ROBERT J. FULL CURRICULUM VITAE

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ROBERT J. FULL

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Married, 2 children

Department of Integrative Biology
University of California
Berkeley, CA 94720

EDUCATION

PhD	State University of New York at Buffalo, Biology Dissertation: "Energetics of Invertebrate Terrestrial Locomotion" Committee Chair: Clyde F. Herreid	1984
MA	State University of New York at Buffalo	1982
BA	State University of New York at Buffalo Graduated *Summa Cum Laude*	1979

PROFESSIONAL POSITIONS

Howard Hughes Medical Institute Professor University of California, Berkeley	2017-present
Graduate Group in Science and Mathematics Education (SESAME) Faculty (Aug) University of California, Berkeley	2019-present
Essig Museum of Entomology. Affiliate Faculty. (Sept) University of California, Berkeley	2019-present
Electrical Engineering and Computer Science (below line) University of California, Berkeley	2009-present
Biophysics Graduate Group University of California, Berkeley	2005-present
Goldman Professor University of California, Berkeley	1999-01
Chancellor's Professor University of California, Berkeley	1996-99
Professor - Integrative Biology University of California, Berkeley	1995-present
Associate Professor - Integrative Biology University of California, Berkeley	1991-95
Assistant Professor – Zoology University of California, Berkeley	1986-91
Postdoctoral Lectureship The University of Chicago	1984-86
National Science Foundation Research Assistant State University of New York at Buffalo	1979-84
Teaching Assistant State University of New York at Buffalo	1979-84

HONORS AND AWARDS

Howard Hughes Medical Institute Professorship	2017
American Academy of Arts and Sciences Fellow	2016
California Academy of Sciences Fellow	2014
Technology, Entertainment and Design (TED) top 100 speaker (30th Anniversary, Vancouver, Canada)	2014
American Association for the Advancement of Science Fellow	2011
National Academy of Sciences Mentor in the Life Sciences	2006
Distinguished Alumni Award, State University of New York at Buffalo	2005
Who's Really Who (Ranked 316 among 1,000 most creative individuals in U.S.)	2002
Goldman Professorship, U.C. Berkeley	1999-01
Chancellor's Professorship, U.C. Berkeley	1996-99
Distinguished Teaching Award, U.C. Berkeley	1996
G.W. Thorn Distinguished Alumni, State University of New York at Buffalo	1995
National Academy of Sciences Invited Speaker, Annual Meeting	1995
Frontiers of Science Speaker, National Academy of Sciences	1995
Presidential Young Investigator Award, NSF	1990
Excellence in Teaching Award for Graduate Students, S.U.N.Y. Buffalo	1983
Master's Scholar Award, Northeastern Association of Graduate Schools	1982
Sigma Xi, Willard B. Elliot Award, Outstanding Research Accomplishments	1982
Phi Beta Kappa, State University of New York at Buffalo	1979
Summa Cum Laude, State University of New York at Buffalo	1979
Outstanding Undergraduate Senior Award - Biology, S.U.N.Y Buffalo	1979
Phi Eta Sigma - Honor Society, State University of New York at Buffalo	1979

PROFESSIONAL AFFILIATIONS

Society of Integrative and Comparative Biology
(Formerly the American Society of Zoologists)
American Society of Biomechanics
American Physiological Society
American Association for the Advancement of Science
Sigma Xi - Scientific Research Society
Society of Experimental Biology
International Society of Neuroethology

PATENTS

Inventors: Full, R. J., Fearing, R., Kenny, T. & Autumn, K. 2011. "Adhesive microstructure and method of forming same." Japanese National Patent No. 2001-550314. Based on International Patent Application No. PCT/US2000/033495.

Inventors: Full, R. J., Fearing, R., Kenny, T. & Autumn, K. 2007. "Adhesive microstructure and method of forming same (part 4)". United States Patent No. 7,828,982

Inventors: Full, R. J., Fearing, R., Kenny, T. & Autumn, K. 2007. "Adhesive microstructure and method of forming same (part 3)". United States Patent No. 7,229,685.

Inventors: Full, R. J., Fearing, R., Kenny, T. and Autumn, K. 2006. "Adhesive microstructure and method of forming same (part 2)". United States Patent No. 7,011,723.

Inventors: Full, R.J., Fearing, R., Kenny, T. and Autumn, K., May 2004. "Adhesive Microstructure and Method of Forming the Same." United States Patent No. 6,737,160.

Ranked among top 10 Nanotechnology Patents in 2007.

PUBLICATIONS (H-INDEX 79)

JOURNAL PUBLICATIONS

Jayaram. K. and Full, R.J. Robustness in six-legged runners. In prep. *Nature.*

Libby, T., Edgerly, J.S., and Full, R.J. Clumsy dynamics of rapid backwards running in tube-dwelling webspinners. In prep. *PLoS ONE.*

Dudek, D.M., Dastoor, S., and Full, R.J. An insect leg's passive recovery from perturbations in swing during rapid running. In prep. *J. Exp. Biol*.

Springthorpe, D., Gravish, N., Mazouchova, N., Goldman, D.I. and Full, R.J. Burrowing biomechanics of the ghost crab. In prep. *J. Exp. Biol*.

Libby, T., Hwang, M., Koh, M., Xie, B. and Full, R.J. Dynamics of rapid escape turns in lizards. In prep. *J. Exp. Biol*.

Hunt, N., Lee C., and Full, R.J. Balance decisions shape the dynamics of rapid rod running in cockroaches. In prep. *J. Exp. Biol*.

Yim. J., Wang, E. Hunt, N., Lee, S., Full, R.J. and Fearing, R. Monopedal robot branch-to-branch leaping and landing inspired by squirrel balance control. In prep. *Science Robotics*.

Bhatti, H. A., Gochyev, P., Wilson, M., & Full, R.J. Fostering future innovators by measuring self-perceptions of growth in innovation skills using a developmental perspective. In prep. *International Journal of STEM Education.*

Lee, S., Wang, S., Kuang, D., Yim. J., Wang, E. Hunt, N. Fearing, R., Stuart, H. and Full, R.J. Stabilization of above-branch landing by free-ranging squirrels using nonprehensile, palmar foot grasps. In prep. *J. Exp. Biol*.

Jin, L., Yang, Y., Maldonado B.O., Lee, S.D., Figueroa, N., Full, R.J., Yang, S. 2023. Ultra-fast, programmable, and electronics-free soft robots enabled by snapping metacaps. *Advanced Intelligent Systems*, Feb. 9. 2300039.

Treers L.K., McInroe B., Full R.J., Stuart H.S. 2022. Mole crab-inspired vertical self-burrowing. *Frontiers in Robotics and AI*. 2022:263.

Song Y., Weng Z., Yuan J., Zhang L., Wang Z, Dai Z., Full R.J. 2022. Incline-dependent adjustments of toes in geckos inspire functional strategies for biomimetic manipulators. *Bioinspiration & Biomimetics*. Jun 1;17(4):046010.

Chang-Siu, E., Snell, A., McInroe, B.W., Balladarez, X., and Full, R.J. 2022. How to use the Omni-Wrist III for dexterous motion: An exposition of the forward and inverse kinematic relationships. *Mechanism and Machine Theory*. Vol. 168, February. 104601.

Full, R.J., Bhatti, H.A., Jennings, P., Ruopp, R., Jafar, T., Matsui, J., Flores, L.A. and Estrada, M. 2021. Eyes toward tomorrow program enhancing collaboration, connections, and community using bioinspired design. *Integrative and Comparative Biology.* Nov;61(5):1966-80.

Hansen A.K., Connors P., Donnelly-Hermosillo D., Full R.J., Hove A., Lanier H., Lent D., Nation J., Tucker K.P, Ward J., Whitenack, L. 2021. Biology beyond the classroom: Experiential learning through authentic research, design, and community engagement. Integrative and Comparative Biology. Sep; 61(3):926-33.

Siddall, R., Byrnes, G., Full, R.J. and Jusufi, A. 2021. Tails stabilize landing of gliding geckos crashing head-first into tree trunks. *Communications Biology (Nature).* Sep 2;4(1):1-2.

Hunt, N., Jinn, J., Jacobs, L.F., and Full, R.J. 2021. Acrobatic squirrels learn to leap and land on tree branches without falling. *Science*. 373, 697–700.

Siddall, R., Byrnes G., Full, R.J., Jusufi, A. 2021. A. Mechanisms for mid-air reorientation using tail rotation in gliding geckos. *Integrative and Comparative Biology*. Aug;61(2):478-90.

Martinez, A., DeJong, J., Akin, I., Aleali, A., Arson, C., Atkinson, J., Bandini, P., Baser, T., Borela, R., Boulanger, R., Burrall, M., Chen, Y., Collins, C., Cortes, D., Dai, S., DeJong, T., Del Dottore, E., Dorgan, K., Fragaszy, R., Frost, D., Full, R. J., Ghayoomi, M., Goldman, D., Gravish, N., Guzman, I. L., Hambleton, J., Hawkes, E., Helms, M., Hu, D. L., Huang, L., Huang, S., Hunt, C., Irschick, D., Lin, H., Lingwall, B., Marr, W. A., Mazzolai, B., McInroe, B., Murthy, T., O'Hara, K., Porter, M., Sadek, S., Sanchez, M., Santamarina, C., Shao, L., Sharp, J., Stuart, H., Stutz, H. H., Summers, A.P., Tao, J., Tolley, M., Treers, L., Turnbull, K., Valdes, R., van Passen, L., Viggiani, G., Wilson, D., Wu, W., Yu, X., and Zheng, J. 2021. Bio-inspired Geotechnical Engineering: Principles, Current Work, Opportunities, and Challenges. *Géotechnique*. Feb 9:1-48.

Song, Y., Yuan, J., Zhang, L., Dai, Z., Full, R.J. 2021. Size, shape and orientation of macro-sized substrate protrusions affect the toe and foot adhesion of geckos. J. *Exp. Biol.* 224 (8), jeb223438.

Song, Y., Dai, Z., Wang, Z., Full, R.J. 2020. Role of multiple, adjustable toes in distributed control shown by sideways wall-running in geckos. *Proc. Roy. Soc. Lon. B*. 287.1926: 20200123. 6 May. DOI: 10.1098/rspb.2020.0123.

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Wu, Y., Yim, J.K., Liang, J., Shao, Z., Qi, M., Zhong, J., Luo, Z., Yan, X., Zhang, M., Wang, X., Fearing. R.S., Full, R.J. and Lin, L. 2019. Insect-scale fast moving and ultra-robust soft robot. *Science Robotics*. Vol. 4, Issue 32, eaax1594. 31 July. DOI: 10.1126/scirobotics.aax1594.

Yang, G-Z., Full R.J., Jacobstein, N., Fischer, P., Bellingham, J., Choset, H., Christensen, P., Dario, P., Nelson, B., and Taylor, R. 2019. Ten robotics technologies of the year. *Science Robotics*. Vol. 4, Issue 26, eaaw1826. 16 January. DOI: 10.1126/scirobotics.aaw1826.

Nirody, J.A., Jinn, J., Lee, T., Libby, T., Jusufi, A., Hu, D., Full. R.J. 2018. Geckos race across the water's surface using multiple mechanisms. *Current Biology*, 28, 1-6. 17 December. DOI: 10.1016/j.cub.2018.10.064.

Jayaram. K., Mongeau, J., Mohapatra, A., McRae, B., Birkmeyer, P., Fearing, R.S., and Full, R.J. 2018. Transition by head-on collision: Mechanically mediated maneuvers in cockroaches and small robots. *J. Royal Soc. Interface*. 14 February. DOI: 10.1098/rsif.2017.0664.

Yang, G., Bellingham, J., Dupont, P. E., Fischer, P., Floridi, L., Full, R.J., Jacobstein, N., Kumar, V., McNutt, M., Merrifield, R., Nelson, B. J., Scassellati, B., Taddeo, M., Taylor, R., Veloso, M., Wang, Z., Wood, R. 2018. The grand challenges of *Science Robotics. Science Robotics*. 31 Jan 2018: Vol. 3, Issue 14, eaar7650. DOI: 10.1126/scirobotics.aar7650.

Li, C., Kessens, C. C., Fearing, R. S., and Full, R. J. 2017. Mechanical principles of dynamic terrestrial self-righting using wings. *Advanced Robotics*, *31*(17), 881-900. 21 September. DOI: 10.1080/01691864.2017.1372213.

Libby, T., Johnson, A.M., Chang-Siu, E., Full, R.J. and Koditschek, D.E., 2016. Comparative design, scaling, and control of appendages for inertial reorientation. IEEE Transactions on Robotics, 32(6), pp.1380-1398.

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Waldrop, L.D., Adolph, S.C., Behn, C.G.D., Braley, E., Drew, J.A., Full, R.J., Gross, L.J., Jungck, J.A., Kohler, B., Prairie, J.C., Shtylla, B., and Miller, L.A. 2015. Using active learning to teach concepts and methods in quantitative biology. *Integrative and Comparative Biology*. doi:10.1093/icb/icv097.

Full, R.J., Dudley, R., Koehl, M.A.R., Libby, T., and Schwab, C. 2015. An interdisciplinary learning laboratory course facilitating epistemological development, mutualistic teaming and original discovery. *Integrative and Comparative Biology*. doi: 10.1093/icb/icv095.

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Mongeau, J., Sponberg, S.N., Miller, J.P., Full, R.J. 2015. Sensory processing within cockroach antenna enables rapid implementation of feedback control for high-speed running maneuvers. *J. Exp. Biol*. 218(15): 2344-2354. doi: 10.1242/jeb.118604.

Li, C., Pullin, A.O., Haldane, D.W., Lam, H.K., Fearing, R.S., and Full, R.J. 2015. Terradynamically streamlined shapes in animals and robots enhance traversability through densely cluttered three-dimensional terrain. *Bioinspiration & Biomimetics*. 10(4): 046003.

Mongeau, J., Demir, A., Dallmann, C.J., Jayaram, K., Cowan, N.J., and Full, R.J. 2014. Mechanical processing *via* passive dynamic properties of the cockroach antenna can facilitate control during rapid running. *J. Exp. Biol*. 217(18): 3333-3345.

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Mongeau, J., Demir, A., Lee, J., Full, R.J., and Cowan, N.J. 2013. Locomotion-mediated active sensing with sensor reconfiguration *via* passive mechanics. *J. Exp. Biol.* 216, 4530-4541. doi:10.1242/jeb.083477.

Revzen, S., Burden, S.A., Moore, T.Y., Mongeau, J.M., and Full, R.J. 2013. Instantaneous kinematic phase reflects neuromechanical response to lateral perturbations of running cockroaches. *Biol. Cyb.* 107.2, 179-200. doi:10.1007/s00422-012-0545-z

Mongeau, J., McRae, B., Jusufi, A., Birkmeyer, P., Hoover, A., Fearing, R.S., and Full, R.J. 2012. Rapid inversion: Running animals and robots swing like a pendulum under ledges**.** *PLoS ONE*. 7(6): E38003.

Libby, T., Moore, T., Chang-Siu, E., Li, D., Cohen, D., Jusufi, A., and Full, R.J. 2012. Tail assisted pitch control in lizards, robots and dinosaurs. *Nature.* 481, 181–184. doi: 10.1038/nature10710.

Jusufi, A., Zeng, Y., Full, R.J., and Dudley, R. 2011. Aerial righting reflexes in flightless animals. *Integrative and Comparative Biology*. 51(6): 934-437. doi: 10.1093/icb/icr114.

Sponberg, S., Libby, T., Mullens, C., and Full, R.J. 2011. Shifts in a single muscle's control potential of body dynamics. *Phil. Trans. Royal Soc. B.* 366, 1606-1620. doi: 10.1098/rstb.2010.0368.

Sponberg, S., Spence, A., Mullens, C., and Full, R.J. 2011. A single muscle's multifunctional control potential of body dynamics for postural control and running. *Phil. Trans. R. Soc. B.* 366, 1592-1605. doi: 10.1098/rstb.2010.0367.

Hill, G.C., Soto, D.R., Peattie, A.M., Full, R.J., and Kenny, T.W. 2011. Orientation angle and the adhesion of single gecko setae. *J. R. Soc. Interface*, 8, 926-933. doi: 10.1098/rsif.2010.0720

Jusufi, A., Kawano, D.T., Libby, T. and Full, R.J. 2010. Righting and turning in mid-air using appendage inertia: reptile tails, analytical models and bio-inspired robots. *Bioinspir. Biomim.* 5.4, 045001. doi: 10.1088/1748-3182/5/4/045001

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Spence, A.J., Revzen, S., Seipel, J., Mullens, C., Yeats, K., and Full, R.J. 2010. Insects running on elastic surfaces. *Journal of Experimental Biology*. 213, 1907-1920.

Herreid, C.F and Full, R.J. 2010. How to survive an academic job interview. *J. College Sci. Teaching*. Jan/Feb, 10-15.

Schwenk, K., Padilla, D.K., Bakken, G.S., and Full, R.J. 2009. Grand challenges in organismal biology. *Journal of Comparative and Integrative Biology*. 49(1): 7-14. doi:10.1093/icb/icp034

Jusufi, A., Goldman, D.I., Revzen, S., and Full, R.J. 2008. Active tails enhance arboreal acrobatics in geckos. *PNAS*. 105, 4215–4219.

Sponberg, S. and Full, R.J. 2008. Neuromechanical response of musculo-skeletal structures in cockroaches during rapid running on rough terrain. *J. exp Bio*. 211, 433-446.

Spenko, M.J., Haynes, G.C., Saunders, J.A., Cutkosky, M.R., Rizzi, A.A., Full, R.J., Koditschek, D.E. 2008. Biologically inspired climbing with a hexapedal robot. *Journal of Field Robotics*. Volume 25, Issue 4-5, 223-242.

Lee, J., Sponberg, S., Loh, O., Lamperski, A., Full, R.J., and Cowan, N. 2008. Templates and anchors for antenna-based wall following in cockroaches and robots. *IEEE Transactions on Robotics*. 24, 130-143.

Peattie, A.M. and Full, R.J. 2007. Phylogenetic analysis of the scaling of wet and dry biological fibrillar adhesives. *PNAS*. 104, 18595-18600.

Bartsch, M.S., Federle, W., Full, R.J., and Kenny, T.W. 2007. A multiaxis force sensor for the study of insect biomechanics. *Journal of Microelectromechanical Systems*. 16, 709-18.

Dudek, D.M. and Full, R.J. 2007. An isolated insect leg's passive recovery from dorso-ventral perturbations. *J. exp. Biol*. 210, 3209-3217.

Nishikawa, K., Biewener, A.A., Aerts, P., Ahn, A.N., Chiel, H.J., Daley, M.A., Daniel, T.L., Full, R.J., Hale, M.E., Hedrick, T.L., Lappin, A.K., Nichols, T.R., Quinn, R.D., Satterlie, R.A., Szymik, B. 2007. Neuromechanics: an integrative approach for understanding motor control. *Integr. Comp. Biol*. 47, 16-54.

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Ahn, A.N., K. Meijer and R.J. Full. 2006. Determinants of muscle power: isometric, isotonic, and history dependent properties of two insect leg muscles innervated by the same motor neuron. *J. exp Bio*. 209, 3370-3382.

Goldman, D.I., Chen, T.S., Dudek, D.M. and Full, R.J. 2006. Dynamics of rapid vertical climbing in cockroaches reveals a template. *J. exp Bio*. 209, 2990-3000.

Dudek, D.M. and Full, R.J. 2006. Passive mechanical properties of legs from running insects. *J. exp Bio*. 209, 1502-1515.

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Chen, J.J., A.M. Peattie, K. Autumn, and Full, R.J. 2006. Differential leg function in sprawled-posture quadrupedal trotters. *J. exp Bio*. 209, 249-259.

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Federle, W., Riehle, M., Curtis, A. and Full, R.J., 2002. An integrative study of insect adhesion: Mechanics and wet adhesion of pretarsal pads in Ants. *Int. Comp. Biology*. 42, 1100-1106.

Jindrich, D.L. and Full, R.J. 2002. Dynamic stabilization of rapid hexapedal locomotion. *J. exp Bio.* 205, 2803-2823.

Autumn, K., Sitti, M., Liang, Y.A., Peattie, A.M., Hansen, W.R., Sponberg, S., Kenny, T., Fearing, R., Israelachvili, J.N. & Full, R.J. 2002. Evidence for van der Waals adhesion in gecko setae. *Proc. Nat. Acad. Sci*. 99(19): 12252-12256.

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Full, R.J., Kubow, T., Schmitt J., Holmes, P., and Koditschek, D. 2002. Quantifying dynamic stability and maneuverability in legged locomotion. *Int. & Comp. Biology.* 42, 149-157.

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RESEARCH PRESENTATIONS, WORKSHOPS, AND INVITED LECTURES

INVITED INTERNATIONAL SYMPOSIA AND PRESENTATIONS

Switzerland. AI for Good. IUT Event. Synergy of Biorobotics and Robots for Biology. Workshop Webinar on Biorobotics for emulating and studying animal locomotion. (Geneva, CH) Remote Sept. 2023

UK. IEEE International Conference on Robotics and Automation. Workshop on Agile Movements: Animal Behavior, Biomechanics, and Robot Devices. "Decisions, Learning, Innovation and Embodied Control: Squirrel Cognitive Biomechanics." (London, UK) Remote June 2023

United States. National Academies of Science Workshop "Biohybrid Materials and Technologies for Today and Tomorrow. Planning Committee and Discussion Leader. (Washington, DC) Jan 2023

United States. Gordon Research Conference: From Basic Science to Robot Systems. "Decisions, Learning, Innovation and Embodied Control: Squirrel Cognitive Biomechanics." (Ventura, CA) Aug 2022

United States. International Workshop on Art+Nature. Sponsored by The Institute of International Studies (IIS) in association with the University of Tokyo. "*Bio-inspired Design*." (Berkeley CA) Nov 2019

United States. *Keynote Speaker,* 1st International Workshop on Bio-Inspired Geotechnics. National Science Foundation. "*Organisms as Sources of Knowledge and Solutions*." (Aslimar, CA) May 2019

United States. *Plenary Lecture,* International Conference on Living Machines. "The Challenges of Advancing BioDesign Principles, Processes, and Inclusive Excellence." Stanford University. (Stanford, CA) July 2017

UK. Cambridge Philosophical Society. New Frontiers in Robotics. "The Challenges of Bioinspired Robotics." Cambridge University. (Cambridge, UK) March 2017

Switzerland. Ecoles Polytechnique Fédérale de Lausanne. Reconfigurable Robotics Laboratory. "BioMotion Science: Leapin' Lizards, Compressed Cockroaches and Smart Squirrels Inspire Robots." (Lausanne, Switzerland) March 2017

United States. *Plenary Lecture,* 7th International Conference on Adaptive Motion of Animals and Machines. "Motion Science of Animals and Machines - An Exemplar of Convergence." (Cambridge, MA) 2015

United States. IEEE International Conference on Robotics and Automation. Workshop on Robotics Inspired Biology. "Challenges of Bioinspired Robotics and Robot Enabled Biology." (Seattle, WA) 2015

Switzerland. *Plenary Lecture,* 2nd The Biomimicry Europe Innovation and Finance Summit. "The Challenges of Biological Inspiration: From Idea to Innovation." (Zurich, Switzerland) 2014

Spain. *Plenary Lecture,* 13th International Conference on Simulation of Adaptive Behavior. "Principles of Robustness in Motion Science of Animals, Animations and Robots." (Castellón, Spain) 2014

United States. *Symposium Co-organizer (2), Chair and Introduction*, 7th World Congress of Biomechanics. "Design of Feet in Relation to Locomotion and Maneuvering on Challenging Terrain." (Boston, USA) 2014

China. *Plenary Lecture*, 4th International Conference on Bionic Engineering. "Biological Inspiration: How We Learn from Nature to Design Robots, Adhesives and Exoskeletons." (Nanjing, PRC) 2013

UK. Royal Veterinary College. "Robustness – Inspiration for the Next Generation Robot." (London, UK) 2013

UK. *Plenary Lecture,* Living Machines, 2nd International Conference. "Robustness – Inspiration for the Next Generation Robot." (London, UK) 2013

UK Cambridge University. Department of Zoology. "Robustness – Inspiration for the Next Generation Robot." (Cambridge, UK) 2013

United States. 15th International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines (CLAWAR). *Plenary & Meeting Opening Lecture.* "Robustness in Animals as Inspiration for the Next Generation Robot" Johns Hopkins University. (Baltimore, MD) 2012

United States. *Plenary Talk*. "Robustness in Animals as Inspiration for the Next Generation Robot." IEEE/RSJ International Conference on Intelligent Robots and Systems. (San Francisco, USA) 2011

United States. NSF Sponsored U.S.-Japan Workshop on Bio-inspired Engineering of Next-Generation Sensors and Actuators. "Cautions on extracting principles from Nature to inspired the design of sensors and actuators." (Berkeley, USA) 2011

Germany. *Plenary Lecture.* BIOKON. International Industrial Convention of Biomimetics. "How We Learn from Nature to Design Robots, Exoskeletons and Adhesives." (Berlin, GER) 2011

UK. *Meeting Opening Plenary Lecture.* Cold Spring Harbor, Wellcome Trust Conference on Engineering Principles in Biological Systems. "Neuromechanical Systems Biology: A Tale of Tails." (Cambridge, UK) 2009

UK. Cambridge University. Department of Zoology. "Neuromechanical Systems Biology. Gripping Geckos, Bipedal Bugs and Galloping Ghost Crabs." (Cambridge, UK) 2009

Switzerland. *Keynote Address.* Ecoles Polytechnique Fédérale de Lausanne Research Day. "Biological Inspired Robots." (Lausanne, Switzerland) 2009

Switzerland. Ecoles Polytechnique Fédérale de Lausanne. Summer Research Institute Seminar Series. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: Biological Inspiration." (Lausanne, Switzerland) 2008

Switzerland. Workshop on Control of Locomotion: From Animals to Robots. Meeting of Robotics: Science & Systems. "Biological Perspective on Neuromechanical Control Architectures." (Zurich, Switzerland) 2008

UK. Royal Veterinary College. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: Neuromechanical Systems Biology." (London, UK) 2008

UK. *Meeting Opening Plenary Lecture.* Biological Approaches for Engineering. "The Challenges of Providing Biological Inspiration." (Southampton, UK) 2008

Italy. Advanced Robotics Technology and Systems Laboratory. The Sant' Anna School of Advanced Studies of Pisa. "Neuromechanical Systems Biology." (Pisa, ITA) 2007

Italy. IEEE International Conference on Robotics and Automation. Workshop on Biomimetic Robotics. "From Bio-inspiration to Robotic Implementation". (Rome, Italy) 2007

UK. University of Bath Workshop. Biologically Inspired Robots. (Bath, UK) 2004

Japan. *Keynote Address.* 2nd International Symposium on Adaptive Motion of Animals and Machines. "Biorobotics in the Age of Integration." (Kyoto, Japan) 2003

Canada. World Congress of Biomechanics. Symposium on *Self-Stability*. "Scaling of Damping: Implications for Stability." (Calgary, Canada) 2002

Germany. Symposium on *Systems Approach to Motor Behavior*. "BioInspiration: From Template to Anchor." (Bielefeld, Germany) 2002

Germany. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." Berlin Institute of Advanced Studies. (Berlin, Germany) 2002

Japan. Symposium on Evolutionary Robotics From Intelligent Robotics to Artificial Life "Using Biological Inspiration to Build Artificial Life that Locomotes." (Tokyo, Japan) 2001

Germany. *Keynote Address.* 2nd International Conference on Motion Systems. Friedrich-Schiller-Universitat. "Control and Stability: From Galloping Ghosts to Gripping Geckos." (Jena, Germany) 2001

UK. Society of Experimental Biology. Symposium on Mechanical Function of Muscle: Molecules to Movement. "The role of muscle in the control of dynamically coupled systems." (Exeter, UK) 2000

Japan. Symposium at International Biological Award Presentation supported by the Emperor of Japan and the Japan Society for the Promotion of Science (JSPS). "Neuromechanics: Lessons from Many-Legged Locomotors." (Nagoya, Japan) 1999

Scotland. Symposium on Design of Life: The Science of Biomechanics. Society of Experimental Biology. "Biomechanical templates and anchors: Invertebrate legged locomotion on land." (Edinburgh, Scotland) 1999

Scotland. Symposium on Biomechanics and Behavior. Society of Experimental Biology. "Intermittent Work Alters Distance Capacity." (Edinburgh, Scotland) 1999

UK. Symposium on Neuromechanics. Society of Experimental Biology "The role of the mechanical system in the neuromuscular control of arthropod walking and running." (York, UK) 1998

Germany. *Keynote Address.* International Conference on Motion Systems. Friedrich-Schiller-Universitat. "The role of the mechanical system in control." (Jena, Germany) 1997

Mexico. Neural Control of Movement Conference. Workshop. "Human locomotion: What should our next step be?" (Cancun, Mexico) 1997

Canada. Intersociety Conference and the American Physiological Society. Symposium on linking muscle mechanics to energetics: from cross-bridge to

locomotion. The Integrative Biology of Exercise. "3D Dynamic models: Multiple muscle systems to whole body terrestrial locomotion." (Vancouver, Canada) 1996

UK. *Symposium Organizer.* Symposium on Comparative physiology and robotics. 4TH International Congress of Comparative Physiology and Biochemistry sponsored by the International Union of Biological Sciences. "Biological inspiration toward the design of hexapedal robots: stability and maneuverability." (Birmingham, UK) 1995

USSR. Symposia on Current concepts in gravitational biology. International Union of Physiological Sciences. Meeting on Gravitational Biology. "Comparative animal motility and gravity." (Leningrad, U.S.S.R.) 1990

Finland. Proceeding of the International Union of Physiological Sciences, XXXI Congress. "Hot hexapedal runners: exercise induced heat production in the American cockroach." (Helsinki, Findland) 1989

Austria. International Symposia on *Energy transformation in cells and animals*. 10th Conference of the European Society of Comparative Physiology and Biochemistry. "Bouncing endothermic insects." (Innsbruck, Austria) 1988

Canada. University of British Columbia. Department of Zoology. "Terrestrial locomotion energetics and performance: From running sideways to exercising without lungs." (Vancouver, Canada) 1988

Canada. Proceeding of the International Union of Physiological Sciences, XXX Congress. "Energetics of multi-legged locomotion." (Vancouver, Canada) 1986

West Germany. Max Planck Institut. "Energetics and endurance in arthropods and some lower vertebrates." (Goettingen, West Germany) 1985

NATIONAL – INVITED SYMPOSIA, WORKSHOPS, AND PRESENTATIONS

National Science Foundation. Convergence Accelerator Workshop Bio-inspired Design, External Advisory Board. (Wyss Institute, Boston, MA) Oct 2022

Bay Area Robotics Symposium. *Keynote Speaker*. "*Decisions, Learning, Innovation and Embodied Control: Smart Squirrels*." (Berkeley, CA) Nov 2022

Janelia Research Campus. Symposium on 4D Cellular Physiology: Mechanics in Physiological Systems: From Organelle to Organisms. *Speaker*. "Embodied Control of Behavior in Complex Environments." Remote. June 2021

American Physical Society Meeting. Symposium: Robophysics: Robotics Meets Physics IV: Complex Environment. *Speaker*. "BioInspired Embodied Control of Locomotion in Complex Environments." Remote. March 2021

IEEE International Conference on Robotics and Automation. Workshop on Robot Inspired Biology. *Introductory Speaker*. Remote. Oct 2020

Society of Integrative and Comparative Biology Regional Meeting. *Plenary Speaker*. "Biodesign: Using Diversity to Understand Nature, Transform Education, and Invent the Future." California State University, San Marcos (San Marcos, CA) Nov 2018

Emerging Innovations in Biodiversity Research Conference. iDigBio (NSF). *Keynote Speaker*. Technological Innovation from Digital Data Opportunities and Challenges to Bio-inspired Design. University of California at Berkeley (Berkeley, CA) June 2018

Bay Area Robotics Symposium. *Keynote Speaker*. "*Grand Challenges of Robotics*." (Berkeley, CA) Nov 2017

Workshop on Biological Collections as a Resource for Technical Innovation. *Keynote Speaker*. Smithsonian National Museum of Natural History. "Bringing Museum Specimens to Life: Opportunities and Challenges to Bio-inspired Engineering." (Washington, DC) 2016

Future Directions Workshop on Foundations of Intelligent Sensing, Action and Learning. Sponsored by the Basic Research Office of the Assistant Secretary of Defense for Research and Engineering, "Capabilities Inspired from Motion Science of Animals." University of Pennsylvania (PA) 2015

Santa Fe Institute. Annual Science Board Symposium. "Robustness in Complex Environments: Leaping lizards, crashing cockroaches, and running robots." (Santa Fe, NM) 2015

International Society of Optics and Electronics (SPIE). Symposium on Defense and Security. Micro- and Nanotechnology Sensors, Systems, and Applications VII. "Bio-inspired principles of terrestrial motion science." (Baltimore, MD) 2015

San Diego Zoo. *Plenary Lecture*. 4th Annual Conference on Biomimicry: Accelerating the Development of Nature's Solutions. "The Challenges of Biological Inspiration: From Idea to Innovation." (San Diego, CA) 2013

ARL Colloquium. "Biological Inspiration: How We Learn from Nature to Design the Next Generation of Devices." (Adelphi, MD) 2013

American Association of Advancement of Sciences – Local. Inaugural Meeting. *Invited Speaker*. "Curiosity-based Research: Animals, Robots & Adhesives" (Mountain View, CA) 2013

MAST Micromechanics Workshop. "Ambulation: Biological Mechanics" University of Maryland. (College Park, MD) 2012

Wyss Institute. *Keynote Lecture.* Symposium on Rhythm & Noise. Harvard University. "Neuromechanical Control Architectures: Diversity Enables Discovery." (Cambridge, MA) 2012

National Science Foundation. IGERT PI Meeting. "Leaping lizards, bio-inspired robots and dinosaurs." (Washington, DC) 2012

National Science Foundation / Army Research Office. *Meeting Opening Presentation*. Workshop on Why Animals are Better: Integration of Physics, Engineering and Biology. (Washington, DC) 2012

National Science Foundation / Army Research Office. Workshop on Why Animals are Better: Integration of Physics, Engineering and Biology. "Robustness." (Washington, DC) 2012

BioMechanical Engineering Conference at Stanford. Keynote Speaker. Stanford University. "Leaping Lizards, Gripping Geckos & Crashing Cockroaches Inspire Mobile Robots." (Stanford, CA) 2012

CalTech Neuromorphic Engineering Student Society Retreat. "Neuromechanical Systems Biology." (Dana Point, CA) 2011

Cold Spring Harbor. "Neuromechanical Systems Biology." (Cold Spring Harbor, NY) 2011

San Diego Zoo. *Plenary Lecture*. Symposium on Biomimcry. "Making it Real: From Idea to Innovation." (San Diego, CA) 2011

Micro-Autonomous Systems Technology (MAST). Collaborative Technology Alliance (CTA). Center on Microsystems Mechanics. Mobile Robotics Inc. "Ambulation." (Joppa, MD) 2011

Society of Integrative and Comparative Biology. Symposium on Bioinspiration: Applying Mechanical Design to Experimental Biology. "Role of robustness in running: bio- and bio-inspired exoskeletons." (Salt Lake City, UT) 2011

Entomological Society of America. Symposium on Bio-Inspiration. "Biological Inspiration: Running Robotics, Artificial Muscles and Computer Animation" (San Diego, CA) 2010

Humanitarian Demining. Radcliffe Institute for Advanced Study. Harvard University. "Bio-inspired mobility in challenging terrains." (Cambridge, MA) 2009

Biotechnology Symposium. Special Session on Interfacing Biotechnology and Engineering. California State University, Los Angeles. "Biological Inspiration: Robots, Artificial Muscles and Gecko-inspired Adhesives." (Los Angeles, CA) 2009

Micro-Autonomous Systems Technology (MAST). Collaborative Technology Alliance (CTA). Center on Microsystems Mechanics. Univ. of Maryland. "Ambulation." (College Park, MD) 2008

Mathematical Biosciences Institute. *Co-organizer*. Symposium on Neuromechanics of Locomotion. Ohio State University. "Biological Perspective on Neuromechanical Control Architectures." (Columbus, OH) 2008

Bio-X Symposium. Life in Motion. Stanford University. "Using Dynamic Models to Test Neuromechanical Control Hypotheses." (Stanford, CA) 2007

Cold Spring Harbor Banbury Center. Design Principles in Biological Systems. "Challenges of an Integrative Systems Biology." (Cold Spring Harbor, NY) 2007

American Association of Advancement of Sciences Annual Meeting. Sustainable Partners in Search and Rescue, Environmental Monitoring and Exploration." Robotics Seminar Part I: Robots - Our Future's Sustainable Partner. "Biologically Inspired Robot Motion." (San Francisco, CA) 2007

National Science Foundation. *Workshop Speaker and Session Leader* at National Research Council Committee on Conceptual Basis of Biology for the 21st Century. "Toward an Integrative Biology." (Arlington, VA) 2006

Society of Integrative and Comparative Biology. Symposium on Biomechanics and Neuromuscular Control. "Principles of Neuromechanics: Integration of Experiments, Mathematical and Physical Models." (Orlando, FL) 2006

Google Science Foo. Google Inc. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Mountain View, CA) 2006

Symposium on Biologically-inspired Design and Engineering. *Keynote Address.* Georgia Institute of Technology. "Galloping Ghosts, Gripping Geckos and Bipedal Bugs: Bio-Inspired Robots, Adhesives and Artificial Muscles" (Atlanta, GA) 2006

Progress in Motor Control V - A Multidisciplinary Approach. Penn State University. "Neuromechanical Integration: Templates and Anchors." (College Park, PA) 2005

Robotics Institute 25th Anniversary. *Plenary Lecture.* Robots and Thought. Grand Challenges Symposium. Carnegie Mellon University. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Pittsburgh, PA) 2005

Defense Advanced Research Projects Agency. Biodynotics Program. "Biological Inspiration for a Dynamic Climbing Robot." (Pittsburgh, PA) 2005

National Science Foundation. U.S. Automation from the Leading Edge of Research. Robots: Highlighting The WTEC International Study of Robotics. RiSE and RHex Demonstration. (Arlington, VA) 2005

Inaugural Robotics: Science and Systems Conference. *Meeting Opening Plenary Lecture.* MIT. "Biological Inspiration in the Design of Legged Robots." (Cambridge, MA) 2005

International Union of Physiological Sciences Satellite Symposium. Symposium on Biophysical and Biomechanical Adaptation and Bioinspired Engineering**.** California Institute of Technology. "Extending the Preflex: Perturbation Rejection, Distributed Feet and Task Level Control." (Pasadena, CA) 2005

Society of Integrative and Comparative Biology. "Dynamic Stability Model Predicts Constraints In Sprawled Posture Running." (New Orleans, LA) 2004

American Chemical Society Meeting. Symposium on Interface of Polymers and Biomimetics. "Evolutionary Nanotechnology: Gecko Adhesive Mechanisms." (Anaheim, CA) 2004

Society of Integrative and Comparative Biology. "Can a simple neural oscillator generate rapid running in cockroaches?" (Toronto, Canada) 2003

22nd Highlands Forum on Life Sciences Complexity and National Security. *Invitation from Secretary of Defense and DARPA*. "Programming Work to Go Anywhere: Bio-Inspired Robots, Artificial Muscles and Adhesives." (St. Michaels, MD) 2003

Bio2003. Biotechnology Industry Organization. Session on More than Medical-Emerging Application for Biotechnology in Biodefense. "Biological Inspiration." (Washington, DC) 2003

Meeting of the National Science Collections Alliance. *Plenary Lecture.* University of California at Berkeley. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: Natural History Leading to Computer Animation, Robotics and Adhesives" (Berkeley, CA) 2003

Defense Science Research Council. "Dynamic Energy Storage Systems." Workshop on Dynamically Stable Malleable Materials and Structures. (Washington, DC) 2003

Power of Design Conference. Young Presidents Organization. Quadrus Club. "Biological Inspiration." (Palo Alto, CA) 2003

University of California System-wide Biomedical Engineering Symposium. *Plenary Lecture.* University of California at San Diego. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: Biopinspired Robots, Adhesives and Artificial Muscles" (San Diego, CA) 2003

Boz, Allen and Hamilton - DARPA Study Group. Meeting on Cognitive Arthropods. "Problems and Challenges in BioRobotics." (Washington, DC) 2003

American Physiological Society. *Organizer.* Symposium on The Influence of Comparative Physiology on Engineering: Neuromuscular Biological Inspiration toward the Design of Artificial Muscle and Robots. "Inspiration from Comparative Physiology in the Design of Artificial Muscles, Skeletons and Control Systems." (San Diego, CA) 2002

Association for Computing Machinery. Special Interest Group on GRAPHics and Interactive Techniques (ACM SIGGRAPH) "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Computer Animation." (San Antonio, TX) 2002

Sigma Xi – Scientific Research Society. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Berkeley, CA) 2002

Defense Advanced Research Projects Agency. Bio-Vision Seminar Series "Biological Inspiration for Robotics." (Arlington, VA) 2002

Society of Integrative and Comparative Biology. *Opening Meeting Plenary Presentation.* "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Anaheim, CA) 2002

Fortune 500 CEO Public Relations Seminar. "Bouncing Bugs, Galloping Ghosts and Gripping Geckos: All in the Name of Bioinspiration." (Naples, FL) 2002

Technology Panel of the Defense Science Board of the United States. "Biological Inspiration for Robotics." (Arlington, VA) 2001

Society of Integrative and Comparative Biology. *Co-organizer.* Symposium on Stability and Maneuverability. "Stability and Maneuverability In Sprawled Posture, Legged Locomotion." (Chicago, IL) 2001

Society of Industrial and Applied Mathematics. *Plenary Presentation.* "Dynamics of Galloping Ghosts, Gripping Geckos and Running Robots." (Snowbird, UT) 2001

Defense Advanced Research Projects Agency. Meeting on Controlled Biological Systems. "Computational Neuromechanics and Component Technologies for Climbing." (Breckenridge, CO) 2001

National Research Council - Study Group. *Co-organizer* with D. Koditschek. Workshop on Frontiers at the Interface between Computing and Biology. Beckman Center. "Challenges and Opportunities in Bio-Inspired Computing and Enabling Technologies." (Irvine CA) 2001

American Society of Biomechanics. "Preflexive and reflexive components of stability: cockroach as a model musculo-skeletal system. (San Diego, CA) 2001

Society of Integrative and Comparative Biology. *Organizer.* Symposium on Intermittent Locomotion. "The Next Step for Locomotion." (Atlanta, GA) 2000

Neural Information Processing Systems Conference. "Neuromechanical Integration: From Galloping Ghosts to Gripping Geckos." (Denver, CO) 2000

Jet Propulsion Laboratory, NASA. Symposium on Robotic Explorers. "An Insect Inspired Hexapod Running Machine." (Pasadena, CA) 2000

Defense Advanced Research Projects Agency. Focus 2000 Meeting. *Symposium Organizer.* "Biology on the Move, From Molecules to Organisms." (Washington, DC) 2000

Society of Optical Engineering. *Keynote.* Smart Structures Meeting. Symposium on Electroactive Polymer Actuators and Devices. "Artificial muscles versus natural actuators from frogs to flies." (Newport Beach, CA) 2000

7th Annual Pacific Rim Conference on Exercise Science & Sports Medicine. *Keynote Presentation.* "Animal and Robot Athletes." (Berkeley, CA) 2000

International Society of Robotics Research. *Plenary Lecture.* "Biological inspiration: lessons from many-legged locomotors." (Snowbird, UT) 1999

International Conference on Field and Service Robotics. *Plenary Lecture.* "Biological inspiration: lessons from many-legged locomotors." Carnegie Mellon University (Pittsburgh, PA) 1999

JASON Project. "Biological inspiration: lessons from many-legged locomotors." (McClean, VA) 1999

Society of Integrative and Comparative Biology. "Rapid negotiation of rough terrain by the death-head cockroach." (Denver, CO) 1999

Defense Advanced Research Projects Agency. Controlled Biological Systems Meeting. "Computational Neuromechanics: Programming Work in Biological Systems." Presented with University of Michigan. (Washington, DC) 1999

Defense Advanced Research Projects Agency. Controlled Biological Systems Meeting. Demonstration presented with IS Robotics Inc. (now iRobot). "Component technologies of climbing." (Washington, DC) 1999

Defense Advanced Research Projects Agency. Controlled Biological Systems Meeting. "Component technologies of climbing." Presented with IS Robotics Inc. (Tucson, Arizona) 1999

NASA, Goddard. "Biological inspiration: lessons from many-legged locomotors." (Goddard, MD) 1999

Institute for Mathematics and Its Applications. Symposium on Animal Locomotion and Robotics. "Neuromechanics of self-stabilization and maneuverability in polypeds." (Minneapolis, MN) 1998

Clinical Gait Society. *Presidential Keynote Address.* "Diversity enables discovery: lessons from many-legged animals and robots." (San Diego, CA) 1998

Society of Integrative and Comparative Biology. "Dynamics of Cockroach Climbing: Vaulting, Bouncing or Powering Over A Step?" (Boston, MA) 1998

Jet Propulsion Laboratory, NASA. Symposium on Biomorphic Explorers. "Inspiration from nature toward the design of surface-roving biomorphic explorers." (Pasadena, CA) 1998

Defense Advanced Research Projects Agency. Controlled Biological Systems Meeting. "Neuromechanics of self-stabilization, maneuverability and gripping in polypeds." (San Diego, CA) 1998

Office of Naval Research. Naval EOD Technology Center. Workshop and Symposium on Legged locomotion – muscle-like actuators. "Self-stabilization, maneuverability and gripping." (Indian Head, MD) 1998

Santa Fe Institute. Workshop on Neuromechanics. "Neuromechanical Systems, Approaches, Techniques and Variables: When do they matter most?" (Santa Fe, NM) 1998

Swedish Medical Center. University of Washington. Pinkham Lecture Series Continuing Medical Education Workshop. "Walking machines and the biomechanics of movement." (Seattle, WA) 1997

Office of Naval Research. Workshop and symposium held in the MIT Leg Laboratory on Pattern generation vs the use of dynamic feedback and hybrid approaches. "Polyped self-stabilization, preflexes and performance." (Boston, MA) 1997

Society of Integrative and Comparative Biology. Symposium on Muscle properties and organismal function: shifting paradigms. "Muscles inside skeletons: a 3D leg musculo-skeletal model." (Albuquerque, NM) 1996

Defense Sciences Research Council. Workshop on Mesoscopic Machines. "Animal locomotion: biological inspiration toward the design of new meso-robots." (San Diego, CA) 1996

Naval Undersea Warfare Center. Autonomous Robotic Systems For U.S. Navy Littoral Operations Workshop. "Biological inspiration for the design of legged, amphibious robots." (Newport RI) 1996

IEEE International Conference on Robotics and Automation. Workshop on Recent trends on robot locomotion. "Lessons from many-legged locomotors." (Albuquerque, NM) 1997

The Ninth Engineering Foundation Conference on Biomechanics and Neural Control of Movement. *Symposium Organizer.* Symposium on Rhythmic Movement in Natural and Artificial Systems. "The challenge of integrating musculo-skeletal mechanics with the neural control - a comparative view." (Columbus, OH) 1996

IEEE International Conference on Robotics and Automation. Workshop on "Bio-Mechatronics," sponsored by the East Japanese Railway Corp. "Biomechanics of bouncing insects - Implication for robot design." (Minneapolis, MN) 1996

Association for Computing Machinery. Special Interest Group on GRAPHics and Interactive Techniques (ACM SIGGRAPH) "The AAPE center at U. C. Berkeley: Using Data Acquisition, Analysis, Presentation, and Exchange to address Biological Complexity." (New Orleans, LA) 1996

National Academy of Sciences Annual Meeting. "Diversity enables discovery: Lessons from many legged locomotors." (Washington, DC) 1995

Society of Integrative and Comparative Biology. "Tuned tracks for hexapedal runners?" (Washington, DC) 1995

American Society of Zoologists. "Mechanical energy of swinging six legs." (St. Louis, MO) 1995

American Society of Biomechanics. Symposium on Comparative Locomotion. "Muscles inside a skeleton: Isolated muscle function and musculo-skeletal modeling of running insects." (Stanford University, CA) 1995

American Physiological Society. "Instantaneous joint power of running roaches." (San Diego, CA) 1994

National Academy of Sciences 6th Annual Symposium on the Frontiers of Science. Beckman Center. "Animal locomotion and robot design." (Irvine, CA) 1994

Adaptive and Learning Systems Conference. Yale University. "The importance of mechanical systems in understanding arthropod neural control of locomotion." (New Haven, CT) 1994

American Society of Zoologists. "Instantaneous power at the leg joints of running roaches." (Los Angeles, CA) 1993

Defense Advanced Projects Research Agency. "Inspiration from crustaceans toward the design of legged amphibious robots." (Washington, DC) 1993

National Academy of Sciences Study Center. Office of Naval Research. Symposium on Aquatic Locomotion. "Biomechanics of crab locomotion." (Woods Hole, MA) 1993

American Society of Zoologists. "Minimization of moments in multi-legged locomotion: roaches and robots." (Vancouver, Canada) 1992

National Academy of Sciences Study Center. Office of Naval Research. Symposium on Control of Invertebrate Legged Locomotion. "Mechanics of legged locomotion in invertebrates." (Woods Hole, MA) 1991

Pacific Coast Entomological Society. California Academy of Sciences. "Inspiration from insects: the design of legged robots." (San Francisco, CA) 1991

American Society of Zoologists. "Gait changes in ghost crabs: evidence from exoskeleton strain." (Atlanta, Georgia) 1991

American Society of Zoologists. Symposium on *The Compleat Crab*. "Energetics and endurance of continuous and intermittent activity in ghost crabs (*Ocypode quardata*)." (San Antonio, TX) 1990

American Physiological Society. "Do insects have a maximal oxygen consumption?" (Orlando, FL) 1990

American Society of Zoologists. "Drag and lift on rapid running insects." (Boston, MA) 1989

American Society of Mechanical Engineers. Division of Dynamics and Control. Symposium on Locomotion and lower extremity control. "Dynamics of insect locomotion compared to hexapod walking machines." (San Francisco, CA) 1989

American Society of Zoologists. Symposium on Concepts of efficiency in biological systems. "Cost of transport and the efficiency of invertebrate terrestrial locomotion." (San Francisco, CA) 1988

American Society of Zoologists. "Exercising with and without lungs: a comparative study of gas exchange and endurance in salamanders." (New Orleans, LA) 1987

American Society of Zoologists. "Anaerobic metabolism of bouncing gaits in ghost crabs." (Nashville, TN) 1986

American Physiological Society. Symposium on *Physiological limitations to performance: A comparative approach*. "Exercise limitations in many-legged travelers: arthropod terrestrial locomotion." (New Orleans, LA) 1986

American Society of Zoologists. "Ghost crab locomotion: the efficiency of traveling sideways." (Baltimore, MD) 1985

American Physiological Society. "Exercising without lungs: energetics and endurance in a lungless salamander, *Plethodon jordani*." (Niagara Falls, NY) 1985

American Society of Zoologists. "Economics of cockroaches exercising with loads." (Denver, CO) 1984

American Society of Zoologists. "Running ghosts (*Ocypode quadrata*): a comparison of large and small crabs." (Philadelphia, PA) 1983

Rochester Academy of Science. St. John Fisher College. "Exercising crabs: an intraspecific comparison of the cost of locomotion as a function of mass." (Rochester, NY) 1983

American Society of Zoologists. "Net whole body lactate production during sustained exercise in the fiddler crab." (Louisville, KY) 1982

Rochester Academy of Science. "Energetic cost of locomotion in crabs: an evaluation of aerobic and anaerobic contributions." (S.U.N.Y. College at Brockport, NY) 1982

American Society of Zoologists. "Aerobic response to exercise in the fastest pedestrian invertebrate." (Dallas, Texas) 1981

American Society of Zoologists. "Energetics of running sideways." (Seattle, WA) 1980

American Society of Zoologists. "The effect of temperature on the energetic cost of locomotion in the cockroach." (Tampa, FL) 1979

UNIVERSITY PRESENTATIONS

Fresno State University. "BioInspired Design Compressed Cockroaches, Gliding Geckos, and Smart Squirrels." Remote Apr 2022

Nanjing University of Aeronautics and Astronautics. "BioInspired Design: Gripping Geckos, Compressed Cockroaches, and Smart Squirrels." (Nanjing, China) Remote Dec 2021

Grinnell College. "BioInspired Design Compressed Cockroaches, Gliding Geckos, and Smart Squirrels." Remote 2021

University of Nebraska. Department of Biomechanics. "Nature's Extremes in Motor Control. Leapin' Lizards, Compressed Cockroaches and Smart Squirrels Inspire Robots." (Omaha, NB) Oct 2018

Johns Hopkins University. Introduction of Noah Cowan for The Don P. Giddens Inaugural Professorial Lecture Series honoring newly promoted full professors. (Baltimore, MD) May 2018

Stanford University. Department of Mechanical Engineering. "BioMotion Science Leapin' Lizards, Compressed Cockroaches and Smart Squirrels Inspire Robots." (Stanford, CA) May 2017

Tufts University. Kenneth Roeder Memorial Lecture. Department of Biology. "Bioinspiration from Neuromechanics." (Medford, MA) 2015

Georgia Institute of Technology. Department of Bioengineering. "Leaping lizards, Gripping Geckos and Galloping Ghost Crabs Inspire Robots." (Atlanta, GA) 2012

Virginia Technical University. Kevin Granata Memorial Lecture. 5th Anniversary honoring his heroic behavior during the tragic shootings. Department of Engineering Science and Mechanics. "Neuromechanical Systems Biology.

Gripping Geckos, Bipedal Bugs and Galloping Ghost Crabs." (Blacksburg, VA) 2012

Brown University. Department of Ecology & Evolutionary Biology. "Neuromechanical Systems Biology. Gripping Geckos, Bipedal Bugs and Galloping Ghost Crabs." (Providence, RI) 2010

Wake Forest University. *Keynote Presentation.* 25th Annual Perspectives In Biology Seminar. "Amazing Feats of Feet: How Geckos Stick." (Winston-Salem, NC) 2009

Wake Forest University. *Keynote Presentation.* 25th Annual Perspectives In Biology Seminar. "Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Winston-Salem, NC) 2009

Harvard University. Department of Organismal Biology and Evolution. "Neuromechanics of Legged Locomotion: Inspiring the Design of Robots." (Cambridge, MA) 2009

University of California, Santa Barbara. Department of Mechanical Engineering. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: Control of Neuromechanical Systems." (Santa Barbara, CA) 2008

Wake Forest University. Department of Biology. "Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Winston-Salem, NC) 2007

University of Washington. Robotics, Controls and Mechantronics Colloquium. "Neuromechanical Systems Biology." (Seattle, WA) 2007

Massachusetts Institute of Technology. *Distinguished Lecturer.* Dertouzos Lecture Series. Computer Science and Artificial Intelligence Laboratory (CSAIL). "Neuromechanical Systems Biology." (Cambridge, MA) 2007

State University of New York at Buffalo. *2005-2006 Distinguished Alumni Speaker.* Department of Biological Sciences. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Buffalo, NY) 2005

University of Pennsylvania. GRASP Laboratory Lecture. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Philadelphia, PA) 2005

Johns Hopkins University. *XXII Alexander Graham Christie Lecture.* Department of Mechanical Engineering. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Baltimore, MD) 2005

Harvey Mudd College. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Claremont, CA) 2004

Lawrence Berkeley National Laboratories (EX-Ls)150. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Berkeley, CA) 2004

University of California at Irvine. *Plenary Lecture.* Symposium on Exercise. Department of Biology. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Irvine, CA) 2004

Harvard University. Department of Organismal Biology and Evolution. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Cambridge, MA) 2004

Princeton University. Department of Aerospace Engineering and Applied Mathematics. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Princeton, NJ) 2004

Stanford Linear Accelerator Center. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Robotics, Artificial Muscles and Adhesives." (Stanford, CA) 2003

Pennsylvania State University. Department of Kinesiology – Action Club. "Neuromechanics of Locomotion: Coupled Clocks and Leg Springs Tested in Physical Models that Run." (College Park, PA) 2003

Pennsylvania State University. Department of Biology and Kinesiology. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (College Park, PA) 2003

University of Southern California. Mann Institute for Biomedical Engineering & Computer Science Department and Neuroscience Program. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Artificial Muscles, Adhesives and Robots." (Pasedena, CA) 2002

Case Western University. NSF Integrative Graduate Education and Research Traineeship Program invited speaker. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BiopInspired Robots, Adhesives and Artificial Muscles." (Cleveland, OH.) 2002

Cornell University. Department of Aerospace and Mechanical Engineering. "Muscles as Multi-functional Materials." (Ithaca, NY) 2002

Cornell University. Department of Aerospace and Mechanical Engineering. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Ithaca, NY) 2002

Stanford University. AI, Geometry, Graphics, Vision, and Robotics: Stanford Broad Area Colloquium. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Rapid Running Robots." (Palo Alto, CA) 2001

California Institute of Technology. Department of Physics. "Diversity enables discovery: Insights from many legged locomotors." (Pasadena, CA) 2000

University of California at Santa Cruz. Department of Physics. "Diversity enables discovery: Insights from many legged locomotors." (Santa Cruz, CA) 2000

Stanford Linear Accelerator Center. "Neuromechanics: Lessons from Many-Legged Locomotors." (Stanford, CA) 2000

San Diego State University. Carpenter Lecture. "Biological inspiration: lessons from many-legged locomotors." (San Diego, CA) 1999

Boston University. Department of Mathematics. "Lessons for the design of legged robots." (Boston, MA) 1997

University of Michigan. Department of Biology. "Poly-pedal animal locomotion: lessons for the design of legged robots." (Ann Arbor, MI) 1997

University of Michigan. Department of Electrical Engineering and Computer Science - Complex Systems Group. "3D dynamic models: multiple muscle systems to whole body terrestrial locomotion." (Ann Arbor, MI) 1997

University of California at Irvine. Department of Ecology and Evolutionary Biology. “Poly-pedal animal locomotion: lessons for the design of legged robots.” (Irvine, CA) 1996

University of California at Irvine. Department of Ecology and Evolutionary Biology. “3D dynamic models: multiple muscle systems to whole body terrestrial locomotion.” (Irvine, CA) 1996

University of Washington. Electrical Engineering. “Diversity enables discovery: Insights from many legged locomotors.” (Seattle, WA) 1996

University of Washington. Department of Zoology. “Muscles inside skeletons.” (Seattle, WA) 1996

University of Puget Sound. Department of Biology. “Diversity enables discovery: Insights from many legged locomotors.” (Tacoma, WA) 1996

California Institute of Technology. Department of Neurobiology. “Diversity enables discovery: Insights from many legged locomotors.” (Pasadena, CA) 1996

University of Arizona. Motor Control Training Program. “Muscles inside skeletons.” (Tucson, AZ) 1995

University of Arizona. ARL Division of Neurobiology, Department of Physiology. “Diversity enables discovery: Insights from many legged locomotors.” (Tucson, AZ) 1995

Duke University. Department of Zoology. Biomechanics Group. “Muscles inside skeletons.” (Durham, NC) 1995

Marine Biological Laboratory. “Diversity enables discovery: Lessons from many legged locomotors as inspiration for robot design.” (Woods Hole, MA) 1995

State University of New York at Buffalo. Alumni Awards Meeting. “Diversity enables discovery: Lessons from many legged locomotors.” (Buffalo, NY) 1995

Hopkins Marine Station. Stanford University. “Diversity enables discovery: Inspiration from insects: the design of legged robots.” (Monterey, CA) 1994

State University of New York at Buffalo. Department of Biological Sciences. “Diversity enables discovery: Inspiration from insects: the design of legged robots.” (Buffalo, NY) 1994

University of California at Los Angeles. Department of Biology. “Diversity enables discovery: Inspiration from insects: the design of legged robots.” (Los Angeles, CA) 1994

Scripps Oceanographic Institute. University of California at Los Angeles. “Diversity enables discovery: Inspiration from arthropods: the design of legged robots.” (Los Angeles, CA) 1994

Scripps Oceanographic Institute. University of California at San Diego. “Inspiration from arthropods: the design of legged robots.” (LaJolla, CA) 1993

University of California at Riverside. Department of Biology. “Inspiration from insects: the design of legged robots.” (Riverside, CA) 1993

Stanford University. Department of Bioengineering. “Inspiration from insects: the design of legged robots.” (Stanford, CA) 1992

Case Western Reserve University. Howard Hughes Regional Lecture. “Diversity enables discovery.” (Cleveland, OH) 1992

Case Western Reserve University. Department of Biology. “Inspiration from insects: the design of legged robots.” (Cleveland, OH,) 1991

Brown University. Department of Biology. “Mechanics of polypedal locomotion.” (Providence, RI) 1991
University of Utah. Department of Biology. “Mechanics of terrestrial locomotion.” (Salt Lake City, UT) 1991
University of Utah. Department of Biology. “Endurance capacity of terrestrial locomotion.” (Salt Lake City, UT) 1991
University of California at Irvine. Department of Ecology and Evolutionary Biology. “Energetics of terrestrial locomotion.” (Irvine, CA) 1991
University of California at Irvine. Department of Ecology and Evolutionary Biology. “Mechanics of terrestrial locomotion.” (Irvine, CA) 1991
Idaho State University. Sigma Xi Chapter. “Diversity enables discovery.” (Pocatello, ID) 1991
Idaho State University. Department of Biology. “Endurance capacity of terrestrial locomotion.” (Pocatello, ID) 1991
San Diego State University. Department of Biology. “Energetics and mechanics of terrestrial locomotion.” (San Diego, CA) 1990
Stanford University. Design Division. Department of Mechanical Engineering. “Dynamics of 6-legged runners compared to hexapedal walking machines.” (Stanford, CA) 1989
University of Oklahoma. Department of Zoology. “Locomotion energetics: from running sideways to exercising without lungs.” (Norman, OK) 1989
Scripps Oceanographic Institute. University of California at San Diego. “Energetics of terrestrial locomotion.” (LaJolla, CA) 1989
Duke University. Department of Zoology. Biomechanics Group.”Mechanics of polypedal locomotion.” (Durham, NC) 1989
Duke University. Department of Zoology. “Locomotion energetics: from running sideways to exercising without lungs.” (Durham, NC) 1989
State University of New York at Buffalo. Department of Physical Therapy. “Mechanics of terrestrial locomotion: polypeds to bipeds.” (Buffalo, NY) 1988
University of Kentucky. Department of Zoology. “Mechanics and energetics of terrestrial locomotion.” (Lexington, KY) 1987
California State, Hayward. Department of Biology. “Terrestrial locomotion energetics and performance.” (Hayward , CA) 1987
University of California at Davis. Department of Biology. ”Locomotion energetics and performance: From running sideways to exercising without lungs.” (Davis, CA) 1987
College of the Holy Cross. Department of Biology. “Locomotion without lungs” (Worcester, MA) 1987
University of Florida. Department of Biology. “Terrestrial locomotion energetics.” (Gainesville, FL) 1986
College of the Holy Cross. Department of Biology. “Locomotion energetics and performance.” (Worcester, MA) 1985
Wellesley College. “Multilegged exercise.” (Wellesley, MA) 1984
The University of Chicago. Department of Anatomy. “Invertebrate locomotion.” (Chicago, IL) 1984
Duke University Marine Laboratory. “The invertebrate runner.” (Beaufort, NC) 1981

CORPORATE/INDUSTRY PRESENTATIONS

Pixar. Leapin' Lizards, Gripping Geckos, Compressed Cockroaches, and Smart Squirrels Inspire Materials, Controllers, and Robots. BioMotion Science Accelerated by Bioinspired Design. (Emeryville, CA) July 2018

Infinity Ward - Activision. "Bio-inspired Motion Science." (Los Angeles, CA) 2015

Activision - Blizzard Entertainment. "Bio-inspired Motion Science: Bipedal Bugs, Gripping Geckos and Compressed Cockroaches Inspire Robots, Adhesives and Exoskeletons." (Santa Barbara, CA) 2014

Yahoo. Tech Pulse Meeting. "Biological Inspiration." (San Jose, CA) 2011

BP. "Biological Inspiration - How We Learn from Nature". (Berkeley, CA) 2011

ITT/ Vanguard. NextGens Technologies. "Biological Inspiration." (Charlottesville, NC) 2010

Applied Brilliance. "Biological Inspiration." (Ojai, CA) 2010

Procter & Gamble. "Biological Inspiration - How We Learn from Nature: Gecko Adhesion". (Berkeley, CA) 2010

Kimberly-Clark (Adhesive Company). "Biological Inspiration - How We Learn from Nature: Gecko Adhesion". (Berkeley, CA) 2010

Michelin (Tire Company). "Biological Inspiration - How We Learn from Nature: Gecko Adhesion." (Berkeley, CA) 2009

Nike Inc. "Gecko Inspired Synthetic Adhesive." (Berkeley, CA) 2009

Willow Garage (Robot company). "Bio-inspired Motion." (Menlo Park, CA). 2008

Blizzard Entertainment. "The Science of Motion: Bipedal Bugs, Somersaulting Shrimp, and Galloping Ghosts." (Irvine, CA) 2008

Lockheed Martin, Nitto Denko, Henkel, Avery Dennison, North Safety, Kimberly-Clark, Johnson & Johnson and Nike Inc. "Biology Inspiration' Gecko Inspired Adhesion Symposium, CiBER. (Berkeley, CA) 2008

KLA-Tencor Microsoft. "The Science of Motion: Bipedal Bugs, Somersaulting Shrimp, and Galloping Ghosts." Microsoft Graphics Advisory Board Summit. (Seattle, WA) 2008

Tata Chemicals Innovation Centre. "Biological Inspiration - How We Learn from Nature: Gecko Adhesion". (Berkeley, CA) 2008

Kimberly-Clark (Adhesive Company). "Biological Inspiration - How We Learn from Nature: Gecko Adhesion". (Berkeley, CA) 2008

Avery-Dennison (Adhesive Company). "Biological Inspiration - How We Learn from Nature: Gecko Adhesion" (Pasadena, CA) 2008

Nike Inc. "Gecko Inspired Synthetic Adhesive." (Beaverton, OR) 2008

Samsung. "Biological Inspiration - Materials." Leading the Next Symposium. (Berkeley, CA) 2007

General Motors. Workshop on Bio-inspired materials & Systems. "Biological Inspiration in the Design of Complex Systems." (Detroit, MI) 2006

Google. Google Zeitgeist. "Bio-Inspired Robots." (Mountain View, CA) 2006

Samsung. "Biological Inspiration." Leading the Next Symposium. (Seoul, Korea) 2005

Mitre Corporation. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Bedford, MA) 2004

Samsung. "Biological Inspiration." Leading the Next Symposium. (Seoul, Korea) 2004
Johnson & Johnson. "Biological Inspiration." (Newark, NJ) 2003
Tippett Studio. "Unlocking the Secrets of Biomotion." (Berkeley, CA) 2003
DreamWorks. "Unlocking the Secrets of BioMotion." 2003
Foundation Capital. "Simple Solutions to Complex Problems." 2002
Deka Research & Development Corp. (Segway). "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Manchester, NH) 2002
Microsoft Research. "Where will you go tomorrow? BioInspiration for Animation, Adhesives and Robots." (Redmond, WA) 2002
Nike Inc. "Biological Inspiration of Preflexive Behavior" (Beaverton, OR) 2002
Industrial Light & Magic. "Dynamic Simulations Directed by Newton? Running, Robots and Reality." (San Rafael, CA) 2001
Nike Inc. "Biological Inspiration of Locomotion and Adhesion." (Beaverton, OR) 2001
Global Business Network. "Clean technologies for transportation." (Berkeley, CA) 2001
Henkel. "Gripping Geckos: Integration Provides Inspiration toward Mecho-geckos and Dry Adhesives." (Dusseldorf, Germany) 2001
Disney Imagineering. "The design of spiders." Disney Imagineering. (Anaheim, CA) 2000
Xerox PARC. "Gripping geckos." (Menlo Park, CA) 2000
Pixar. "Diversity enables discovery: Lessons from many legged locomotors", for Movie, *A Bug's Life*. (Richmond, CA) 1995-96
Character Shop. "Insect Locomotion.' Movie, the *Mimic*, from Mirimax Films (Los Angeles, CA) 1994
Rockwell International. "Inspiration from crustaceans toward the design of legged amphibious robots." (Thousands Oaks, CA) 1993
National Instruments. MacWorld Convention. "Galloping ghosts and data acquisition technology." (San Francisco, CA). Moving real-time data acquisition technology from research to teaching. Instructional Technologies Program. Sponsored by Apple Computer and National Instruments. 1989

UNIVERSITY OF CALIFORNIA AT BERKELEY

Osher Lifelong Learning Institute. "Bioinspired Design. Compressed Cockroaches, Gliding Geckos, and Smart Squirrels. (June) 2022
Seminar/Class. Department of Bioengineering. "Gripping Geckos, Compressed Cockroaches, and Smart Squirrels, (BioE 26) (Oct) 2022
University of California Retirees' Association at Berkeley (UCRAB). "Bioinspired Design. Compressed Cockroaches, Gliding Geckos, and Smart Squirrels. 2021
Electrical Engineering and Computer Science Colloquium. "BioDesign: Using Diversity to Understand Nature, Transform Education, and Invent the Future" (Sept) 2018

Seminar/Class. Department of Bioengineering. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (BioE 26) (Oct) 2017

The Seventh Warren William Chupp Distinguished Lecture. Lawrence Hall of Science. 2014

Science@Cal Public Presentation. Biological Inspiration: How We Learn from Nature to Design Robots, Exoskeletons and Adhesives." 2014

Graduate Course on Biomimetics. Department of Mechanical Engineering. "Challenges of Biological Inspiration." 2014

Miller Institute. Invited Speaker. "BioMotion: Bipedal Bugs, Gripping Geckos and Leaping Lizards Inspire Robots." 2014

Exploring Biology at Berkeley (MCB 98). Guest Speaker. "Biological Inspiration." 2013

Freshman Seminar. Guest Speaker. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2013

Freshman Seminar. Guest Speaker. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2012

Biological Division Services Seminar. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2012

Biological Division Services Teaching Staff Seminar. "Comparative Biomechanics and Physiology Courses at Berkeley." 2012

Freshman Seminar. Guest Speaker. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2011

Graduate Division Donor Hosted Event Lecture. "Bio-inspiration." 2011

Biomechanics Seminar. "Bio-inspired Design Challenges." 2011

Cal Day. "Bio-Inspired Robots: Bipedal Bugs, Galloping Ghosts and Gripping Geckos." 2011

Freshman Seminar. Guest Speaker. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2010

Graduate Course on Biomimetics. Department of Mechanical Engineering. "Biological Inspiration of Dry Adhesion." 2010

Center for Intelligent Systems. Department of Electrical Engineering and Computer Science. "The Role of Mechanical System in the Control of Locomotion." 2010

Graduate Course on Biomimetics. Department of Mechanical Engineering. "Biological Inspiration of Dry Adhesion." 2009

Freshman Seminar. Guest Speaker. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2009

Seminar. Department of Bioengineering. "Neuromechanics of Locomotion." 2009

Freshman Seminar. Guest Speaker. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2008

Graduate Seminar. "How would nature do that?" Lecture. "Biological Inspiration of Fibrillar Adhesives." 2008

Cal Day. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." 2008

Knight Digital Media Center. “How we learn from nature: Biological Inspiration.” 2008
Development Group. “Center for interdisciplinary Bio-inspiration in Education and Research.” 2008
Inaugural Industrial Symposium, CiBER - Center for interdisciplinary Bioinspiration in Education and Research. “Biological Inspiration - How We Learn from Nature: Gecko Adhesion” 2008
Electrical Engineering and Computer Science Robotics and Control Seminar. Department of Electrical Engineering and Computer Science. “Bio-inspired Legged Robots: Insights from Animal Neuromechanics.” 2008
Army Research Laboratory Site Visit Presentation. “Biological Inspiration for Microsystems Mechanics - Ambulation.” 2008
Cal Day. “Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives.” 2006
College of Letters & Science Donor Recognition Lecture. “Bipedal Bugs, Galloping Ghosts and Gripping Geckos Bio-Inspired Computer Animation, Robotics, Artificial Muscles and Adhesives.” 2006
Graduate Course on Biomimetics. Guest Speaker. Department of Mechanical Engineering. “Bio-inspired Robots and Artificial Muscles.” 2005
Graduate Course on Biomimetics. Guest Speaker. Department of Mechanical Engineering. “Biological Inspiration of Dry Adhesion.” 2005
Letters & Science Intro Course 1. “Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives.” 2003
Seminar. Department of Bioengineering. “Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives.” 2003
University of California Berkeley Emeriti Association. “Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BiopInspired Robots, Adhesives and Artificial Muscles” 2003
Cal Homecoming and Parent Weekend. “Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots.” 2002
Mechanics of Organisms Class. Guest Lecture. “Mechanics of locomotion.” 2002
Letters & Science Intro Course 1. “Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives.” 2002
Seminar. Department of Integrative Biology. “Gripping Geckos: Integration Provides Biology Inspiration toward Mecho-Geckos and Dry Adhesives.” 2001
Museum of Paleontology. Lawrence Hall of Science. “Dinosaurs: Movies, Robots and Reality.” 2001
Mechanical Engineering Course. Guest Lecture. “Mechanics of locomotion.” 2001
Mechanical Engineering Course. Guest Lecture. “Mechanics of locomotion.” 1999
SCIBUGS - Society of Integrative Biology Undergraduates Presentation. “The philosophy behind Integrative Biology.” 1999
Mechanical Engineering Course. Guest Lecture. “Mechanics of locomotion.” 1998

Computer Science Course. User-Interfaces to Computer Systems. Guest Lecture. "Dynamic modeling in movement." 1998

Letters & Science Alumni Presentation. "Diversity Enables Discovery: Inspiration from Insects in the Design of Legged Robots." (Modesto, CA) 1996

Chancellor's Forum. "Diversity Enables Discovery: Inspiration from Insects in the Design of Legged Robots." 1996

Cal Parents Day. "Diversity Enables Discovery: Inspiration from Insects in the Design of Legged Robots." 1996

Commencement Speech. Department of Integrative Biology "Integrative Biology at Cal: A thank you." 1996

Mechatronics Course. Department of Electrical Engineering and Computer Science. "Inspiration from insects: the design of legged robots." 1995

Berkeley Alumni Association. University of California at Berkeley. "Inspiration from biology: the design of legged robots." (Monterey Bay, CA) 1994

Seminar. Department of Biological Psychology. "Inspiration from insects: the design of legged robots." 1993

Berkeley Alumni Association. "Inspiration from biology: the design of legged robots." (Walnut Creek, CA) 1993

Seminar. Department of Mechanical Engineering. "The design of six-legged robots." 1992

Seminar. Department of Integrative Biology. "Inspiration from insects: the design of legged robots." 1992

Seminar. Department of Zoology. "Locomotion without lungs." 1988

Seminar. Phys. Ed. Department. "Variation in exercise energetics and performance." 1988

Bodega Marine Laboratory. "Terrestrial locomotion energetics and performance." 1987

Seminar. Department of Entomology. "Locomotion energetics and performance of insects and other arthropods." 1987

Seminar. Department of Zoology. "Locomotion energetics and performance: From running sideways to exercising without lungs." 1986

EDUCATION - PROFESSIONAL SERVICE TO SOCIETIES, AGENCIES, INSTITUTES AND SCHOOLS

Center for Interdisciplinary Bio-inspiration in Education and Research (CiBER). Founder and director of center for undergraduate and graduate students with the goal of integrating research-based education and original research. 2008-present

UNDERGRADUATE EDUCATION

NATIONAL

Executive Board of the Society of Howard Hughes Medical Institute Professors. (Chevy Chase, MD). Elected. Jan 2023-present

National Academies of Sciences Board on Life Sciences Speaker. Promises and Challenges of Learning from & Interfacing with Nature - Bioinspiration &

Biomimetics. Keck Center of the National Academies. (Washington, DC). May 2018

Tapping the Potential of All Students: Undergraduate Research for Community Colleges. Opening, Keynote Lecture on "Undergraduate Interdisciplinary Research-based Learning" North Hennepin Community College, Brooklyn Park, MN. 2013

Congressional Briefing. Briefed policymakers and staffers of United States House of Representatives Science, Technology, Engineering and Mathematics Education Caucus on Interdisciplinary Undergraduate Research and American Innovation. DC 2010

Undergraduate Research as Transformative Practice: Developing Leaders and Solutions for a Better Society. Council on Undergraduate Research Conference Meeting (CUR). Opening, plenary lecture on "The Value of Interdisciplinary Research-based Learning" 2010

Undergraduate Biology in the 21st Century. Invited by National Science Foundation to participate in workshop and offer a vision for the future. 2008

Reinventing Undergraduate Education Conference, Transforming the Culture: Undergraduate Education and the Multiple Functions of the Research University. Invited to organize workshop and published report on The Reciprocal Relationships Among Research, Teaching, and Learning. 2006

California Science Teachers Association. Presented on the value of research-based instruction at annual meeting. 2006

Science Education for New Civic Engagements and Responsibilities (SENCER) Education Conference. Opening Plenary Lecture at national meeting (2006-8) and serving on Advisory Board. SENCER has established and supports a community of faculty, students, academic leaders, and others to improve undergraduate STEM (science, technology, engineering and mathematics) education by connecting learning to critical civic questions. 2006-10

Investigating Introductory Science Courses in the Undergraduate Context: A Systems Approach. Invited to participate in a workshop at The National Academies' Center for Education in conjunction with the Board on Science Education. 2004

National Academy of Sciences Summer Institutes for Undergraduate Education in Biology. Support from the Howard Hughes Medical Institute. Invited by Bruce Alberts, then President of the National Academy of Sciences and the Chair of The National Research Council, to assist in creating a summer institute on undergraduate biology education specifically designed for

faculty at research universities. The goal of the institute is to serve as a forum for faculty to work together to improve the teaching of science to undergraduate biology students. 2003, -05

National Academies of Sciences Board on Life Sciences Speaker. Selected from the 30 participants in the Pilot Summer Institute to speak at the National Research Council's Board on Life Sciences on research-based biology education 2003

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Academic Innovation Studio, the Center for Teaching and Learning, and the Academic Senate's Committee on Teaching Dialogue. Panel. "Designing Successful Team Projects: Why, How, and For Whom." (UC Berkeley, Berkeley, CA) (Nov) 2017

Center for Teaching and Learning. Teaching Excellence Colloquium with Distinguished Faculty. Panel sharing with new faculty. (UC Berkeley, Berkeley, CA). (Aug) 2017

GRADUATE EDUCATION

Integrative Graduate Education and Research Traineeship (IGERT) Grant. Supported by the National Science Foundation (NSF). Principal Investigator on 5-year graduate training grant that teaches the next generation of biologists and engineering how to learn from Nature through mutualistic teaming. In association with the Center for Interdisciplinary Bio-Inspiration in Education & Research (CiBER). 2009-16

NSF-AGEP California Alliance - Second Annual Retreat of Stanford, Berkeley, UCLA and Caltech consortium that supports over 100 underrepresented minority doctoral students and postdoctoral fellows in the physical sciences, mathematics and engineering as they advance into the professoriate and other leadership careers. Theme - The Next Generation of Researchers. Served on panels, roundtable discussion and met with students to offer career advice. (Caltech, CA) (April) 2015

The California Alliance Mentor Matching Program - Mentored underrepresented minority from Stanford (May) 2015

German Research Foundation (Deutsche Forschungsgemeinschaft). Consulting for Juergen Breitkopf, Division of Research Careers, to improve the doctoral education in Germany. 2010

K-12 EDUCATION

National Youth Leadership Forum on Technology. Board of Advisors and presented Plenary Lecture. Organization serves the nation's best high school students through a yearly conference. 2004-06

Designed and Implemented Inquiry-based Learning in Public Middle School Curriculum. Assisted in teaching 6th Grade Public Middle School Science Class that included lectures on Bio-inspired Design, student group presentations, a visit to UC Berkeley, hands-on experiments, a group project to design a Biomorphic Explorer Robot for NASA, and a simulated Mission to Mars. 1998-99

EDUCATION – PRESENTATIONS, INVITED LECTURES, AND PROGRAM PARTICIPATION

INTERNATIONAL

Nanjing University of Aeronautics and Astronautics Class. BioInspired Design Gripping Geckos, Compressed Cockroaches, and Smart Squirrels. (Nanjing, CN) Remote. Dec 2021

Centre for Research and Interdisciplinarity (CRI). NightScience: Collective creativity in scientific discovery and education. "i4s Beyond the Classroom." Faculty of Medicine - Paris Descartes University (Paris, FR) 2013

Centre for Research and Interdisciplinarity (CRI). Workshop: Hands-on Experiments, Scientific Discovery Games and Citizen Science - Learning through Research for all. "Bio-inspired Design Challenges." Faculty of Medicine - Paris Descartes University (Paris, FR) 2011

NATIONAL

Society of Integrative and Comparative Biology Annual Meeting. "Tenets for Teaching the Biological Foundations of Bioinspired Design." Symposium on Best Practices for Bioinspired Design Education, Research and Product Development. Phoenix, AZ. Remote. Jan 2022

Understanding Interventions. Effect of Team Diversity on Creativity of Bioinspired Design Inventions. Remote. (July) 2021

Society of Integrative and Comparative Biology Annual Meeting. "i4's Toward Tomorrow Program: Bioinspired Design Realized by Creativity, Collaboration, and Connection." Symposium on Biology Beyond the Classroom: Experiential Learning through Authentic Research, Design & Community Engagement. Washington, DC. Remote. Jan 2021

Howard Hughes Medical Institute. Update & Challenge for *i*4's Toward Tomorrow Program Using Bioinspired Design. (Chevy Chase, MD) (July) 2019

Howard Hughes Medical Institute. Introduction to *i*4's Toward Tomorrow Program Using Bioinspired Design. (Chevy Chase, MD) (July) 2018

Howard Hughes Medical Institute. *i*4's Toward Tomorrow Program Using Bioinspired Design. (Chevy Chase, MD) (Oct) 2017

Convocation at the National Academy of Sciences on "Integrating Discovery-Based Research into the Undergraduate Curriculum" sponsored by the Board on Life Sciences and Science Education of the National Research Council. "Interdisciplinary Laboratory Course Facilitating Knowledge

Integration, Mutualistic Teaming and Authentic Discovery." (Washington, DC) 2015

Society of Integrative and Comparative Biology Annual Meeting. "The impact of discovery-based instruction on interdisciplinary research skills." Symposium on Leading Students and Faculty to Quantitative Biology Through Active Learning. (West Palm Beach, FL.) 2015

Undergraduate Capstone Research Conference at Mathematical Biosciences Institute. *Keynote Speaker*. "Using Mathematical, Physical and Animal Models to Discover the Principles of Motion Science." The Ohio State University (Columbus, OH) 2014

Technology, Entertainment & Design Conference - Youth. "*I*^{4}s Eyes Toward Tomorrow." (New York, NY) 2011

Science Center Dedication. Grand Opening Celebration Albright College. "The Value of Interdisciplinary Research-based Learning." (Reading, PA) 2011

Council on Undergraduate Research Conference (CUR) - Undergraduate Research as Transformative Practice, Developing Leaders and Solutions for a Better Society. "The Value of Interdisciplinary Research-based Instruction" Weber State University. (Ogden, UT) 2010

National Science Foundation /American Association for the Advancement of Science. *Plenary Speaker*. Course, Curriculum, and Laboratory Improvement (CCLI) PI Conference. "The Value of Interdisciplinary Research-Based Instruction." (Washington, DC) 2008

Science Education for New Civic Engagements and Responsibilities (SENCER) Annual Meeting. *Meeting Opening Plenary Lecture*. "SENCER & Interdisciplinary Research-based Learning." (Portland, Maine) 2007

Re-inventing Undergraduate Education Meeting on Transforming the Culture: Undergraduate Education and the Multiple Functions of the Research University. Workshop leader and speaker. "The Reciprocal Relationships Among Research, Teaching, and Learning." (Washington, DC) 2006

Science Education for New Civic Engagements and Responsibilities (SENCER) Summer Institute. Meeting Opening Plenary Lecture. "The Value of Interdisciplinary Research-based Learning – the Student as Colleague." Santa Clara University. (Santa Clara, CA) 2006

National Academe of Sciences. National Research Council. Summer Institute for Undergraduate Education in Biology. "The Value of Interdisciplinary Instruction." Univ. of Wisconsin. (Madison, WI) 2005

Massachusetts Institute of Technology/Howard Hughes Medical Institute. "The Value of Interdisciplinary Education." (Cambridge, MA) 2005

California Science Teachers Association Meeting. "The Value of Interdisciplinary Research-Based Instruction." (San Francisco, CA) 2005

National Academy of Sciences. Investigating Introductory Sciences Courses in the Undergraduate Context: A Systems Approach. NRC Education Center. "The Value of Interdisciplinary Education." (Washington, DC) 2004

Chapman University. "The Value of Interdisciplinary Education in K-12." (Concord, CA) 2004

American Association for the Advancement of Science. Symposium: Developing Student-Scientist Relationships Through Robotics: Educating the Future Generation. "Sharing Research Discoveries Enables Students to Design Novel, Bio-inspired Robots." (Denver, CO) 2003

National Academy of Science. Board on Life Sciences. "The Value of Interdisciplinary Instruction." Beckman Center. (Irvine, CA) 2003

National Academe of Sciences. National Research Council. Bio 2010: Summer Institute Pilot. "The Value of Interdisciplinary Instruction." Univ. of Wisconsin. (Madison, WI) 2003

McGraw Hill Center for Teaching and Learning. Princeton University. "Closing the Gap between Teaching and Research – Shared Discoveries." McGraw Hill Center for Teaching and Learning. (Princeton, NJ) 2001

Workshop on Education – Meeting of Deans and Vice Provosts of UC Universities. "Closing the gap between teaching and research." (UCLA, Los Angeles, CA) 1998

Oklahoma Scholar Leadership Enhancement Program. Oklahoma State University. "Diversity enables discovery: Inspiration from insects in the design of legged robots." (Stillwater, OK) 1994

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Integrative Human Biology, IB 77A. Curiosity, Serendipity, and Diversity Bioinspired Designs from Gripping Geckos, Bouncing Bugs, and Smart Squirrels. Nov 2021

Jacob Design Innovation Institute Teaching Toolkit Workshop. Pre-interview to create toolkit and discussion participation. Jan 2020

Bioengineering Honor Society. Guest Panelists. Breaking Down BioE Day. Nov 2019

Integrative Biology Teaching Colloquium Class 375. The Development and Identification of Critical Thinking in Education. Lecture. Oct 2019

Golden Bear Orientation. Presentation to Freshman Class. "Your First Lecture: Curiosity, Serendipity, and Diversity." Pauley Ballroom. Aug 2019

Teaching Excellence Colloquium (TEC). "If I knew then what I know now...." New faculty connecting with academic partners and colleagues. Academic Innovation Studio. Aug 2019

Academic Innovation Studio. Teaching a Large-Enrollment Classes. Participant. Aug 2019

Graduate School of Education and the SESAME Program Seminar. i⁴'s Toward Tomorrow Program - Bioinspired Design Realized by Creativity, Collaboration, and Connection. Sept 2018

Integrative Biology Teaching Colloquium Class 375. The Development and Identification of Critical Thinking in Education. Lecture. Sept 2018

Mini Lecture Series in Letters & Science Deans' Office. Presentation. "BioMotion Science to Bioinspired Design." Sept 2018

Integrative Human Biology, IB 77A. Curiosity, Serendipity, and Diversity Bioinspired Designs from Gripping Geckos, Bouncing Bugs, and Smart Squirrels. Aug 2018

Biology 1B Next Steps Meeting. May 2018

Lawrence Hall of Science Staff. *i*'[4]s Toward Tomorrow Program. July 2018

Mentorship in the Life Sciences Event. Attended and submitted suggestions for effective mentorship. Mar 2018

Moffitt Center for Connected Learning Visioning Session. Assisted in reimagining the library for the 21st century. Feb 2018

Graduate Student Interview Weekend Presentation. Department of Integrative Biology. Jan 2018

Integrative Human Biology, IB 77A. "Curiosity, Serendipity, and Diversity Bioinspired Designs from Gripping Geckos, Bouncing Bugs, and Smart Squirrels." Aug 2017

Golden Bear Orientation. Presentation to Freshman Class. "Bioinspired Design - Learn from Nature & Invent!" 2040 VLSB. Aug 2017

Integrative Biology Teaching Colloquium Class 375. The Development and Identification of Critical Thinking in Education. Lecture. Sept 2016

Berkeley Collegium Novel curriculum connecting undergraduate explorers at UCB. 2014

Grad Division alumni event. "Biological Inspiration, Learning from Nature." (New York City, NY) 2013

Public Understanding of Science Panel. Molecular and Cell Biology Class 15. 2013-15

Bio-inspired Design Challenges. Integrative Biology Class 232 2011

Cal Parents Board. "The Value of Interdisciplinary Research-Based Instruction." 2009

Frontiers of Education Symposium. Chancellor's Inauguration. "The Value of Interdisciplinary Instruction." 2005

e-Berkeley Symposium. From Information Overload to Information Rich: Teaching and Critical Thinking in the Point-and-Click Age. Session C - Changing the Recipe: Designing Alternatives to the Research Project. "From Personal to Universal Discovery Research-Based Instruction in the Classroom." 2005

The Development and Identification of Critical Thinking in Education. Lecture. Integrative Biology Class 303. 2004

The Development and Identification of Critical Thinking in Education. Lecture. Integrative Biology Class 303. 2003

Mellon Faculty Institute on Undergraduate Research. "Educating the Next Generation: Sharing Research Discoveries Enables Engagement, Creativity and Critical Thinking." 2003

Graduate Student Instructor FORUM. "Teaching Undergraduates to Conduct Research." 2001

Biomechanics Seminar. "Closing the Gap between Teaching and Research – Shared Discoveries." 2001

Short Course for Faculty Advisors of GSIs and Professional Developers of GSIs. "Closing the gap between teaching and research." 1999

Graduate Student Instructor Affairs Meeting and Graduate Student Instructor FORUM. "Rethinking teaching in light of research." 1999

SCIBUGS - Society of Integrative Biology Undergraduates. "The philosophy behind Integrative Biology." 1999

Letters & Science Alumni Presentation. "Closing the gap between teaching and research." 1999
FORUM on Education – Meeting with UC President. "Shared Discoveries Program."1998
Graduate Student Instructor Affairs Meeting and Graduate Student Instructor FORUM. "Rethinking teaching in light of research." 1999
Graduate Student Instructor Affairs Meeting and Graduate Student Instructor FORUM. "Development of critical thinking using the Perry model." 1992

TEACHING

AWARDS

Howard Hughes Medical Institute Professor 2017
National Academy of Sciences Mentor in the Life Sciences 2005
Goldman Professorship 1998-99
Distinguished Teaching Award – UC Berkeley 1996
Featured in Education Highlight by Hoopes Laura L. Mays. CBE-Life Sciences Education. Vol. 9, Issue. 4, 390-391, doi: 10.1187/cbe.10-09-0115. 2010

UNDERGRADUATE RESEARCHERS

258 Students
54 Awards / Fellowships
14 Departmental Citation, LeConte, Franklin Henry or Marian Diamond Awards
27 Journal articles with at least one undergraduate researcher
7 Published Proceedings with at least one undergraduate researcher
88 Published Abstracts with at least one undergraduate researcher
43 Presentations at National Meetings
1 University of California, Berkeley Award for Excellence in Creative Innovation 2002
3 Harvard University Professors former undergraduate researchers

UNDERGRADUATE COURSES

59 Courses, 4,432 Students
Interactive Seating Design Competition, Design Innovation (1 Semester, 25 students)
Bioinspired Design (6 Semester, 984 students)
Biomotion (4 Semesters, 346 students)
Physiology, Structure and Biomechanics (5 Semesters, 969 students)
The Mechanics of Organisms (6 Semesters, 480 students)
The Mechanics of Organisms Laboratory (7 Semesters, 116 students)
Comparative Animal Physiology (19 Semesters, 1,390 students)
Physiological Ecology (8 Semesters, 404 students)
Physiological Ecology Laboratory (6 Semesters, 86 students)

GRADUATE COURSES

53 Seminars, 714 Students
Bio-inspired Robots (1 Semester, 25 students)
Biomechanics (30 Semesters, 445 students)

Biomimetic Engineering (1 semester, 29 students)
Research (7 Semesters, 7 students)
Controversies in Comparative Physiology (10 Semesters, 85 students)
Invertebrate Review (3 Semesters, 31 students)
Academic Survivorship (5 Semesters, 114 students)
Locomotion (1 Semester, 22 students)
Goals of Dissemination of Research: Your Interface with the Public (1 Semester, 6 students)

UNDERGRADUATE STUDENT DIRECTED RESEARCH

Research/Independent Study/Thesis/Honor Thesis (134 Courses, 152 students)

GRADUATE STUDENT DIRECTED RESEARCH

Research/ Special Study (146 Courses, 210 students)

UNDERGRADUATE RESEARCH STUDENTS ADVISED – 258 STUDENTS

Ahn, Anna – Professor, Harvey Mudd
Akella, Prithvi
Alexander, Teressa – Harvard Fellow
Ali, Humaid – UC Berkeley
Aliaga, Frank – UC Berkeley (ME)
Alocozy, Sameera - Creighton University, MD
Amsbaugh, Alysa
Anderson, Bruce, PhD Berkeley
Armiger, Jaron
Arnaud, Paul-Henri – Programmer, Autodesk
Assad, John – Professor, Harvard
Azpiroz, Richard
Baek, Benjamin
Balladarez, Xavier - UC Berkeley (EECS)
Balint, Claire – PhD, Caltech
Basho, Shevta
Bashore, Claudia
Baronia, Ruchir – UC Berkeley (EECS)
Bergenholtz, Seth - Boston University School of Medicine, Med. student
Berger, Jeremy Maxwell
Berns, Madalyn – Masters, MIT
Beylina, Julia
Bishop-Moser, Joshua– PhD, Michigan
Bocchi, Steven
Bolas, Theodore – UC Berkeley (MCB)
Bourgain-Chang, Eric
Chan, Sin Suki
Chang, Chanson – PhD student, Cornell
Chang, Kevin – Dentist
Chavdarian, Aram – CEO Complex Imaginary
Chen, Crytsal
Chen, Ed – Software Eng., Spotify
Chen, Juliann – Proj. Mgr, Iris Environmental
Chen, Tao – Co-Founder Digzibit LLC
Chen, Tim
Chennupaty, Mallika
Chitaphan, Chaniga
Chiu, Alan
Chiu, Jessica
Chow, Song – MD, Stanford
Chun, David – CEO, Kai PT & Rehabilitation
Chung, John Inn – Sr. Scientist, Amgen
Chung, Joseph Sunghyuhn
Cisneros Zelda
Clemente, Jeah
Cohen, Daniel – PostDoc, Stanford
Combes, Stacey – Professor, Harvard, UCD
Comendant, Tosha – Conservation Biol. Inst.
Corbett, Daniel – PhD, U. of Washington
Corder, Andrew – Lead Engineer, Evalve, Inc.
Cueva, Kristine – Medical Assistant
Dastoor, Sanjay – CEO, Boosted Boards
Deshler, Nico
Doherty, Rene
Duckering, Casey
Dwyer, Tatum – UC Berkeley (IB)
Earls, Kay – PhD, Brown
Eckel, Christine, M. – Prof., Carroll College
Emon, Nora – MD, Kaiser
Emshwiller, Maya – Nurse Practitioner
Fajardo, Ivonne
Fallejo, Sam – MD, Optometry, Kaiser
Finnerty, Casey – Professor, SMU-Minn
Fischer, Christopher – MD student, UCSD
Flute, Juliana – UC Berkeley (MCB)
Frendberg-Mates, Elijah – St. Mary's College
Friedrich, Denise
Gao, Peiran – Propulsion Scientist, Space X
Garcia, David
Gooding, Justin – MD, Radiology
Grant, Asia
Greene, Nicole
Hammond, Zachary Michael
Hang, Jemey
Hayden, Jennifer – Veterinarian

Hoekstra, Hopi – Professor, Harvard, NAS
Hsieh, Emmelyn Shin-Shyuan, UC Davis
Hsieh, Tonia – Professor, Temple
Hu, Charles – PhD, Johns Hopkins
Huang, Huajian
Hwang, Michael
Jafar, Tamara
Jagger, Amy – Dentist
Jain, Amisha – UC Berkeley (Business)
Jain, Jinendra – Nightingale Intelligent Sys.
Jindrich, Devin – Professor, Arizona State
Jinn, Judy – PhD, UC Berkeley
Jusufi, Ardian – Scientist, Max Plank
Keppel-Henry, Wesley – MS Food Science
Kim, Jeehyun
Kirby, Aaron - UC Berkeley (EECS)
Ko, Christine
Ko, Isabella - Milo's Academy, Writer/Editor
Koh, Mingeong
Kooker, Andrew
Kuang, Tina – UC Berkeley (IB)
Kubow, Timothy – MS, Nurse Specialist
Kurihara, Chie
Lam, Han K
Lam, Kiet
LaMore, Tia - UCSF Memory and Aging Center, Research Asst.
Le, Michael
Le, Victor - Boys & Girls Clubs of Greater Sacramento, Intern
Lecoeuche, Marina
Lee, Brian
Lee, Chai Sue – MD, Kaiser
Lee, Crystal
Lee, Jusuk – Sr. Eng., Samsung Electronics
Lee, Strom Ben – Software Eng., Apple
Lerner, Lora
Levy, Joshua
Li, Debbie – NPI Eng., Intuitive Surgical
Li, Rose - UC Berkeley (EECS)
Li, Yizi – UC Berkeley (CRS)
Lian, Thang
Liao, Eddy – Sr. Eng., Aspen Med. Products
Libby, Tom – PhD student, Berkeley
Lie, Stephanie Feng - Software Eng. LinkedIn
Lin, Stanley – Dentist
Liu, Yuejun – UC Berkeley
Lotto, Beau – Lecturer, U. College London
Lou, Rachel - Moichor, Software Eng. Intern
Lum, Robert – Dentist
Maclafferty, Michael
Macpherson, Roshena – PhD, Stanford U.
Mahavadi, Anil, M.D. Candidate, U. of Miami
Armita Manafzadeh – PhD, Brown U.
McRae, Brian, Genentech
Mercier, Camille - UC Berkeley (BioE)
Merritt, Cody
Meyers, Andy - Kyte, System Eng.
Min, Carol – MD, Kaiser
Mitra, Subhodeep - Google, Machine Learning Eng.
Mohapatra, Andy, MD, Washington U.
Moon, Ha
Moon, Won
Moore, Talia – PhD, Harvard, Prof. U Mich.
Moran, Dan – Assoc. Dir., U. S. California
Mueller, Rachel – Professor, CSU
Mukund, Valmic
Murata, Jonathan - Apple, Sys. Software Eng.
Murphy, Erin - The Earth Island Institute
Mullens, Christopher – PhD student, NWU
Najman, Laura – Veterinarian
Ng, Qiwen Paulina – M.Eng., U. of Illinois
Nguyen, Aimee - UC Berkeley (IB)
Nowak, Joshua – Lawrence Berkeley Nat. Lab
Noy, David – VP Prod. Mgmt., EMC
Nuygen, Anne – Eng., Slated, Inc.
Olivas, Jake – Engineer, Lockheed Martin
Pang, Dominic – UC Berkeley
Parikh, Aakash
Patak, Avantika – Pharmacy, USC
Patel, Dhvani
Patel, Nilesh – MD
Pham, Diem – MD
Phoumthipphavong, Eric – Eng., Pocket Gems
Perng, Yung-En – DPT, MGH Inst. of Health
Porter, William Cameron
Raha, Arnav – Genentech, Intern
Robert, Jayden
Robin, Amanda
Roderick, Will – PhD Stanford
Raghuram, Sonia
Rosenthal, Marcus – CEO, Revolve Robotics
Ruopp, Rubi – PhD U. of Oregon
Rundong, Tian
Ryman, Ginevra – McHenry Conservation
Sanghavi, Saagar – UC Berkeley (EECS)
Saulsbury, James
Segel, Jeff – PI, Ironwood Pharmaceuticals
Sen, Aaryaman - Dragonfruit, Designer/Eng.
Shamble, Paul – PhD student, Cornell
Shi, Baiyu – UC Berkeley (EECS)
Soni, Chirag, Eng., JGC
Spool, Jeremy – PhD, U. of Wisconsin
St. Louis, Ian - Apple, Mech. Design Eng.
Strachan-Olson, David
Ta, Ryan
Tan, Irene – Dentist
Tearle, Benjamin – Engineer, General Motors
Temby, Michelle
Tian, Rundong
Ting, Lena – Professor, Emory

Tiwana, Manpreet
Tobias, Paul – MD, Ohio State U.
Tong, Elaine – UC Berkeley (BIOE)
Treers, Laura
Trejo, Raul – MD, San Ysidro Health Ctr.
Tsang, Michael – PhD, U. of Southern CA
Tu, Mike– PhD, U. Chicago
Tullis, Alexa – Professor, U of Puget Sound
Utsumi, Kaera - Univ. of Kansas, MS Ecology and Env. Biol
Van Laarhoven, Marianne – Professor, UIU
Viard, Hugo - BlueBotics – Systems Eng., R&D
Wai, Dennis
Wang, Shunyu – UC Berkeley (EECS)
Wang, Stanley – UC Berkeley (ME)
Wang, Zhongyuan
Wei, Randy – MD, PhD student, UCI
Weiss, Brandon - UC Davis School of Veterinary Medicine, DVM Candidate
Whang, John
Wong, Ben
Wong, Bryan - UC Berkeley (EECS)
Wong, Stan – Dentist
Woo, Jesse
Wu, Grace - BU Biomedical Engineering
Wu, Katherine
Yamauchi, Angela – Northern Arizona U.
Yeates, Kyle – VA Ctr. Or Excellence in Prosthetic Engineering
Yu, Kelly – Development, Juma Ventures
Zangenah, Nikki
Zuccarello, Danielle – PhD, U. Chicago

GRADUATE STUDENTS ADVISED - PHD AND MASTERS

Ahn, Anna – PhD. 2000, Prof. Harvey Mudd
Anderson, Bruce – PhD, 2000, Augmented Reality
Autumn, Kellar – PhD, 1995, Prof. Lewis & Clark
Bhatti, Haider Ali - PhD, current
Burden, Sam – PhD, 2014, Prof. UW
Dudek, Daniel – PhD, 2006, Prof. VA Tech
Chang-Siu, Evan – PhD, 2014, Intuitive Surgical
Hidalgo, Fatima, PhD, current
Hunt, Nate - PhD, 2017, Prof. U Nebraska
Jayaram, Kaushik – PhD, 2015, Prof. UC Boulder
Jindrich, Devin – PhD, 2001, Prof. CS San Marcos
Jusufi, Ardian – PhD, 2013, Max Plank Institute
Lee, Jessica - PhD, 2018, Dishcraft Robotics
Lee, Sebastian – PhD, current
Libby, Thomas – PhD, 2017, SRI
Martinez, Marlene - PhD, 1999, American River College
McInroe, Ben - PhD, current
McPherson, Andrew – PhD, 2018
Mongeau Jean – PhD, 2013. Prof. Penn State
Moritz, Chet – PhD, 2003, Prof. UW
Naik, Shilpa - Masters, 2017 Damier Trucks
Parikh, Aakash – Masters, EECS, 2020
Peattie, Anne – PhD, 2007, ION Translations
Revzen, Shai – PhD, 2009, Prof. Michigan
Saintsing, Andrew - PhD, Science Journalist
Simon, Sponberg – PhD, 2008, Prof. GTech
Springthrope, Dwight - PhD, 2017, SpaceX
Song, Yi – PhD, 2017
Wang, Lawrence – Masters, Mental Health2022
Weinstein, Randi – PhD, 1994, Lecturer, UAZ
Worcester, Suzi – PhD, 1994, Prof. UC Merced

POST DOCTORAL STUDENTS ADVISED

Autumn, Kellar – Professor, Lewis & Clark
Carrier, David – Professor, U. Utah
Cowan, Noah – Professor, Johns Hopkins
Farley, Claire – Professor, U. Colorado
Federle, Walter – Professor, Cambridge UK
Garcia, Mariano – Engineer
Glasheen, James – CIT Venture Capital
Goldman, Daniel – Professor, Georgia Tech
Irschick, Duncan – Professor, U. Mass
Kram, Rodger – Professor, U. Colorado
Li, Chen – Professor, Johns Hopkins
Meijer, Kenneth – Professor, Maastricht
Queathem, Elizabeth – Lecturer, Grinnell
Seipel, Justin – Professor, Purdue
Spence, Andrew – Professor, Temple

Noah Cowan (2010) and Daniel Goldman (2012) received Presidential Early Career Award for Scientists and Engineers (PECASE) Awards from President Obama.

VISITING FACULTY AND STUDENTS HOSTED

Song, Yi, PhD, Nanjing University	2017-19
Wang, Zhongyuan Wang, PhD, Nanjing University	2015-16
Wu, Shilin – PhD, Beijing University	2016

Donbbenga, Sander – PhD, Delft University of Technology 2015
Max Donelan, Max – Professor, Simon Fraser University 2014
Lin, Pei-Chun – Assoc. Professor, National Taiwan University 2014

COMMITMENT TO DIVERSITY, EQUITY, AND INCLUSION

U.S. CONGRESS

Briefed U.S. House of Representatives Science, Technology, Engineering and Mathematics (STEM) Education Caucus on Undergraduate Research and American Innovation. Highlighted competitive advantage diversity plays in discovery-based teaching and research. (CUR Sponsorship) 2010

SECURING GRANT SUPPORT FOR UNDERREPRESENTED GROUPS

Howard Hughes Medical Institute – Inclusive Excellence. *i*^{4}'s Toward Tomorrow Program Using Bioinspired Design. $1,000,000 to University of California, Berkeley. Goal - Expand STEM workforce with early, inspirational and interdisciplinary experience using culturally sustaining connections to show diverse minds are required to invent the future. 2018-present

National Institutes of Health, National Institute of General Medical Sciences Minority Programs Review Committee 5-year Grant totaling $4,700,000 to the Annual Biomedical Research Conference for Minority Students (ABRCMS), the largest multidisciplinary student conference in U.S. Provided ideas and structure to support national meeting for 5 more years serving an estimated 20,000 underrepresented students interested in attending graduate school. 2011-16

National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT) on Biological and Bio-inspired Motion Systems Operating in Complex Environments. 5-year Grant totaling $3,200,000. Principal Investigator. Created an Underrepresented Minority and At-risk Populations Recruitment Program. Outreach to two historically black universities. Successful in recruiting, 21% underserved/minorities (7-year, 800 trainee IGERT average 7%) and 28% women in a field dominated by men. 2009-2016

UNDERREPRESENTED MINORITY RESEARCH CONFERENCE PARTICIPATION

STEERING COMMITTEE

Steering Committee Member of the Annual Biomedical Research Conference for Minority Students (ABRCMS). Assisted on all program matters and meeting content along with new program innovations. Led development of recognition and awards for interdisciplinary research. 2006-2012

PLENARY LECTURE

Annual Biomedical Research Conference for Minority Students (ABRCMS) "Research-based Education: From Galloping Ghosts to Gripping Geckos." (Anaheim, CA) 2006

PRESENTATIONS AND PANELS

Research Experiences for Undergrads Information Talks. Panelist. Sponsored by the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) at UC Berkeley and the Latino Association of Graduate Students in Engineering and Science (LAGSES) at UC Berkeley. Dec 2019

Annual Biomedical Research Conference for Minority Students (ABRCMS). Professional Development Session. "Diverse Minds are Required to Invent the Future: An Inclusive Model Program for Learning from Nature for Societal Benefit." (Anaheim, CA) Nov 2019

Society for Advancement of Chicanos and Native Americans in Science (SACNAS) National Meeting. Participated in *Conversations with Scientists* where attendees engaged in informal round-table discussions about discipline-specific careers. (Honolulu, HI) Nov 2019

NSF REU Site for Integrative Biology from Molecules to Ecosystems. Presentation "Learning from Nature Physiology, Biomechanics & Bio-Inspired Robots." 10-week program attracts URMs from all over the country. (UC Berkeley) June 2019

Inclusive and Innovative Teaching practices. Berkeley Symposium on Integrating Research with Education Outreach. Panel Member. (UC Berkeley) May 2019

Howard Hughes Medical Institute Professors. Discussion and review for Anbar A, Elgin S, Jez J, O'Dowd D, Shapiro B, Zaman M. Improving societies' harassment policies. *Science*. 2018 7;361(6406):984-5. (Chevy Chase, MD) Sept 2018

NSF REU Site for Integrative Biology from Molecules to Ecosystems. Presentation "Learning from Nature Physiology, Biomechanics & Bio-Inspired Robots." 10-week program attracts URMs from all over the country. (UC Berkeley) June 2018

NSF REU Site for Integrative Biology from Molecules to Ecosystems. Presentation "Learning from Nature Physiology, Biomechanics & Bio-Inspired Robots." 10-week program attracts URMs from all over the country. (UC Berkeley) June 2017

NSF REU Site for Integrative Biology from Molecules to Ecosystems. Presentation "Learning from Nature Physiology, Biomechanics & Bio-

Inspired Robots." 10-week program attracts URMs from all over the country. (UC Berkeley) June 2016

Society for Advancement of Chicanos and Native Americans in Science (SACNAS) Annual Meeting. Speaker in a Session on "You're Gonna Build a What? Creativity and Vision in Biomedical Engineering." Participated in Conversations with Scientists. Student attendees engaged in informal round-table discussions about discipline-specific careers. (Los Angeles, CA) (Oct) 2014

Society for Advancement of Chicanos and Native Americans in Science (SACNAS) National Meeting. Participated in *Conversations with Scientists* where attendees engaged in informal round-table discussions about discipline-specific careers. (Los Angeles, CA) 2014

Public Understanding of Science Panel participation. (Molecular and Cell Biology Class 15 Class). Organized by the Biology Scholars Program for URMs. 2013-2015

Womyn in Science and Engineering Theme Program - WiSE O.N.E. (Outreach Networking Empowerment). Panel participation. 2013

Morgan State University. Historically Black University. 15th Annual Undergraduate and Graduate Research Symposium. *Keynote Speaker.* "Biological Inspiration: Robotics, Artificial Muscles and Adhesives." (Baltimore, MD) 2008

Berkeley Edge Conference (Minority Recruitment). Presentation on "Graduate School Decisions: CiBER-IGERT." Session dedicated to the Bay Area's Interdisciplinary Centers at UCB and the National Laboratories. (Berkeley, CA) Nov 2011

Minority Biomedical Research Support-Research Initiative for Scientific Enhancement **(**MBRS-RISE), Consortium for Evolutionary Studies and Tri-Beta Biological Honor Society. California State University, Fresno. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." (Fresno, CA) Apr 2010

Biology Fellows Program/Initiative for Maximizing Student Diversity/ Minority Access to Research Careers and Biology Scholars Program Panel. "What makes a good graduate school applicant?" (Berkeley, CA) Nov 2010

Berkeley Edge Conference (Minority Recruitment). Presentation on "Graduate School Decisions: CiBER-IGERT." Session dedicated to the Bay Area's Interdisciplinary Centers at UCB and the National Laboratories. (Berkeley, CA) Nov 2010

California State University Program for Education & Research in Biotechnology Symposium (CSUPERB). "Biological Inspiration: Robots, Artificial Muscles and Gecko-inspired Adhesives." California State University, Los Angeles. (Los Angeles, CA) Jan 2009

PARTICIPATION IN DIVERSITY ORGANIZATIONS AND PROGRAMS

STEM Equity Conference. HHMI Collaborative Program to Build a Faculty Learning Community. (UC Berkeley, Berkeley, CA) Oct 2019

Tour of CiBER. Native American (Pinoleville Pomo Nation) Recruitment. (UC Berkeley, Berkeley, CA) July 2018

Stasis and change: integrative approaches to catalyzing an inclusive STEM culture. Attended and met with speakers. (UC Berkeley, Berkeley, CA) April 2018

Designing Equitable Classrooms: A Conversation with Angela Stacy and Team. Academic Innovation Studio. (UC Berkeley, Berkeley, CA) Feb 2018

Redesigning Introductory STEM courses, Equity & Inclusion and the Center for Teaching and Learning. (UC Berkeley, Berkeley, CA) Feb 2018

STEM Equity Conference. HHMI – UC Faculty Learning Community Program, A Practice-Based Approach to Designing Equitable Undergraduate Science Courses. (UC Santa Barbara, online) Jan 2018

Expanding Undergraduate Success in STEM (EUSS) Conference. Participant. Berkeley Biology Scholars Program. (UC Berkeley, Berkeley, CA) Dec 2017

Womyn in Science and Engineering Theme Program (Faculty Dinner). (UC Berkeley, Berkeley, CA) Oct 2017

STEM Equity Conference. HHMI – UC Faculty Learning Community Program Annual Meeting/Workshop at the University of California, Riverside) Sept 2016

NSF-Alliances for Graduate Education and the Professoriate (AGEP) California Alliance. Annual Retreats of four-institution consortium. Served on panels, roundtable discussions and met with students to offer career advice. Participated in the California Alliance Mentor Matching Program. 2015-2017

Expanding Undergraduate Success in STEM Conference. Organized by Biology Scholars Program. Data-driven conference to create solutions to barriers that limit success of STEM majors. (UC Berkeley) Oct 2015

Annual Biomedical Research Conference for Minority Students (ABRCMS). Participated as a poster and oral talk Judge (San Jose, CA) Nov 2012

Minority Access to Research Careers (MARC) Program. Mentored minority student from Morgan State University (HBU) who attended the 2011 ABRCMS and received special recognition for her poster in interdisciplinary science. 2011

Annual Meeting of the Society for Advancement of Chicanos and Native Americans in Science. Participated as a Poster Judge and Faculty Advisor for UCB NSF IGERT Program. (Nov) 2011

Minority Student Travel Awards to Discipline Specific Meetings. Committee on Broadening of the Society of Integrative and Comparative Biology. 2009

PROFESSIONAL SERVICE TO SOCIETIES, AGENCIES, AND INSTITUTES - RESEARCH

National Science Foundation - Directorate for Technology, Innovation, and Partnerships. Assistance with Workshop for a Convergence Accelerator in Bioinspired Design. May 2023

International Bionic Award. BIOKON. Judge. 2012, 2014, 2016, 2018-2020, 2023

Board of Life Sciences, National Academies of Sciences, Engineering, and Medicine Workshop Planning Committee and Organizer. "Biohybrid Materials and Technologies for Today and Tomorrow – Proceedings of A Workshop in Brief" Jan 2023

German National Academy of Science and Engineering. Expert interview for US potential. Study on innovation potential of biologization in the materials sciences (Funded by German Federal Ministry of Education and Research). July 2019

German Government. Fraunhofer interview/advisement for strategic initiative (BIOTRAIN) investigating potential of biological transformation of industrial value creation until 2035. April 2018

National Science Foundation – Army Research Office. Meeting Opening Presentation. Workshop on Why Animals are Better: Integration of Physics, Engineering and Biology. Themes and Modes in Locomotion Systems Science. Advisory Board. 2012

San Diego Zoo – Biomimicry in Business and Education 2011-13

Swiss National Science Foundation. National Centre for Competence in Research (NCCR) Robotics - Science Advisory Board. 2011-present

Wyss Institute - Biomimetics, Science Advisory Board. Harvard University. 2010-present

Research Corporation for Science Advancement. Presidential Advisory Board Member. Yearly meetings. 2009-13

National Science Foundation. Civil, Mechanical, and Manufacturing Innovation (CMMI) Workshop on Neuromechanical Engineering. 2009

Virtual Faculty Member of the Institute of Cognitive Interaction Technology (CITEC). Bielefeld, Germany. 2008-present

National Academies' Research at the Interface of the Physical and Life Sciences Committee Member. Issued report identifying high priority research opportunities at this intersection, articulate the potential benefits to society, and recommend strategies for realizing them. 2007-09

Committee on Defining and Advancing the Conceptual Basis of Biology in the 21st Century. Invited participant. National Research Council of the National Academy of Sciences. 2008

Founder and Elected Chair of the Comparative Biomechanics Division - Society of Integrative and Comparative Biology. 2006-11

National Academies of Science Panel on the Future of Biomaterials. Invited perspective and presentation. Lawrence Berkeley Laboratories (Berkeley, CA) 2006

NASA Advanced Planning and Integration Presidential Commission. Team member for the Autonomous Systems and Robotics Capability Roadmap to 2030 for a Moon-Mars Mission. Planned complete mission. Met with teams at all NASA space centers. 2004-05

NASA Review of Mars Technology Program Tasks in Regional Mobility at Jet Propulsion Laboratory. 2005

Google Zeitgeist, Google Inc. Zeitgeist, translated from German, means "spirit of the times." Meeting attended by over two hundred leaders from technology and the media. Discussed biological inspiration with former Vice President Al Gore and General Colin Powell. 2006

Steering Committee of the "Towards an Integrative Biology" Program. International Union of Biological Sciences. 2005

National Science Foundation Panel Member. 2001, -05

Executive Committee as a Member at Large for the Society of Integrative and Comparative Biology. Elected. 2003-06

Biology, Complex Systems, and National Security - 22nd Highlands Forum. Invited participant. Explored in a cross-disciplinary way, the future of life sciences and the relationship of life sciences research to national security interests. 2003

Evolutionary Robotics: From Intelligent Robotics to Artificial Life. Invited by Applied AI to give advice to the leaders of Japanese business on the future of manufacturing using Evolutionary Robotics. Canadian Embassy, Tokyo, Japan. 2001

Bio2003. Invited by Director of the Defense Advanced Research Projects Agency (DARPA) to expand our view of Biodefense at the largest Biotechnology Industry Meeting in the world. 2003

US Defense Science Board. Invited by the Under Secretary of Defense (Acquisition, Technology and Logistics) and the Deputy Under Secretary of Defense (Science and Technology) to present 10-30 year vision for bioinspired robotics. 2001

Engineering Research Center (ERC) Review. Invited by the National Science Foundation to review the Center for Neuromorphic Systems Engineering (CNSE) at Caltech. 2003

The Clean Revolution: Technologies from the Leading Edge. Invited to assist Clean Edge in producing a report on the environment and clean technologies as they relate to transportation for GBN Worldview Meeting. 2001

National Research Council on Bio-Inspired Computing and Enabling Technologies. Invited to provide vision of bio-inspired computing at National Academy of Sciences Study Center. 2001

Focus 2000. Invited by Undersecretary of Defense and the Director of DARPA (Defense Advanced Research Project Agency) to provide a vision for the direction of biologically inspired robotics integrating biology, information technology and physical sciences. 2000

Program Advisory Committee. Society of Integrative and Comparative Biology. 1996-2001

Chair of Science Task Force. Invited to provide vision for the direction of the Society of Integrative and Comparative Biology. 1999

Chair Electronic Communication Committee. Created the first World Wide Web Site for the Society of Integrative and Comparative Biology. 1994-96

Student/Post-Doctoral Committee Workshop. Society of Integrative and Comparative Biology. 1998

Presidential nomination committee. Society of Integrative and Comparative Biology. 1998

Review Committee for the Bartholomew Award. Society of Integrative and Comparative Biology. 1998

Expansion of the Biosystems, Analysis and Control Panel. National Science Foundation. Opening opportunity for biologists to collaborate with engineers. 1995

Chair Membership Committee. American Society of Zoologists. Produced 12-point action plan to move society into the next century. Suggested name change to Society of Integrative and Comparative Biology. 1990-94

Constitutional Amendment for American Society of Zoologists. Drafted amendment that allowed, for the first time, outstanding undergraduates to be members of the society and present at national meetings. 1987

UNIVERSITY FACILITY DIRECTORSHIPS

Director of the Center for interdisciplinary Bioinspiration in Education and Research (CiBER) 2005-present

Principal Investigator. National Science Foundation. Integrative Graduate Education and Research Traineeship Program. Biological and Bio-inspired Motion Systems Operating in Complex Environments. 2009-16

Director for the Multimedia and Scientific Visualization Center using data Acquisition, Analysis, Presentation, and Exchange (AAPE) to address Biological Complexity - VLSB. 1996-2004

SERVICE TO JOURNALS

EDITORIAL BOARD MEMBER

Science Robotics Journal. American Association for the Advancement Science. Science Advisory Board. 2016-present

Editor-in-Chief. *Bioinspiration & Biomimetics* from the Institute of Physics.	2013-2021
Editorial board. *Bioinspiration & Biomimetics* from the Institute of Physics.	2006-13
Assistant Editor. Editorial Board *Experimental Biology Online*.	1998

REVIEWER

Proc. Nat. Acad. Sciences (Guest Editor)	Biological Cybernetics
Nature	IEEE Robotics and Automation
Science	Journal of Comparative Physiology
Science Robotics	Phil. Trans. R. Soc. B.
eLife	National Science Foundation
Journal of Experimental Biology	NASA Grants

CONSULTING / ADVISEMENT

SCIENCE & ENGINEERING ADVISORY BOARDS

National Academy of Sciences Board of Life Sciences Aug	2017-2023
DaVINCI Global Advisory Board (bio-inspired business, innovation and finance)	2015- 17
National Centre of Competence in Research (NCCR) - Robotics. Swiss National Science Foundation. Science Advisory Board.	2011-2022
Wyss Institute, Harvard University. Science Advisory Board.	2010-present
Sandbox Innovations Inc.	2008-12
Samsung Inc.	2003-06

COMPANY/AREA

ADHESIVES – SYNTHETIC, GECKO-INSPIRED

Termuro	2011
Procter & Gamble	2010
Kimberly-Clark	2008, -10
Michelin	2009
Avery Dennison	2008
Nitto Denko	2008
North Safety	2008
Lockheed Martin	2008
KLA-Tencor	2008
Johnson & Johnson	2003, -08
Henkel	2001, -08
Nike	2001, -02, -09

BIOLOGICALLY INSPIRED DESIGN – APPROACH & FORECASTING

Tencent (WeChat, China) Jan-Feb	2018
Swedish Biomimetics 3000	2011
San Diego Zoo	2011, -13
ITT/Vanguard	2010

Applied Brilliance	2010
Samsung. Leading the Next Symposium. Seoul, Korea	2004
General Motors. Biological Inspiration in the Design of Complex Systems	2006
Foundation Capital. Simple Solutions to Complex Problems	2002
Primordial (toy company)	1996

ROBOTICS

Willow Garage Robot Company	2008
Microsoft Research	2002
Global Business Network. Clean technologies for transportation	2001
Deka Research & Development Corporation (Segway)	2002
Disney Imagineering. Design for It's Tough to be a Bug! Attraction at Disneyland	2000
Boston Dynamics 2003-08, -14	
SRI International 1998-2006	
iRobot (IS Robotics)	1996-2003
Intelligent Inferences Systems Inc.	1995

COMPUTER ANIMATION

Pixar. Leapin' Lizards, Gripping Geckos, Compressed Cockroaches, and Smart Squirrels Inspire Materials, Controllers, and Robots. BioMotion Science Accelerated by Bioinspired Design. (Emeryville, CA) July	2018
Activision/Infinity ward. "Bio-inspired Motion Science." (Los Angeles, CA)	2015
Activision/Blizzard Entertainment. "Bio-inspired Motion Science: Bipedal Bugs, Gripping Geckos and Compressed Cockroaches Inspire Robots, Adhesives and Exoskeletons." (Santa Barbara, CA)	2014
Microsoft Graphics Advisory Board. The Science of Motion	2008
Blizzard Entertainment. The Science of Motion – World of Warcraft	2008
Dreamworks. Character motion for movie, "Kung Fu Panda"	2005
Tippett Studio. Unlocking the Secrets of Biomotion	2003
Industrial Light and Magic. Dynamic Simulations Directed by Newton?	2001
Pixar. Character design for A Bug's Life, Disney Movie	1995-96
Clorox (pesticide division). Computer simulation for commercial	1995
Character Shop. Creature design for movie, the *Mimic*, from Mirimax Films directed by Guillermo del Toro (Los Angeles, CA)	1994

HIGH-SPEED VIDEO CAPTURE & ANALYSIS

Xcitex Inc. ProAnalyst. Motion analysis software	2007-12
Fastec	2007-11
AOS Technologies	2007-10
Redlake	1996-06
Peak Performance Technologies Inc. (motion analysis corporation)	1990-92
National Instruments. Data acquisition	1990-92
Kodak	1990-92

EDUCATION & OUTREACH

San Diego Zoo	2011-14

SERVICE TO THE UNIVERSITY OF CALIFORNIA AT BERKELEY

UNIVERSITY COMMITTEES

Berkeley Discovery Departmental Innovation Award – Integrative Biology. Principle investigator and Director. Aug	2021-present
Jacobs Institute of Design Innovation Director's Council Aug	2018-present
Lawrence Hall of Science Faculty Advisory Committee Aug	2018-present
Jacobs Institute of Design Innovation Advisory Board Presentation Nov	2017
Discovery Initiative Committee. Expanding and Scaffolding Curricular Entry Points and Pathways for Discovery Projects. July-Aug	2017
Jacobs Institute of Design Innovation Director Search Committee	2015
Jacobs Institute of Design Innovation Launch Committee	2014-2015
Design Innovation Minor Committee	2014-present
Sponsored Project Office User's Network (SUN)	2014-2016
Design, development and directorship of center – the Center for interdisciplinary Bioinspiration in Education and Research (CiBER)	2005-present
Assistance and advice to the Office of Technology Licensing (OTL) and the Office of the President's Office of Technology Transfer (OTT).	2001-08
Network Advisory Committee.	2002-03
Re-accreditation of the University of California at Berkeley Committee. Western Association of Schools and Colleges (WASC) Academic Engagement Working Group to provide vision for the future of education at Berkeley.	2001-03
Educational Technology Committee.	2001
Senate Committee on Computing and Communication.	2000-01
Advisory Committee for the Formation of the Center for Teaching, Learning and Technology.	2000-01
Member of Executive Committee for the UCB/UCSF Joint Department of Bioengineering.	1999
Life Sciences Complex Shop Committee.	1998-2000
Office of Media Services Director Search Committee.	1998
Commission on Campus Computing.	1997-98
Campus *Ad hoc* Review Committees	1996, 1999, 2001, 2005, 2006-07,15
Undergraduate Research Initiative Committee.	1994-96
Instructional Technologies Representative.	1994-95
Division of Biological Sciences Shop Review Committee.	1994
Chancellor's Advisory Council on Biology.	1993-1996
Life sciences complex shop committee.	1993-96
Committee for Affairs of Gump Tropical Research Laboratory on Moorea.	1992-94
Committee on Animal Housing Space.	1992-94
Ad hoc Review Committee for Evaluation of the Behavior Station.	1992

Ad hoc Review Committee for Evaluation of Physical Education Department. 1990
Valley Life Science Building Management and Program Planning Committee. Advised committee on issues of policy, space allocation, funding allotment, retrofit, repair, networking, and equipment spending for construction of the largest academic building for biology in the country. 1988-1996

DEPARTMENT COMMITTEES (ZOOLOGY AND INTEGRATIVE BIOLOGY)

Academic Curriculum Committee	2019-present
Faculty Search Committee. Vertebrate physiologist.	2019-2020
Academic Curriculum Committee (Co-Chair)	2018-2019
Ad hoc Promotion Committees (Sept. 2016, Mar 2017, Aug 2019)	2016,2017,2019
Development Committee	2014-2017
Space Committee	2012-13
UCB Student Learning Initiative (IB)	2007
Integrative Biology Funding Initiatives Committee	2004
Safety and Facilities Committee	2000-2008
Search Committee	2003, 2004
Search Committee	2001
Computing Committee	1996,1999
Vice Chair of Integrative Biology	1994-1996
Academic Program Planning Committee	1994-1996, 1998-2003 2006-2007
Chair Search Committee	1994
Integrative Biology Executive Committee	1994-1996, 2005
Personnel and Promotion	1994-1996
Graduate Advisor	1992-1994, 1998-2007
Vice Chair of Education and Academic Program Committee	1990-1994
Development and Public Relations Committee	1990-1994
Academic Curriculum Committee	1986-1990
Chair	2007-08
Undergraduate Advisor	1986-1992
Computing Committee	1986-1994
Awards Committee	1986-1990, 2003-2004
Research Allocation Committee	1986-1990

COMMUNITY SERVICE & PUBLIC OUTREACH – PRESENTATIONS, ACTIVITIES, AND INVITED LECTURES

TED TALKS

TEDxBerkeley - Theme, Finding x. Demonstrated cockroach inspired robot. (UC Berkeley, Berkeley, CA) 2016

Technology, Entertainment & Design Conference. "Robustness in Design." (Vancouver, CA) 2014

Technology, Entertainment & Design Conference – XSan Diego. TED^{x}SanDiego. Demonstration of Gecko-inspired Adhesive. (San Diego, CA) 2011

Technology, Entertainment & Design Conference - Youth. "*I*^{4}s Eyes Toward Tomorrow." (New York, NY) 2011

Technology, Entertainment & Design Conference. TED2009. "Beyond Biomimetics: Biomutualism." (Long Beach, CA) 2009

Technology, Entertainment and Design Conference, TED. "Biologically Inspired Design." (Monterey, CA) 2005

Technology, Entertainment and Design for Medicine, TEDMED3 Conference. "Unlocking the Secrets of BioMotion." (Philadelphia, PA) 2003

Technology, Entertainment and Design Conference, TED. "Bouncing Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Materials, Robots and Adhesives." (Monterey, CA) 2002

Technology, Entertainment and Design Conference, TED. 7th Annual. "Roots, rules and relevance: the importance of integrative biology." (Monterey, CA) 1997

GENERAL

Berkeley Letters & Science. Basic Science Lights the Way. Inspired by Nature. Bioinspired Design. UC Berkeley. Remote. Nov 2021

University of California Retirees' Association at Berkeley (UCRAB). Bioinspired Design - Compressed Cockroaches, Gliding Geckos, and Smart Squirrels. UC Berkeley. Remote. Oct 2021

Girls in Engineering. Virtual lab tour, video on squirrel biomechanics, and presentation on gecko adhesion. UC Berkeley. June 2020

Science@Cal. East Bay Science Café. Public Presentation. Bioinspired Designs from Gripping Geckos, Bouncing Bugs, Leap'n Lizards, and Smart Squirrels." Sept 2018

CITRIS Connected Communities Initiative in collaboration with the Office of the Lt. Governor of California. A Wake-Up Call for California: Innovations in Earthquake Preparedness. Invited Speaker. "Bioinspired Search and Rescue Robots." (UC Berkeley, Berkeley, CA) 2016

Swissnex. Bay Area Science Festival. Invited presentation on "Bio-Inspired Robots: Learning from Nature." (San Francisco, CA) 2015

National Youth Leadership Foundation on Technology. Invited Presentation on "Bio-Inspired Robots: Bipedal Bugs, Galloping Ghosts and Gripping Geckos." (Berkeley, CA) 2015

Chabot, Space & Science Center. Invited Public Lecture. "Bio-Inspired Robots: Bipedal Bugs, Galloping Ghosts and Gripping Geckos." Robots at Chabot Weekend. (Oakland, CA) 2015

Northgate High School. Invited Lecture. "Journey from Sensing to Movement." Physiology and veterinary students. (Walnut Creek, CA) 2013

Northgate High School. Senior Projects. Judge. (Walnut Creek, CA) 2012

World Science Festival. Invited Panelist. "Radicle Innovation in Nature." (New York City, NY) 2012

Northgate High School. Invited Lecture. "Walking, Running, Climbing, Robots and Animation." Sports medicine, robotics club and animation students. (Walnut Creek, CA) 2012

Northgate High School. Invited Lecture. "Journey from Sensing to Movement." Physiology and veterinary students. (Walnut Creek, CA) 2012

Berkeley Edge Conference (Minority Recruitment). Session dedicated to the Bay Area's Interdisciplinary Centers at UCB and the National Laboratories. "Graduate School Decisions: CiBER-IGERT." (Berkeley, CA) 2011

Northgate High School. Senior Projects. Judge. (Walnut Creek, CA) 2011

Cal Day. Public Lecture. "Bio-Inspired Robots: Bipedal Bugs, Galloping Ghosts and Gripping Geckos." (Berkeley, CA) 2010

Cal Day. Public Lecture. Public Television - KQED QUEST. University of California at Berkeley. "Bio-inspiration: Nature as Muse" (Berkeley, CA) 2010

Cottrell Scholar Conference for Early Career Research Scientists. Research Corporation for Science Advancement. "The Value of Interdisciplinary Research-based Instruction." at the Cottrell Scholar Conference. Led conference-wide discussion with Harry Gray entitled. "The Challenges to Bridging the Ever Widening Gap Between the Research Frontier and Teaching." (Tucson, AZ) 2009

Beckman Scholars Symposium for Undergraduate Researchers. 'Bipedal Bugs, Galloping Ghosts and Gripping Geckos and Bipedal Bugs: Bio-Inspired Robots, Adhesives and Artificial Muscles." (Irvine, CA) 2009

MathScience Innovation Center Conference. Remote video presentation. "Biological Inspiration: Running Robots, Artificial Muscles and Gecko-inspired Adhesives." to the (Richmond, VA) 2009

The Science and Entertainment Exchange. The National Academies. "Biologically Inspired Robots." (Los Angeles, CA) 2008

Cal Day. Public Lecture. "Biological Inspiration: "Bipedal Bugs, Galloping Ghosts and Gripping Geckos." (Berkeley, CA) 2008

15th Annual Undergraduate and Graduate Research Symposium. *Keynote Speaker*. Morgan State University. "Biological Inspiration: Robotics, Artificial Muscles and Adhesives." (Baltimore, MD) 2008

Mathematical Biosciences Institute. Public Lecture. The Ohio State University. "Biological Inspiration: "Bipedal Bugs, Galloping Ghosts and Gripping Geckos." (Columbus, OH) 2008

National Youth Leadership Foundation on Medicine. Lecture "Bio-inspired Design in Medicine." (Berkeley, CA) 2007

Foothill Middle School. "Human evolution." Ancient Civilizations. (Walnut Creek, CA) 2007

National Youth Leadership Foundation on Technology. *Plenary Lecture.* "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (San Jose, CA) 2005

Exploratorium. Mission to Mars Celebration. Webcast Live. "Robotic BioMotion." (San Francisco, CA) 2004

Woodside Elementary School. "Bugs and Robots." (Walnut Creek, CA) 2004

Siemens Westinghouse Science Mathematics and Technology Competition Presentation. University of California at Berkeley. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (Berkeley, CA) 2003

National Youth Leadership Foundation on Technology. *Plenary Lecture.* "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (San Jose, CA) 2003

Robotics Society of America. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspired Computer Animation, Robotics, Artificial Muscles and Adhesives." (San Francisco, CA) 2003

Cal Day. Public Lecture. University of California at Berkeley. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." (Berkeley, CA) 2002

New York Hall of Science. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Animation, Adhesives and Robots." – Giving hope to children after 9/11. (New York, NY) 2002

Spencer Trask Public Lecture. Princeton University. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Rapid Running Robots." (Princeton, NJ) 2001

Science, Entertainment and Teaching. Symposium. Society of Integrative and Comparative Biology. "Bestowing Biological Inspiration And Getting Novel Insight From Engineering And Entertainment." (Chicago, IL) 2001

Cal Day. Public Lecture. "Bipedal bugs, galloping ghosts and gripping geckos: animation and design of rapid running robots." (Berkeley, CA) 1999

Exploratorium. "Treadmill toads, bipedal bugs, galloping ghosts and gripping geckos: animation and design of rapid running robots." (San Francisco, CA) 1999

Exploratorium. Woodrow Wilson National Fellowship Foundation. "Life in Motion Outreach." (San Francisco, CA) 1999

Northern California Science Writers Association. Lawrence Berkeley Laboratory. "Diversity enables discovery." (Berkeley, CA) 1997

33rd Annual Briefing New Horizons in Science. Council for the Advancement of Science Writing. "Diversity enables discovery: Lessons from many legged locomotors as inspiration for robot design." (Durham, NC) 1995

Contra Costa District Elementary School Science Fair. "Bugs, robots and science." (Concord, CA) 1993

COMMUNITY SERVICE & PUBLIC OUTREACH – TELEVISION AND VIDEO

GENERAL PUBLIC - INTERNATIONAL

BBC Natural World, Natural History Unit – "The Super Squirrels." Cognitive Biomechanics Research. June 2018

German Public Television. Bilderfest. Factual Entertainment. "Biological Inspiration in Animal Locomotion." 2013

Nature Publishing Co. Video. Leaping lizards! *Jurassic Park* got it right. 2012

Australian Broadcast Corporation Television's *Catalyst* Series.

"Robot Biomimicry." 2009
Dutch Science TV. Series of science shorts focusing on nature and engineering. Kleven als een gekko. Dat willen wij ook. Episode 4. 2004
Korean Broadcasting System segment on “Science 21.” 2003
Dutch Public Television Science Documentary on “We want that too.” The program goal is to amaze people by our own ingenious ways to imitate nature. 2003
National Danish Broadcasting Company (Nightly News and Radio) segment by Peter Hesseldahl on "The PolyPEDAL Lab." 2002
National Geographic Channel. “Locomotion” from the Toyota World of Wildlife Series. 160 countries. 2002
Oxford Scientific Films – BugWorld Series. 2002
BBC Natural History Unit and The Learning Channel – “Robocritters.” profile of the latest in robotic technology and of the scientists who look to nature for inspiration as they design the world’s newest generation of robots. 2000
Australian Broadcast Corporation – Quantum on “Polypedal Robots.” 2000

GENERAL PUBLIC - NATIONAL

SERIES

PBS. Nature Television Show. “A Squirrel’s Guide to Success” Featured explaining cognitive biomechanics research. Nov 2018
National Geographic. “Watch: Cockroaches Survive Squeezing, Smashing, and More.” 2016
Nanotechnology. The World Beyond Micro. Silicone Run Productions featured gecko and gecko-inspired adhesive. 2012
Discovery Channel. Daily Planet featured Poly-PEDAL Lab and CiBER in "How Lizards and Robots Use Tails." 2012
PBS. QUEST featured Poly-PEDAL Lab and CiBER in "Bio-Inspiration: Nature as Muse." 2008
Discovery Channel. Prototype This. Episode on “Gecko Superman Suit.” 2008
Discovery Channel. Prototype This. Episode on “Six-legged All Terrain Vehicle.” 2008
Discovery Channel. Daily Planet Show. Episode on “Gecko Tails”. 2008
History Channel. Modern Marvels Television Series. Episode on “Sticky Stuff” featuring how geckos stick and the inspiration they provided for climbing robots. 2007
Animal Planet. Most Extreme Series. Movers. Gecko featured as one of the top ten swiftest animals. 2005
National Geographic Television and Film. “The Shape of Life - The Conquerers” Series produced by Sea Studios Foundation. Premiered on PBS. 2002
Beyond 2000. TV Series. “Feets of Daring” 2000
Discover 2000. TV Series. “Can man mimic organic life-forms with machinery?” 2000
ABC Special. “Living a Bug’s Life”. Explained how we assisted Disney and Pixar with computer animation movie. 1998

NEWS

Science. Watch a human try to crush this cockroach-inspired robot—and fail by Kelly Mayes. July 2019

Science News. Watch this cockroach-inspired robot try to walk through walls by Michael Allen. Feb 2018

NY Times Video. How Cockroaches Crash Into Walls and Keep Going by Douglas Quenqua. Feb 2018

NY Times Video. Cockroaches: Indestructible, and Instructive to Robot Makers by James Gorman. 2016

SmartPlanet (CNET). Video. Robots Inspire Leaping lizards. March 2012

CBS Evening News. Segment on "Robotic creepy creatures give new meaning to software bugs." 2003

CBS Up to the Minute. Segment on "Insects; Insects are the little inspirations behind some big advances in robotics." 2003

CBS Evening News. Segment "Better Cockroach; Cockroaches are inspiring scientists to build the next generation of robots." 2003

Tech Live, TechTV. Segment on "Biological Inspiration." 2002

New York Times Television. Segment on "Bio-Inspiration." 2002

Next@CNN. Segment on "Bug Bots." 2002

ABC Television World News Tonight/Morning with Peter Jennings - Ned Potter interview. Segment on "Bug Robots" 2000

ABC Television World News Tonight/Morning with Peter Jennings - Ned Potter interview. Segment on "Evolution: Sticky Fingers." 2000

ABC Television World News Tonight/Morning with Peter Jennings - Robert Krulwich. Assisted in week-long nightly segments comparing animals to athletes for the upcoming Olympics. 2000

Discovery Channel News. Segment on "Gecko Feats." 2000

Science and Technology Network. Segment on "Gecko Feats" 2000

CHILDREN – K-12

Wild Kratts. PBS TV Children's cartoon. "The Gecko Effect." Ep. 38 S1. 2013

PBS Random House Preschool TV. Cat in the Hat Knows All About That. "Talk a walk." Program on animal gaits in nature. (Oct) 2011

PBS DragonflyTV. Nano. Children Science Series. "Gecko Feet." 2009

Kids and Chaos. Show dedicated to allowing children to see what it is like to be a researcher. 1999

Disney Channel Documentary. "Movie surfers go inside 'A Bug's Life". Explained how we assisted Disney and Pixar with computer animation for the movies. 1999

Learning Channel Cable in the Classroom. "See how they run." Elementary School Educational Documentary Series. Edited script for entire show and provided scientific consulting.
1997

COMMUNITY SERVICE & PUBLIC OUTREACH – RADIO & PODCASTS

National Public Radio. Science Friday. "Learning to walk like a gecko, see like a lobster." 2016
BBC Radio. The Science Hour. "Cockroaches Inspire Search and Rescue Robot." 2016
National Public Radio. KQED FM. "Biorobotics goes high tech." 2012
German Public Radio. "Disappearing cockroaches." 2012
American Association for the Advancement of Science Podcast. 2012
German Public Radio. "Leaping lizards, robots and dinosaurs." 2012
Pulse of the Planet. Kids Science Challenge. 2009
APM Market Place. "Gecko inspired Adhesive." 2008
Robot Podcast. Switzerland – EPFL "Bio-inspired Locomotion" 2008
Science Podcast. "Gecko tails." 2008
KQED Public Radio. Living on Earth. "Biomimicry." 2007
ABC Radio National. The Science Show. "Robots." 2007
National Public Radio. Science Friday. Gecko adhesives designated as one of the top 10 scientific advances for 2006. 2006
BBC Radio. Leading Edge. "Walking octopuses." 2005
Exploratorium Museum. Webcast Live. "Journey to Mars." 2004
National Public Radio. All Things Considered with Linda Wertheimer. "Lizard Study May Create Super-Strong 'Gecko' Tape." 2003
CBC Radio. 2000
BBC Radio – Radio Science Live – Science in Action. 2000
German Public Radio. "Sticky geckos." 2000
Australian Broadcasting Corporation's Radio National Breakfast. 2000
Learning Channel Cable in the Classroom. "See how they run." Elementary School Educational Documentary Series. Edited script for the entire show and provided scientific consulting. 1997

COMMUNITY SERVICE & PUBLIC OUTREACH - SELECTED BOOKS, NEWSPAPERS, MAGAZINES AND WEBSITES COMMUNICATING SCIENCE TO THE PUBLIC (SELECTED)

SCIENCE (AAAS JOURNAL) AND *SCIENCENEWS* (ON-LINE)

Watch this gecko smash headfirst into a tree—and still stick the landing: High-speed video reveals why crash landings are no problem for geckos and other jumpers by Elizabeth Pennisi Jan 2022
Watch out, Olympic gymnasts: These squirrels have their own gold medal moves by Elizabeth Pennisi Aug 2021
Learning to move in the real world by Karen E. Adolph, Jesse W. Young. Aug 2021
Watch a human try to crush this cockroach-inspired robot—and fail by Kelly Mayes. July 2019
Here's how geckos (almost) walk on water by Laurel Hamers. Dec 2018
Watch this cockroach-inspired robot try to walk through walls by Michael Allen. Feb 2018
Why is it so hard to squash a cockroach? by Elizabeth Pennisi. 2016

Cockroaches and Geckos 'Vanish' With Amazing Acrobatics. 2012
Tails Guided Leaping Dinosaurs to a Safe Landing. 2012
Racing Crash-Happy Cockroaches. Science Meeting Briefs. 327, 776 2010
One Tail, Many Feats. 2008
Crab's Downfall Reveals a Hole in Biomechanics Studies. 315, 325 2007
Scurrying Roaches Outwit Without Their Brains. 307, 346-347 2005
Cockroach Stability. 297, 1643 2002
Biology Reveals New Ways to Hold on Tight. 296, 250-251 2002
How geckos stick on der Waals. 2002
It's Not Easy to Derail a Roach. 2002
Geckos Climb by the Hairs of Their Toes. 288, 1717-1718 2000
Better Than Nature Made It. 288, 5463 2000
In Nature, Animals That Stop And Start Win The Race. 288: 83-85 2000

NATURE (JOURNAL) AND *NATURE.COM* (ON-LINE)

Squirrels do parkour. https://www.nature.com/articles/d41586-021-02153-x 2021
Geckos slap their feet and swish their tails to race over water. Biophysics. https://www.nature.com/articles/d41586-018-07658-6 Dec 2018
Cockroaches inspire robot. *Nature* 530, 257. doi:10.1038/530257d. 2016
Leaping lizards! *Jurassic Park* got it right. *Velociraptor* adjusted the angle of its tail to stay stable when jumping by Charlotte Stoddart. 2012
News and Views. "Biomechanics: Leaping lizards and dinosaurs." by R. McNeill Alexander. 2012
Ninja Geckos (with video). 2008
Evidence for van der Waals Adhesion in Gecko Setae. 2002
Biomechanics: Gripping Feat. 405, 631 2000

NY TIMES (NEWSPAPER AND/OR ON-LINE)

NY Times. Squirrel Acrobats Are as Smart as They Are Athletic by James Gorman. Aug 2021
Geckos Can Run on Water by James Gorman. Dec 2018
How Cockroaches Crash Into Walls and Keep Going by Douglas Quenqua. Feb 2018
Cockroaches: Indestructible, and Instructive to Robot Makers by James Gorman. (#4 of Ten Essential Stories of UC Berkeley for 2016) 2016
Now You See It, Now It's Swung Out of Sight by Sindya N. Bhanoo. 2012
When a Sticky Gecko Starts to Slip, Its Tail Comes to the Rescue. 2008
They're Robots? Those Beasts! 2004
The TED Conference: 3 Days in the Future. 2002
Design Debut: Trade Secrets of the 6-Legged Set. 2002
Engineers Ask Nature for Design Advice. 2001
Pitter-patter of hairy feet. 2000

General

Smithsonian Magazine. Rachael L. Ten Scientific Discoveries From 2021 That May Lead to New Inventions. Innovation for Good. Solutions to today's biggest challenges. Dec. 29. 2021

Scientific American. “Squirrels Use Gymnastics to Navigate Treetop Canopies.” Aug 2021

The Conversation. “We used peanuts and a climbing wall to learn how squirrels judge their leaps so successfully – and how their skills could inspire more nimble robots.” Aug 2021

ArsTechnica. “Squirrels show off killer parkour moves as they leap from branch to branch pushing off vertical surface helped squirrels adjust their speed for a better landing” by Jennifer Ouellette Aug 2021

Smithsonian. “Squirrels Use Parkour Moves and Savvy to Stick Tricky Landings” by Alex Fox Aug 2021

ArsTechnica. “Gecko’s soft hairy toes reorient to help it stick to different types of surfaces. The research helped answer a fundamental question: Why have many toes?” by Jennifer Ouellette. May 2020

Science Daily. "You can't squash this roach-inspired robot: Insect-sized device scurries at the speed of a cockroach and can withstand the weight of a human." July 2019

ABC World News Tonight. Scientists have discovered a hidden talent of geckos. Dec 2018

Today. “How cockroaches crash into walls and keep going” by Douglas Quenqua. Feb 2018

Time. “Here’s Why it’s so hard to kill a cockroach” by Nolan Feeney. 2016

Scientific American. “Robotic coaches can squeeze into small spaces.” 2016

Los Angeles Times. “If you can't squish 'em, join 'em: Scientists build cockroach robot” by Amina Khan. 2016

Popular Science. “This roach-inspired robot crawls even when squished” by Kelsey D. Atherton. 2016

Tech Insider. “Scientists came up with some wild experiments to build a robotic cockroach.” 2016

Reuters. “Robot roaches to the rescue” Ben Gruber. 2016

Los Angeles Times. “Engineers look to insects for robotic inspiration.” Tracey Lien. 2015

Reuters. “Cockroach robot uses shell to overcome obstacles.” 2015

CNBC. “What a robot shaped like a cockroach can do” by Robert Ferris. 2015

Popular Science. “Watch a robotic roach learn to tuck and roll” by Kelsey D. Atherton. 2015

IEEE Spectrum. “Armored Exoskeletons Help Roachbots Go Anywhere, Handle Anything” by Evan Ackerman. 2015

Tech Times. “Roach-inspired robot scuttles through clutter with ease” by Andrea Alfano. 2015

New Scientist. “Robo-roach rolls its curved back to wriggle through cracks” by Sandrine Ceurstemont. 2015

BBC News. “Sandpit probes walking strategies.” Institute of Physics. 2015

Phys.org. “On soft ground? Tread lightly to stay fast.” 2015
Science Daily. “Lessons from cockroaches could inform robotics.” 2013
IEEE Spectrum. “UC Berkeley's Little Legged Robots Grow Wings and Tails.” by Evan Ackerman. 2013
Nova Next. “The Evolution of the Bioinspired Robot” by Rachel Nuwer. 2013
Washington Post. “Leaping lizards and the power of interdisciplinary collaboration.” by Emi Kolawole. 2012
Cal Parents Magazine. Letters Home. Undergrad researchers push the knowledge envelope. 2011
National Geographic. Biomimetics: Design by Nature by Tom Mueller. 2008
California Magazine. "Back to nature: The latest inventions are inspired by the world around us." Nov/Dec by Vicki Haddock. 2008
Book, “The Gecko's Foot - Bio-inspiration: Engineering New Materials from Nature” by Peter Forbes. W. W. Norton & Company: 288 pages. 2006
Wired Magazine. Featured in article “Why 6-Legged Bots Rule,” by Tom McNichol. 2002
Metropolis Magazine. Featured in article “Bioninspiration: Take design cues from the natural world,” by Martin C. Pedersen. 2002
Book, “Evolution of a New Species: *Robo sapiens*.” Featured in robotics book by Menzel, P. and D"Aluisio, F. Cambridge. MIT Press. p. 90-101. Presents interviews on the inspiration in the design of four mobile robots using principles from nature. 2000
International Design Magazine. "Secrets of Motion." Sept/Oct. by Chee Pearlman. 1997
Discover Magazine. “See How They Run.” September by Carl Zimmer. 1994

BUSINESS & INDUSTRY (PRINT AND ON-LINE)

Manufacturing Business Technology. “Squirrels Inspire More Nimble Robots.” Aug 2021
Business Times. “How cockroaches crash into walls and keep going.” Feb 2018
Forbes. “Robotic Roaches May Be The Future Of Earthquake Rescue” by Janet Burns. 2016
MIT Technology Review. “This Uncrushable Robot Cockroach Just Wants to Rescue You” by Will Knigh. 2016
The Atlantic. “Atlantic. Why You Can't Keep Cockroaches Out of Your Home” by Ed Yong. 2016
Slate. “Why Cockroaches Are So Difficult to Crush. It could make them excellent rescue robots in disasters” by Rachel Becker. 2016
Market Business News. “Robot cockroach squeezes through tiny cracks great for rescue missions“ by Marie Singer. 2016
The Economist. Insect acrobatics: Flipping roaches: How cockroaches vanish. 2012
Nanopatents and Innovation. “Leaping Lizards And Dinosaurs Inspire Robot Design.” 2012
PC World. “Tailbot Grows A Lizard-Like Tail, Could Help Save Lives.” by Elizabeth Fish. 2012
Newsweek. “Nature is the Model Factory.” 2010

Biotech Business Week. Featured in article "Arrays; New adhesive mimics gecko toe hairs" 2008
Nanotechnology Today. "The pitter patter of little feet… climbing straight up a wall." 2008
R&D. "This gecko's not selling car insurance." 2008
Associated Press Financial Wire. "Scientists taking cues from nature to solve tech problems." 2006
Forbes. "The Robots are Coming - The Stickybot." Designated as one of the "EGang" list of technology innovators. 2006
U.S. Industry Today. "Biomimicry" 2003
Economist. "A bug's life for robots: roachmobile on the march." 2003
Newsfactor Innovation. "Gecko Glue May Aid Computer Chipmaking." 2003
BusinessWeek. "Geckos stick like glue -without goo." 2000
Fortune Magazine. "Biobots." 2000
The Economist. "Climbing the walls." 2000
Chemical & Engineering News. "Gecko bonding." 2000
Chemistry and Industry. "Secrets of a gecko's sticky fingers." 2000

INTERNATIONAL (PRINT AND ON-LINE)

UK. The Telegraph. "Science's next great leap: using squirrels to teach robots how to 'parkour' " by Joe Pinkstone Aug 2021
Australia & New Zealand. Scimex. "Robotic roaches run headlong into walls without damage." Feb 2018
Africa. Mail & Guardian. "Versatile 'cockroach' robots to the rescue" by Oliver Milman. 2016
India. The Telegraph. "Eeks! A robot inspired by roach" by G.S. Mudur. 2016
UK. BBC News Magazine. "How cockroaches could save lives." 2015
Pakistan. A1Pakistan. "Cockroach robot uses shell to overcome obstacles." 2015
India. Business Insider. "This cockroach-inspired robot uses 'parkour' moves to sneak through obstacles" by Tanya Lewis. 2015
UK. Daily Mail. "The terrifying cockroach bot that can squeeze through the tiniest of gaps" by Mark Prigg. 2015
France. French Tribune. "African Lizards Inspire Creation of Search-and-Rescue Robots." by Raoul Girard. 2012
UK. The Guardian. "Leaping lizards." 2012
Al Jazeera. "Leaping lizards give technology a nudge." 2012
India. The Hindu. "African leaping lizards inspire." 2012
SouthAsia News. "Leaping lizards help design robots with tails." 2012
Indonesia. Jakarta Globe. "UC Berkeley Lab Makes Robot That Emulates Leaping Lizard." 2012
South Africa. Brainstorm Magazine. "Turning to nature for the robot revolution." 2010
Indonesia. Situs Kimia. "Rahasia di balik kemahiran tokek merayap." 2009
UK. The Daily Telegraph. "Gecko's use their tails to run up walls." 2008
UK. BBC News. "Tail 'key' for gecko acrobatics." 2008
India. Daily India. "Gecko's tail aids aeronautics researchers." 2008

UK. The Guardian. Science: In control. “How geckos stay upright.” 2008
Germany. Focus Magazine. “Gecko-Schwanz verhindert Stürze.” 2008
Germany. Die Welt. “Geckos steuern mit ihrem Schwanz; Nach dem Vorbild von Füßen und Schwänzen der Echsen wollen Forscher Kletter- und Gleitroboter entwickeln.” 2008
Germany. Die Welt. Geckofüße halten bis zu 140 Kilogramm. 2008
Spain. El Mundo. “El paracaídas corporal de los lagartos; Descubren que los gecos usan su cola para trepar y evitar descensos bruscos.” 2008
Germany. Frankfurter Allgemeine Zeitung. “Natur und Wissenschaft; Im Sauseschritt die Wand hoch Wie Geckos ihre Zehen verankern und wieder lösen.” 2006
UK. The Guardian. “Two legs good for tiptoeing octopus.” 2005
UK. BBC News. “Walking Octopus Inspired Soft Robotics.” 2005
India. The Hindu. “Wall-climbing Robot to Combat Terror.” 2003
Germany. Stern. “Roboter.” 2000
India. Times of India. “Scientists working on synthetic gecko feet.” 2000
UK. The Daily Telegraph. “Gripping solution to mystery of geckos.” 2000
France. Liberation. “Lézards appliqués. Le gecko colle même sur les surfaces lisses. Les scientifiques lèvent le voile sur sa technique d'adhésion.” 2000
Malaysia. Suara Merdeka. “Eahasia tokek untuk buat perekat hebat.” 2000

CONTRIBUTION TO CHILDREN’S BOOKS AND MAGAZINES

Lerner Publishing Group. "Nature's Ninja: Animals with Spectacular Skills" by Johnson, Rebecca L. Children’s book. Oct 2019
Learning A-Z, Science in the News for Elementary School. "Geckos Walk on Water!” Mar 2019
Enslow Publishing. Animal Secrets Revealed. Secret of the Scuba Diving Spider and More. Chapter 5. The Secrets of the Unstoppable Cockroach by Ana Maria S. Rodrigue. Children’s book. Aug 2018
Science News for Students. Cool Jobs: The art of paper folding is inspiring science. Researchers use various types of origami to tackle a host of problems by Rachel Crowell. Aug 2018
Outside Magazine. The Tiny Robots About to Revolutionize Disaster Rescue: A new generation of bio-inspired prototypes are poised to join search and rescue workers on the front lines by Luke Whelan. Nov 2017
Pioneer Valley Books. Explore the World Nonfiction Level T Set- Life Science, Robot Roaches by Linda Zajac. Children’s Book. Sept 2017
Harper Collins. "Collins Big Cat - Living in an Earthquake Zone" by Clarke, Catriona. Children’s book. May 2017
Cricket Publishing. Muse Magazine. Reaching Like Roaches by Linda Zajac. Children’s Magazine. Mar 2017
AmplifyScience. Cockroach Robots by Ari Krakowski and Chloë Delafield. Children’s book. Aug 2016
Science et Vie Découvertes. "Robot-cafard : il s'aplatit pour se glisser partout." July 2016

Really? Robots. Book Chapters on "Explorer bots" and "Nature's secrets" by Susan Hayes. Scholastic Press. For 7-12 year old children. 2015

Action Magazine, Scholastic publication for low-level reading middle schoolers. Robots inspired by nature. 2011

CONTRIBUTION TO DESIGN OF PUBLIC EXHIBITS, SUMMER CAMPS, AND CONTESTS

Lawrence Hall of Science Bioinspired Design Summer Camp - Yealy. June 2019-present

Biodesign Challenge. UC Berkeley DeCal Team June 2020, 2023

Design Showcase. Jacobs Institute of Design Innovation. Bioinspired Design Class Presentation (Integrative Biology 32, L&S 30, Berkeley, CA) 2016-2023

National Kids Science Challenge. Biomimetic Design Contest for 3rd to 6th grade school children. 1,500 entries. Assisted in contest design and judged entries. Sponsored by National Science Foundation and Pulse of the Planet. 2010

Biomimetics Exhibition. Alfred Nobel's Dynamite Factory in Stockholm, Sweden. 2007

Robots: An Exhibition of U.S. Automation from the Leading Edge of Research. Highlighting The WTEC International Study of Robotics. At National Science Foundation. 2005

Crustacean Exhibit. Shedd Aquarium (Chicago, IL) 2005

Nanozone. Lawrence Hall of Science Museum. Featured profile and gecko nano-hair adhesive. Supported by National Science Foundation. 2004

Robots and Us - Robots Inspired by Life Traveling Exhibit. Science Museum of Minnesota. Supported by National Science Foundation. 2004

Living World of Insects Exhibit. Lawrence Hall of Science. (Berkeley, CA) 1995

Amazing Feets Traveling Exhibit. North Carolina Museum of Natural History. Supported by National Science Foundation. 1987

CONTRIBUTION TO ART, DESIGN & ENTERTAINMENT

Jackson Hole Wildlife Film Festival. Invited as Panel member for Science in the Field with Scientific American (Denver, CO) 2012

Sundance Film Festival. Invited as Juror for Sundance Institute Science-in-Film Prize sponsored by the Alfred P. Sloan Foundation and The National Academies Science and Entertainment Exchange. (Park City, UT) 2012

The National Academies Science and Entertainment Exchange. Invited speaker at Inaugural Meeting. "Biologically Inspired Robots." Consultant on movies and TV programs. (Los Angeles, CA) 2008

PRESENTATIONS

ACM SIGGRAPH/Eurographics Symposium on Computer Animation. Association for Computing Machinery. Special Interest Group on GRAPHics and Interactive Techniques. "Biomotion Science." (Los Angeles, CA) 2015

Authors and Ideas Festival. "Design Lesson from nature: Biological Inspiration" (Carmel, CA) 2013

National Science Foundation Center - Science for Animators. De Anza College. "Bipedal Bugs, Somersaulting Shrimps and Galloping Ghosts – Computer Animation. (Cupertino, CA) 2009

ArtCenter College of Design. "Biologically Inspired Design." (Pasadena, CA) 2005

ArtCenter College of Design. "Biologically Inspired Design." (Pasadena, CA) 2004

ACM SIGGRAPH. Association for Computing Machinery. Special Interest Group on GRAPHics and Interactive Techniques. "Bipedal Bugs, Galloping Ghosts and Gripping Geckos: BioInspiration for Computer Animation." (San Antonio, TX) 2002

ACM SIGGRAPH. Association for Computing Machinery. Special Interest Group on GRAPHics and Interactive Techniques. "The AAPE Center at UC Berkeley: Using Data Acquisition, Analysis, Presentation, and Exchange to address Biological Complexity." (New Orleans, LA) 1996

MOVIES

Kung Fu Panda. Dreamworks. Delivered 3D kinematics of praying mantid. 2005

A Bug's Life. Pixar/Disney directed by John Lasseter. Character design. 1995-96

The Mimic. CharacterShop. Creature design. Mirimax Films directed by Guillermo del Toro. 1994

ART EXHIBIT

THEM. An Exhibition of Artists, Scientists and Designers concerned with the Entomological Universe. Displayed photographs and videos by Gary Brewer. 1999