA/MUSP Undergraduate Research Program *(1/05~8/06)*
27. **Faculty Mentor**, National FIRST Robotic Competition, Edgewood Academy/LM/ITT *(2005, 2006)*
28. **Advisor**, Graduate/PhD Students Research Abroad Program, National Science Council (NSC), Taiwan *(2002~04)*
29. **Session Chairman**, TexMEMS V Conference and Workshop, Ft. Worth, TX *(5/2003)*
30. Judge, the Exxon/Mobil Texas State Science & Engineering Fair *(4/2002)*
31. **Technical Chair**, Special Session on the "Era of Nano-Bio-Info," workshop on the "Biotechnology and Nano-biotechnology: Challenges and Opportunities on Drug Targeting in the Post-genomic Era," UTSW Medical Center, Dallas, TX *(10/2001)*
32. **Faculty Mentor**, *Independent Study Mentorship (ISM) program at Frisco High School, Frisco, TX (8/2001~02)*
33. **Faculty Mentor**, National FIRST Robotic Competition, DoubleE/Highland Park HS *(2000)*
34. **Faculty Mentor**, National FIRST Robotic Competition, Motorola/Dillard HS *(1998 & 99)*
    (Recipient of awards for the 2nd Place, "The Featherweight in the Finals", and "The Best Play of the Day" in '99 Midwest Regional Competition)*
    (Recipient of "Leadership in Control System Award" in '98 Regional Competition)*
35. **Foreign Nationality Council Member**, specially invited by the ***Society of Packaging Dynamics***, the *Chinese Society of Vibration Engineering (CSVE) (10/92 – 99)*
36. **Session Co-Chairman**, *ASME Int'l Congress & Exposition DFM session,* Anaheim, CA *(November 15–20, 1998)*
37. Member, National Nomination Committee, the Outstanding Men of America Awards *(1998)*
38. Member, National Nominations Committee, the Annual Outstanding Women of America Awards *(1997 & 1998)*
39. **Reviewer**, CRC Press book *"Musculoskeletal Adaptation to Space Flight," (1998)*
40. **Faculty Mentor**, Florida State Dade County Public High Schools ***Laboratory Research Internship, Advanced Academic Internship Program (AAIP)*** *(8/96-98)*
41. **Co-Conference Chair**, Conference on Recent Advances in Robotics, Miami, Florida *(4/97)*
42. **Board Member**, National Nominations Board, Outstanding Young Americans *(1997)*
43. **Session Co-Chairman**, American Nuclear Society Annual Meeting, Monterey, CA *(11/95)*
44. **Session Chairman**, *1994 SIAM Annual Meeting*, July 25-29, San Diego, CA.
45. Member, Scientific Review Committee, Department of Health & Human Services *(1/93-96)*
46. **Coordinator**, ***National Collegiate Engineering Awards Program***, USAA *(United States Achievement Academy) (9/92-95)*
47. **Technical Chairman**, '93 CASAF Annual Conference *(6/92-93)*
48. **Board of Directors**, CASAF *(1/92 - 6/93)*
49. **Treasurer**, CASAF (Chinese American Scholars Association at Florida) *(6/92-93)*
50. Member, FHTIC (Florida High Technology & Industrial Council) Biomedical Devices Subcommittee *(9/91-93)*
51. **Executive Committee member**, ASME Miami Section - Region XI *(9/89-92)*
52. **Session Chairman/Moderator**, *ASEE 4th International Conference on Engineering Computer Graphic*, June 11 - 15, 1990, Miami, Florida.
53. **Session Vice-Chairman**, *ASME Design Technology Conferences - Biennial Mechanisms Conference,* September 25 - 28, 1988, Orlando, Florida.

<u>University</u>

54. Chair, ORSP Research Advisory Committee *(10/10~present)*

55. Chair, *ad hoc* University Research Advisory Committee *(11/10~03/11)*
56. Member, Campus Sustainability Task Force, Subcommittees of Academics and Interdisciplinary Sustainable Research *(09/10~present)*
57. Member, Board of Directors, CSULB Foundation *(08/10~present)*
58. Member, Academic Affairs Senior Management Council, CSULB *(08/10~present)*
59. Chair, Export Control Task Force *(2/10~8/10)*
60. Steering Committee member, OU William Beaumont School of Medicine (*9/06~09)*
    - One of the 12 founding members to establish an allopathic School of Medicine at OU
    - Co-chairing the Research Sub-committee
    - Participating in LCME self-study task force and accreditation process
    - Initiated the contact to develop an international collaborative Traditional Chinese Medicine (TCM) program with universities in China
    - Assisting in research initiatives and strategic plans
61. Founding Director, NanoTech R&D Institute *(3/08~8/10)*
62. Member, University Student Retention Committee *(4/09~8/10)*
63. Member, Dean of Engineering Search Committee *(1/09~7/09)*
64. Member, Detroit Economic Club *(9/07~09)*
65. Representative, Michigan Universities Commercialization Initiative *(9/06~1/09)*
66. Editor, OU Research Magazine and Newsletters *(9/06~8/10)*
67. Member, Provost's Academic Council *(9/06~8/10)*
68. *ex-officio* member, University Regulatory Compliance Committees *(9/06~8/10)*
69. *ex-officio* member, University Research Committee (URC) *(9/06~8/10)*
70. Member, Strategic planning for UTSA 2016: Creating a Shared Vision *(5/06)*
71. Member, Search Committee for the Dean of College of Engineering *(4/06~8/06)*
72. Member, President's Affirmative Action & Diversity Committee *(8/05~8/06)*
73. Member, Search Committee, Associate Director of Development for COE *(3/05)*
74. Member, President's SECC Leadership Committee *(9/04~06)*
75. Member, Provost's Academic Council, UTSA *(9/04~06)*
76. Member, UTSA Students Who's Who Selection Committee *(12/04)*
77. Founding Member, Converging Biotechnology Center at UTA *(3/03~8/04)*
78. Faculty Advisor/Mentor, McNair Scholars (Undergraduate Research) Program *(5~8/2003)*
79. Founding Member, Multidisciplinary Analysis, Inverse Design and Optimization Institute, UTA *(11/2002)*
80. Member, University Faculty Council *(9/98-8/99)*
81. Member, University Diversity Advisory (Access & Equity) Committee *(9/95-99)*
82. Member, University Research Council *(8/96-98)*
83. Member, University Faculty Council *(9/92-93)*

<u>College</u>

84. Member, College of Engineering Executive Council *(9/04~8/06)*
85. Judge, Graduate Research Day *(4/2005, 4/2006)*
86. Member, Search Committee, Fiscal Manager for COE *(6/05)*
87. Member, Thesis Committee, Management of Technology, College of Business *(2~8/05)*
88. Member, College of Engineering Research Committee *(1/2001~8/04)*
89. Member, College Research Enhancement Program Committee *(1/2001~8/04)*
90. Member, College of Engineering Faculty Developmental Leave Committee *(1/2001~04)*
91. Member, Search Committee for Director of ARRI *(3/00~01)*
92. Member, ME New Engineering Building Space Committee *(1/96-6/98)*
93. Member, College Screen & Search Committee for Chairman *(1996)*
94. Member, College Tenure & Promotion Committee *(1994-96)*

95. Member, College Teaching Incentive Program Committee *(1994)*
96. Member, Dean's Strategic Advisory Group - Educational Technology *(8/90-92)*
97. Member, Dean's Advisory Group - College Strategic Computing *(9/89-92)*
98. Member, College Library Committee *(4/90-91)*

Department

99. Chair, ME PhD Program Committee *(11/04~8/06)*
100. Member, ME Program Undergraduate Curriculum Committee *(9/2001~8/04)*
101. Member, ME Program PhD Diagnostic Exam Committee *(9/2001~8/04)*
102. Member, MAE Promotion & Tenure Committee *(9/2000~8/04)*
103. Member, ME Program Graduate Study Committee *(9/2000~8/04)*
104. Chair, MAE Department Research Committee *(9/2000~ 2004)*
105. Member, ME Graduate Program Committee (*9/92-98)*
106. Undergraduate Advisor, Mechanical Engineering Department *(11/96-7/97)*
107. Director, ME Graduate Program *(1/96-5/98)*
108. Chair, ME Policies Committee *(1/96-97)*
109. Faculty Advisor, initiated student chapter of *IEEE Robotics & Automation Society (7/96)*
110. Member, ME ABET Committee *(1996)*
111. Chairman, ME Screen and Search Committee *(1994-95)*
112. Member, ME Screen and Search Committee *(1992-93 & 95-96)*
113. Member, ME Research Machine Shop Initiative *(3/93 - 8/93)*
114. Member, NASA/FIU Technology Transfer Initiative Group *(1/93 - 8/93)*
115. Chairman, ME Tenure & Promotion Committee *(9/92)*
116. Coordinator, computer facility for ME Department *(5/88 - 7/93)*
117. Faculty Advisor, ASME Student Section *(12/88 - 6/92)*
118. Editor, *Mechanical Engineering Research Handbook and Newsletter (11/88 - 7/93)*
119. Consolidator, department news for publication in *ASEE Mechanical Engineering News* and *Inside FIU (10/88 - 8/92)*

INVITED SPEAKER

1. **"Analytical Kinematics and Dynamics,"** Robotics & Process Systems Division (RPSD), DOE ORNL, Oak Ridge, TN (1994)
2. **"The Progress of DOE TWRMS *(Tank Waste Retrieval Manipulator Systems)*,"** Polytechnic University, NY (1998)
3. **"Inverse Kinematic Control of the Redundant LRMS *(Long Reach Manipulator Systems),"*** Northern Illinois Univ., IL (1998)
4. **"The Development and Analysis of DOE Redundant LRMS *(Long Reach Manipulator Systems)* for Underground Storage Tank Cleanup,"** University of Toledo, OH (1999)
5. **"Introduction to Nanotechnology,"** UTA (2000)
6. **"Nanotechnology: Nano-scale Science and Engineering,"** UTA (2001)
7. **"Trends in Robotics Technology and Nanorobotics,"** Six Flags Sunrise Kiwanis Club, Arlington, TX (2001)
8. **"Design of Mechanical Systems,"** ITT Technical Institute, Arlington, TX (2001)
9. **"Fundamentals of Nanotechnology,"** ITT Technical Institute, Arlington, TX (2001)
10. **"Virtual Environment Collaboration: Challenge & Opportunity,"** Arlington, TX (2002)
11. **"Intelligent and Integrated Micro-Sensor/Pump,"** UTA MEMS Workshop (2002)
12. **"BEMS, MEMS and NEMS"** ITT Technical Institute, Arlington, TX (2002)
13. **"Virtual Reality,"** ITT Technical Institute, Arlington, TX (2002)
14. **"Implantable MEMS Micro-Sensor/Pump for Localized Delivery of Controlled Release**

Hydrogel Nanoparticles to Improve Cancer and Glaucoma Treatments," Biotechnology & Bioeconomy Forum in the New Century, Beijing, China (2003)
(Invited by National Center for Biotechnology Development and Ministry of Science & Technology, China)*

15. **"Characterization of MEMS-Based Drug Delivery Micropump,"** Temple U, PA (2003)
16. **"Development & Application of Drug Delivery Micropumps,"** Northeastern University, Boston, MA (2004)
17. **"FEA and Simulation of BioMEMS Micropumps,"** Eastern Carolina U, NC (2006)
18. **"Development and Trend in Drug Delivery Systems,"** Southern Illinois University, Edwardsville, IL (2006)
19. **"Drug Delivery Systems and Automation,"** Jackson State U, MS (2006)
20. **"BioMEMS Micropump and Engineered Nanoparticles as Drug Delivery Systems,"** OU, MI (2006)
21. **"Application of Nanotechnology to Drug Delivery Systems,"** Sigma Xi Scientific Research Society, OU (2007)
22. **"Future Trends & Technologies: Hot Topics,"** MichBio Expo & Conference, Lansing, MI (2007)
23. **"The Future and Trend in Nanotechnology,"** CSM Instrument workshop, Minneapolis, MN (2008)

PROFESSIONAL DEVELOPMENT

32. **"Cayuse424 Pre-Award Proposal Budget and Submission,"** CSULB (6/11)
31. **"Contributing to Successful Fundraising,"** Advanced Resources & University Relations, OU (10/09)
30. **"Collaborative Technology Alliances,"** Army Research Office (8/08)
29. **"Army Science & Technology University Opportunities,"** Army Research Office (8/08)
28. **"External Funding Conference,"** AASCU Grants Resource Center, Washington DC (9/06)
27. "**Grants 101: Professional Grant Proposal Writing Workshop**," Ann Arbor, MI (8/06)
26. **"ABET Engineering Program Evaluator Training/ASME,"** Arlington, VA (7/06)
25. **"Training Workshop on ZEISS EVO 40 SEM,"** UTSA (5/06)
24. **"Training Workshop on Zyvex S100 Nanomanipulator,"** UTSA (3/06)
23. **"ABET Engineering Program Evaluator Training/TMS,"** San Antonio, TX (3/06)
22. **"ABET's Workshop for Program Improvement,"** Portland, OR (05)
21. **"ABET's Workshop Version 2.0,"** San Diego, CA (05)
20. **"Conflict Management,"** American Council on Education, San Antonio, TX (05)
19. **"BioMEMS – XX International Symposium of Electronics and Communications,"** Monterrey, Mexico (05)
18. **"ASME International Mechanical Engineering Education Conference,"** San Diego, CA (05) *(Workshops–ABET Preparedness, Departmental Leadership, The Future of ME, Outreach and the First Year, Global Competitiveness, Information Technology, and Education for Entrepreneurship and Innovation)*
17. **"Chairing the Academic Department–A Workshop for Division and Department Chairs and Deans,"** American Council on Education, San Antonio, TX (04)
16. **"Planning the University's Future,"** Office of the Executive Vice-Provost for Academic Affairs, UTSA (04)
15. **"Data Acquisition and Signal Conditioning,"** National Instruments, Richardson, TX (02)
14. **"Instrument Control, IVI, and Computer-Based Instruments,"** National Instruments, Richardson, TX (02)
13. **"MEMS Technologies,"** Mexico-US Foundation for Science/DOE Sandia National Laboratory/UT El Paso, El Paso, TX (01)

12. **“Biotechnology and Nano-Biotechnology: Challenges and Opportunities on Drug Targeting in the Post-Genomic Era,”** UT Dallas/UTSW Medical Center (01)
11. **“Innovations in Nanotechnology for Industry & Science,”** MIT (2000)
10. **DOD NAWCAD/NAVAIR (Naval Air Warfare Center Aircraft Division/Naval Air Systems Command)**, Software Technology & Environments Branch, Patuxent River, MD: **Senior Summer Research Fellow** (1997, 98, 99)
9. **DOE ORNL (Oak Ridge National Lab),** TN: **Summer Research Fellow** (1995)
8. **"Tele/IGRIP (Interaction Graphic Robot Instruction Program),"** Deneb Robotics, Inc., Auburn Hills, Michigan (1995, with certificate)
7. **DOE LBNL (Lawrence Berkeley National Laboratory)**, Department of Mechanical Engineering, Berkeley, CA: **Staff Scientist/Faculty Fellow** (7/93–8/94)
6. **DOE ORNL (Oak Ridge National Lab),** TN: **Summer Research Fellow** (1990)
5. **"Integration of Creativity in the ME Curriculum"** NSF/ASEE Faculty Development Program, Stanford Univ., Palo Alto, CA (1989)
4. **"ANSYS– FEA (Finite Element Analysis) package"** Impell Corp., Atlanta, GA. (1989)
3. **"Introduction to Artificial Intelligence"** University of Florida, Gainesville, FL. (1989)
2. **"An Introduction to AI Expert Systems: Fundamentals and Applications"** University of Central Florida, Orlando, FL. (1989)
1. **"Knowledge Acquisition for Expert Systems"** Univ. of West Florida, FL. (1989)

TECHNICAL PROPOSAL & PAPER REVIEW

1. National Institute of Health (NIH)
2. National Science Foundation (NSF)
3. Department of Energy (DOE)
4. Department of Defense (DOD)
5. ASME Journal of Mechanical Design
6. ASME Journal of Dynamic Systems, Measurement, and Control
7. ASME IMECE (International Mechanical Engineering Congress & Exposition)
8. IEEE Transactions on Robotics & Automation
9. IEEE/ASME Transactions on MEMS
10. ASEE MED & EMR Divisions
11. Journal of Biomechanics
12. Journal of Nanomedicine
13. Journal of Robotic Systems
14. International Journal of Shock Waves
15. International Journal of Modeling & Simulation
16. International Journal of Intelligent Automation and Soft Computing
17. FHTIC – Florida High Technology & Industry Council

SUPERVISION OF RESEARCH SCHOLARS & GRADUATE STUDENTS

- Seven Post-Docs/Visiting Scholars and 11 MS/PhD students

LABORATORY DEVELOPMENT *(T–Teaching, R–Research)*

- Nanosystems & BEMS (Bio-Electro-Mechanical Systems) Lab, *9/04~8/06 (R)*
- BEMS & Mechatronics Research Lab, *9/99~04 (R)*
- Computer-Aided Design Laboratory, *9/88~5/99 (T)*
- Biomechanics & Robotics Laboratory, *9/89~5/99 (T, R)*

CURRICULUM DEVELOPMENT

- Restructured design curriculum for new ABET criteria
- 4 times 6-year ABET accreditation processes (1991, 1997, 2000, 2005)
- Developed biomedical engineering program
- Serving on ME undergraduate and graduate curriculum committees
- Initiated and secured curriculum related group proposals (submitted to Department of Education, DOE, DoD, and NSF, etc) for laboratory and course developments

CONSULTING EXPERIENCE

1. Quest Systems, Inc. – Military and Industrial Robotics, *5/89~6/90*
2. Exonix, Co. – Biomedical Engineering, *7/90~91*
3. Motorola, *11/91~8/92*
4. Sonic Tractor Parts, Inc., *4/91~7/93*
5. Ramp International – East Coast USA, Inc. *2/93~94*
6. Gaumard Scientific Company, Inc., *10/95~4/97*
7. Inland Trade, Inc., 8*/96~3/97*
8. DataTool, Inc., *6/98~5/02*
9. Corning Cable Systems, *11/01~6/02*
10. Abysm Technology, Inc., *9/01~04*
11. ACW Bio-Medicine, Inc., *4/03~05*
12. Biomimix, Inc., *4/04~07*
13. Nanorex, *6/07~12/08*
14. Octillion Corp., *1/08~2/09*

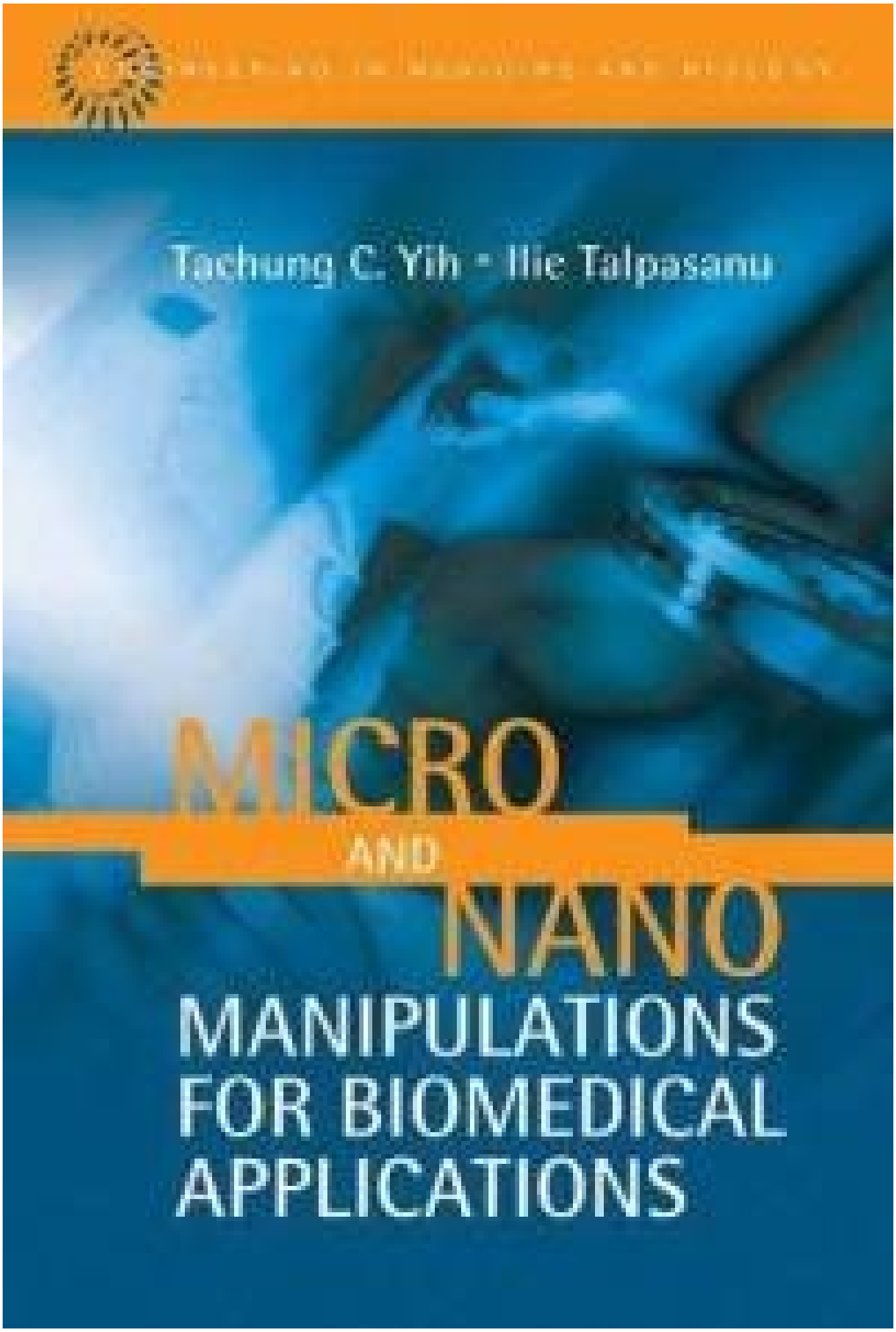
PROFESSIONAL MEMBERSHIP *(* Active membership)*

ASME* American Society of Mechanical Engineers
IEEE* Institute of Electrical and Electronics Engineers
ANS American Nuclear Society
ASEE American Society of Engineering Education
BMES Biomedical Engineering Society
ICR (Institute for Cancer Research) – Affiliate Member, University of North Texas Health Science Center (UNTHSC), Ft. Worth, Texas
PMI (Physical Medicine Institute), UNTHSC

Ranked by Tower Books in Medicine/Biotechnology:

#31 "Books Top 100" best sellers *(July 2010)*

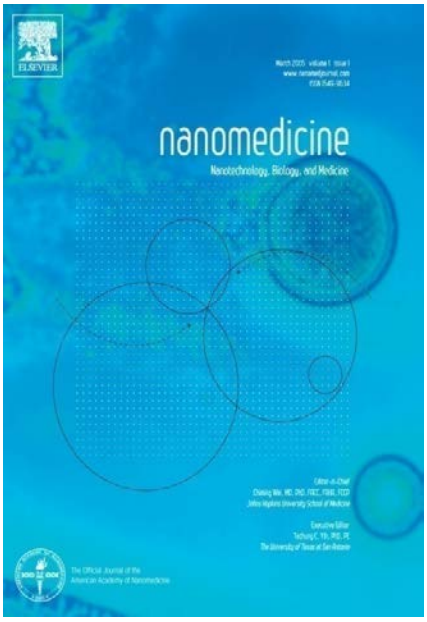
#10 "This Month's Tower Recommendations" *(September 2009)*



NANOMEDICINE: NANOTECHNOLOGY, BIOLOGY, AND MEDICINE

Founder & Co-Editor-in-Chief *(3/04~12/08)*
Honorary Board *(1/09~present)*

- 2009 impact factor: 5.440
- Ranks 11th of 59 journals in the Nanoscience and Nanotechnology subject category on the 2010 Journal Citation Reports®, published by Thomson Reuters.



The mission of ***Nanomedicine: Nanotechnology, Biology, and Medicine (Nanomedicine: NBM***; ISSN:1549-9634) is to promote the emerging interdisciplinary field of nanomedicine.

Nanomedicine: NBM is an international, peer-reviewed journal presenting novel, significant, and interdisciplinary theoretical and experimental results related to nanoscience and nanotechnology in the life sciences. Content includes basic, translational, and clinical research addressing diagnosis, treatment, monitoring, prediction, and prevention of diseases. In addition to bimonthly issues, the journal website (http://www.nanomedjournal.com) also presents important nanomedicine-related information, such as future meetings, meeting summaries, funding opportunities, societal subjects, public health, and ethical issues of nanomedicine.

The potential scope of nanomedicine is broad, and we expect it to eventually involve all aspects of medicine. Sub-categories include synthesis, bioavailability, and biodistribution of nanomedicines; delivery, pharmacodynamics, and pharmacokinetics of nanomedicines; imaging; diagnostics; improved therapeutics; innovative biomaterials; interactions of nanomaterials with cells, tissues, and living organisms; regenerative medicine; public health; toxicology; point of care monitoring; nutrition; nanomedical devices; prosthetics; biomimetics; and bioinformatics.

Article formats include Communications, Original Articles, Reviews, Perspectives, Technical and Commercialization Notes, and Letters to the Editor. We invite authors to submit original manuscripts in these categories. The journal website (http://www.nanomedjournal.com) also presents important nanomedicine-related information, such as future meetings, meeting summaries, funding opportunities, societal subjects, public health, and ethical issues of nanomedicine.