



Allison Okamura

Richard W. Weiland Professor in the School of Engineering and Professor of Mechanical Engineering

 Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrative Contact (Research)**

Gosia Wojciechowska - CDR Administrator

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Bio

BIO

Allison Okamura is the Richard W. Weiland Professor of Engineering at Stanford University in the Department of Mechanical Engineering, with a courtesy appointment in Computer Science. She is Director of Graduate Studies for Stanford Mechanical Engineering, Deputy Director of the Wu Tsai Neurosciences Institute, Science Fellow of the Hoover Institution, and Executive Committee Member of the Stanford Robotics Center. She is an IEEE Fellow and was previously editor-in-chief of the journal IEEE Robotics and Automation Letters. Her awards include the IEEE Engineering in Medicine and Biology Society Technical Achievement Award, IEEE Robotics and Automation Society Distinguished Service Award, and Duca Family University Fellow in Undergraduate Education. She received her BS degree from the University of California at Berkeley, and PhD degree from Stanford. Her interests include haptics, teleoperation, mixed reality, medical robotics, soft robotics, and rehabilitation. Outside academia, she enjoys spending time with her family, running, and playing ice hockey.

ACADEMIC APPOINTMENTS

- Professor, Mechanical Engineering
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Wu Tsai Human Performance Alliance
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Distinguished Service Award, IEEE Robotics and Automation Society (2019)
- Stanford Fellow, Stanford University (2018-2020)
- Best Student Presentation Award (student author: Sean Sketch), IEEE Haptics Symposium (2018)
- Finalist, Best Paper in Human Robot Interaction, IEEE International Conference on Robotics and Automation (2018)
- Gilbreth Lecturer, National Academy of Engineers (2018)
- Tau Beta Pi Teaching Honor Roll, Stanford University (2018)

- Ten Robotics Technologies of the Year (Soft robot that navigates through growth), Science Robotics (2018)
- ACM CHI Best Paper Award, ACM SIGCHI 2017 conference (2017)
- Society of Scholars, Johns Hopkins University (2017)
- Duca Family University Fellow in Undergraduate Education, Stanford University (2016)
- Best Student Paper Award (student author: Zhan Fan Quek), IEEE Haptics Symposium (2014)
- Robert Bosch Faculty Scholar, Stanford University (2011-2015)
- Gabilan Fellow, Stanford University (2011)
- IEEE Fellow, Institute of Electrical and Electronics Engineers (2010)
- Early Career Award, IEEE Technical Committee on Haptics (2009)
- Alumni Distinguished Scholar, Stanford University (2008)
- Decker Faculty Scholar, Johns Hopkins University (2007-2010)
- Award for Excellence, Outstanding Paper of the Year in Industrial Robot, Literati Club (2005)
- Early Academic Career Award, IEEE Robotics and Automation Society (2005)
- CAREER Award, National Science Foundation (2004-2009)
- Diversity Recognition Award, Johns Hopkins University (2003)

PROFESSIONAL EDUCATION

- BS, University of California, Berkeley , Mechanical Engineering (1994)
- MS, Stanford University , Mechanical Engineering (1996)
- PhD, Stanford University , Mechanical Engineering (2000)

LINKS

- CHARM Lab website: <http://charm.stanford.edu>
- CHARM Lab YouTube channel: https://www.youtube.com/channel/UC_L3pNsIH0J3znNsL3CbFYQ
- Google Scholar page: <https://scholar.google.com/citations?user=ID4Yjn4AAAAJ&hl=en&oi=ao>
- Personal webpage: <http://charm.stanford.edu/Main/AllisonOkamura>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research focuses on developing the principles and tools needed to realize advanced robotic and human-machine systems capable of physical interaction. Topics of particular interest are: (1) Teleoperation: Devices, models, and control systems that allow human operators to manipulate environments that are remote in scale and/or distance. (2) Haptic systems: Devices, models, and control systems that enable compelling touch-based interaction with virtual environments, computers, and remote robots. (3) Robotic manipulation: Robots that physically manipulate their environment or their own shape, incorporating novel designs, sensors, and control systems. Application areas include surgery, simulation and training, rehabilitation, prosthetics, neuromechanics, exploration of hazardous and remote environments (e.g. space), design, and education.

CLINICAL TRIALS

- Effects of a Compliant Arm Support on Post-stroke Upper Extremity Range of Motion, Not Recruiting
- Effects of Post-Stroke Upper Extremity Assistance, Not Recruiting
- Passive Tactile Stimulation for Stroke Rehabilitation, Not Recruiting

Teaching

COURSES

2025-26

- Design and Control of Haptic Systems: ME 327 (Spr)
- Dynamic Systems, Vibrations and Control: ME 161 (Aut, Win)
- Perspectives of Women in Engineering: ENGR 311A (Win)

2024-25

- Design and Control of Haptic Systems: ME 327 (Spr)
- Dynamic Systems, Vibrations and Control: ME 161 (Win)
- Perspectives of Women in Engineering: ENGR 311A (Win)

2023-24

- Design and Control of Haptic Systems: ME 327 (Spr)

2022-23

- Design and Control of Haptic Systems: ME 327 (Spr)
- Introduction to Mechanical Engineering: ME 1 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Savannah Cofer, Shivani Guptasarma, Eunyoung Kim, Russell Martin, Soham Sinha, Jon Stingel, Olivia Tomassetti

Orals Chair

Priya Sundaresan

Postdoctoral Faculty Sponsor

Ava Chen

Doctoral Dissertation Advisor (AC)

Megan Coram, Mary Kate Gale, William Heap, Sehui Jeong, Katelyn King, Melissa Klein, Ariane Richard, Brian Vuong

Master's Program Advisor

Sal Amezcua Hernandez, Jonah Bhisitkul, Timber Carey, Marcellina Chang, Sean Fowler, Nathan Hui, Nachiketh Karthik, Zachary Larson, Saimai Lau, Wei Lin Puah, Sokseray Sun, Olivia Velten-Lomelin, Vakula Venkatesh, Alfonso Vigo

Doctoral Dissertation Co-Advisor (AC)

Elizabeth Childs, Dan Ilyn, Fredrik Samdal Solberg

Doctoral (Program)

Venny Kojouharov, Alex Mallery

Publications

PUBLICATIONS

- **Multi-level mechanical modeling and computational design framework for weft knitted fabrics** *EXTREME MECHANICS LETTERS*
du Pasquier, C., Jeong, S., Liu, P., Williams, S., Mnejja, N., Okamura, A. M., Tibbits, S., Chen, T.
2026; 82

- **Self-Wearing Adaptive Garments via Soft Robotic Unfurling** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Kim, N., Heap, W. E., Qin, Y., Yao, E. B., Ryu, J., Okamura, A. M.
2026; 11 (1): 802-809
- **Interactive Multi-Robot Flocking with Gesture Responsiveness and Musical Accompaniment** *ACM TRANSACTIONS ON HUMAN-ROBOT INTERACTION*
Cuan, C., Jeffrey, K., Kleiven, K., Li-Bell, A., Fisher, E., Harrison, M., Holson, B., Okamura, A., Bennice, M.
2026; 15 (1)
- **Loop closure grasping: Topological transformations enable strong, gentle, and versatile grasps.** *Science advances*
Barhydt, K., Osele, O. G., Kodali, S., du Pasquier, C., Hartquist, C. M., Asada, H. H., Okamura, A. M.
2025; 11 (50): eady9581
- **Effects of Wrist-Worn Haptic Feedback on Force Accuracy and Task Speed During a Teleoperated Robotic Surgery Task** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Vuong, B. B., Davidson, J., Cheon, S., Cho, K., Okamura, A. M.
2025; 10 (12): 12923-12930
- **Flying Vines: Design, Modeling, and Control of a Soft Aerial Robotic Arm** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Jitosho, R., Winston, C. E., Yang, S., Li, J., Ahlquist, M., Woehle, N., Liu, C., Okamura, A. M.
2025; 10 (10): 10514-10521
- **Cognitive and Physical Activities Impair Perception of Smartphone Vibrations (vol 16, pg 672, 2023)** *IEEE TRANSACTIONS ON HAPTICS*
Yoshida, K. T., Kiernan, J. X., Adenekan, R. G., Trinh, S. H., Lowber, A. J., Okamura, A. M., Nunez, C. M.
2025; 18 (4): 1085-1086
- **Fourigami: A 4-Degree-of-Freedom, Force-Controlled, Origami, Finger Pad Haptic Device** *IEEE TRANSACTIONS ON ROBOTICS*
Winston, C. E., Choi, H., Jitosho, R., Zhakypov, Z., Palmer, J. E., Cutkosky, M. R., Okamura, A. M.
2025; 41: 4829-4842
- **Haptiknit: Distributed stiffness knitting for wearable haptics.** *Science robotics*
du Pasquier, C., Tessmer, L., Scholl, I., Tilton, L., Chen, T., Tibbits, S., Okamura, A.
2024; 9 (97): eado3887
- **Leveraging Haptic Feedback to Improve Data Quality and Quantity for Deep Imitation Learning Models** *IEEE TRANSACTIONS ON HAPTICS*
Cuan, C., Okamura, A., Khansari, M.
2024; 17 (4): 984-991
- **A Comparative Analysis of Smartphone and Standard Tools for Touch Perception Assessment Across Multiple Body Sites** *IEEE TRANSACTIONS ON HAPTICS*
Adenekan, R. A. G., Reyes, A., Yoshida, K. T., Kodali, S., Okamura, A. M., Nunez, C. M.
2024; 17 (4): 970-977
- **Development and Evaluation of a Learning-Based Model for Real-Time Haptic Texture Rendering** *IEEE TRANSACTIONS ON HAPTICS*
Heravi, N., Culbertson, H., Okamura, A. M., Bohg, J.
2024; 17 (4): 705-716
- **Haptic Guidance and Haptic Error Amplification in a Virtual Surgical Robotic Training Environment.** *IEEE transactions on haptics*
Oquendo, Y. A., Coad, M. M., Wren, S. M., Lendvay, T. S., Nisky, I., Jarc, A. M., Okamura, A. M., Chua, Z.
2024; 17 (3): 417-428
- **Between-Tactor Display Using Dynamic Tactile Stimuli for Directional Cueing in Vibrating Environments** *IEEE TRANSACTIONS ON HAPTICS*
Eguchi, R., Vacek, D., Godzinski, C., Okamura, A. M.
2024; 17 (3): 503-508
- **Design and Evaluation of a 3-DoF Haptic Device for Directional Shear Cues on the Forearm.** *IEEE transactions on haptics*
Yoshida, K. T., Zook, Z. A., Choi, H., Luo, M., O'Malley, M. K., Okamura, A. M.
2024; 17 (3): 483-495

- **A Comparison of Pneumatic Actuators for Soft Growing Vine Robots.** *Soft robotics*
Kübler, A. M., du Pasquier, C., Low, A., Djambazi, B., Aymon, N., Förster, J., Agharese, N., Siegart, R., Okamura, A. M.
2024
- **Stiffness Change for Reconfiguration of Inflated Beam Robots.** *Soft robotics*
Do, B. H., Wu, S., Zhao, R. R., Okamura, A. M.
2024
- **Reliability of Smartphone-Based Vibration Threshold Measurements**
Adenekan, R. A. G., Yoshida, K. T., Benyoucef, A., Reyes, A., Adenekan, A. E., Okamura, A. M., Nunez, C. M.
edited by Kajimoto, H., Birznieks, Bianchi, M.
IEEE.2024: 25-32
- **Facial Haptic Feedback for Robotic Prostheses**
Guptasarma, S., Vuong, B. B., Okamura, A. M., Kennedy, M.
edited by Pons, J. L., Tornero, J., Akay, M.
SPRINGER INTERNATIONAL PUBLISHING AG.2024: 311-315
- **Tip-Clutching Winch for High Tensile Force Application with Soft Growing Robots**
Osele, O., Barhydt, K., Cerone, N., Okamura, A. M., Asada, H., IEEE
IEEE.2024: 9362-9368
- **phIoSAR: a Portable, High-Flow Pressure Supply and Regulator Enabling Untethered Operation of Large Pneumatic Soft Robots**
Ahlquist, M., Jitosho, R., Bao, J., Okamura, A. M., IEEE
IEEE.2024: 28-33
- **Design and Evaluation of Haptic Guidance in Ultrasound-Based Needle-Insertion Procedures.** *IEEE transactions on bio-medical engineering*
Raitor, M., Nunez, C. M., Stolka, P. J., Okamura, A. M., Culbertson, H.
2024; 71 (1): 26-35
- **Haptic Relocation of Virtual Finger Forces via Pneumatic Wrist-Worn Haptic Devices**
Palmer, J. E., Vuong, B. B., Zhakypov, Z., Qin, Y., Tilton, L., Okamura, A. M.
edited by Kajimoto, H., Birznieks, Bianchi, M.
IEEE.2024: 315-320
- **Haptics: The Science of Touch as a Foundational Pathway to Precision Education and Assessment.** *Academic medicine : journal of the Association of American Medical Colleges*
Perrone, K., Abdelaal, A. E., Pugh, C., Okamura, A.
2023
- **Shared-Control Teleoperation Paradigms on a Soft-Growing Robot Manipulator** *JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS*
Stroppa, F., Selvaggio, M., Agharese, N., Luo, M., Blumenschein, L. H., Hawkes, E. W., Okamura, A. M.
2023; 109 (2)
- **Modeling and Control of a 5-DOF Parallel Continuum Haptic Device** *IEEE TRANSACTIONS ON ROBOTICS*
Koehler, M., Bieze, T., Kruszewski, A., Okamura, A. M., Duriez, C.
2023
- **A Modular 3-Degrees-of-Freedom Force Sensor for Robot-Assisted Minimally Invasive Surgery Research.** *Sensors (Basel, Switzerland)*
Chua, Z., Okamura, A. M.
2023; 23 (11)
- **Cognitive and Physical Activities Impair Perception of Smartphone Vibrations.** *IEEE transactions on haptics*
Yoshida, K. T., Kiernan, J. X., Adenekan, R. A., Trinh, S. H., Lowber, A. J., Okamura, A. M., Nunez, C. M.
2023; PP
- **Daily vibrotactile stimulation from a wearable device exhibits equal or greater spasticity relief than botulinum toxin in stroke.** *Archives of physical medicine and rehabilitation*
Seim, C., Chen, B., Han, C., Vacek, D., Lowber, A., Lansberg, M., Okamura, A. M.
2023

- **Evaluation of a Passive Wearable Device for Post-Stroke Shoulder Abduction Support.** *IEEE ... International Conference on Rehabilitation Robotics : [proceedings]*
Vasquez, E. D., Simpson, C. S., Zhou, G., Lansberg, M., Okamura, A. M.
2023; 2023: 1-6
- **Reinforcement Learning Enables Real-Time Planning and Control of Agile Maneuvers for Soft Robot Arms**
Jitosho, R., Lum, T., Okamura, A. M., Liu, C.
edited by Tan, J., Toussaint, M., Darvish, K.
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2023
- **Relief of post-stroke spasticity with acute vibrotactile stimulation: controlled crossover study of muscle and skin stimulus methods.** *Frontiers in human neuroscience*
Seim, C., Chen, B., Han, C., Vacek, D., Wu, L. S., Lansberg, M., Okamura, A.
2023; 17: 1206027
- **Passive Shape Locking for Multi-Bend Growing Inflated Beam Robots**
Jitosho, R., Simon-Trench, S., Okamura, A. M., Do, B. H., IEEE
IEEE.2023
- **A Multi-Segment, Soft Growing Robot with Selective Steering**
Kubler, A. M., Rivera, S., Raphael, F. B., Forster, J., Siegwart, R., Okamura, A. M., IEEE
IEEE.2023
- **Exploring Human Response Times to Combinations of Audio, Haptic, and Visual Stimuli from a Mobile Device**
Yoshida, K. T., Kiernan, J. X., Okamura, A. M., Nunez, C. M.
edited by Bello, F., Choi, S., Kuchenbecker, K. J., MacLean, K.
IEEE.2023: 121-127
- **Wearable Sensory Substitution for Proprioception via Deep Pressure**
Kodali, S., Vuong, B. B., Bulea, T. C., Chesler, A. T., Bonnemann, C. G., Okamura, A. M.
edited by Bello, F., Choi, S., Kuchenbecker, K. J., MacLean, K.
IEEE.2023: 286-292
- **Human Perception of Wrist Flexion and Extension Torque During Upper and Lower Extremity Movement.** *IEEE transactions on haptics*
Welker, C. G., Collins, S. H., Okamura, A. M.
2022; PP
- **Perceived Intensities of Normal and Shear Skin Stimuli Using a Wearable Haptic Bracelet** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Sarac, M., Huh, T., Choi, H., Cutkosky, M. R., Di Luca, M., Okamura, A. M.
2022; 7 (3): 6099-6106
- **Data-Driven Sparse Skin Stimulation Can Convey Social Touch Information to Humans** *IEEE TRANSACTIONS ON HAPTICS*
Salvato, M., R. Williams, S., M. Nunez, C., Zhu, X., Israr, A., Lau, F., Klumb, K., Abnousi, F., M. Okamura, A., Culbertson, H.
2022; 15 (2): 392-404
- **A 4-Degree-of-Freedom Parallel Origami Haptic Device for Normal, Shear, and Torsion Feedback** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Williams, S. R., Suchoski, J. M., Chua, Z., Okamura, A. M.
2022; 7 (2): 3310-3317
- **Predicting Hand-Object Interaction for Improved Haptic Feedback in Mixed Reality** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Salvato, M., Heravi, N., Okamura, A. M., Bohg, J.
2022; 7 (2): 3851-3857
- **Design of a Wearable Vibrotactile Stimulation Device for Individuals With Upper-Limb Hemiparesis and Spasticity** *IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING*
Seim, C. E., Ritter, B., Starner, T. E., Flavin, K., Lansberg, M. G., Okamura, A. M.
2022; 30: 1277-1287
- **Characterization of Real-time Haptic Feedback from Multimodal Neural Network-based Force Estimates during Teleoperation**

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- Chua, Z., Okamura, A. M., IEEE
IEEE.2022: 1471-1478
- **Perception of Mechanical Properties via Wrist Haptics: Effects of Feedback Congruence**
Sarac, M., Di Luca, M., Okamura, A. M., IEEE
IEEE.2022: 620-627
 - **Haptic Feedback Relocation from the Fingertips to the Wrist for Two-Finger Manipulation in Virtual Reality**
Palmer, J. E., Sarac, M., Garza, A. A., Okamura, A. M., IEEE
IEEE.2022: 628-633
 - **A Large-Area Wearable Soft Haptic Device Using Stacked Pneumatic Pouch Actuation**
Nunez, C. M., Do, B. H., Low, A. K., Blumenschein, L. H., Yamane, K., Okamura, A. M., IEEE
IEEE.2022: 591-598
 - **Deep Learning Classification of Touch Gestures Using Distributed Normal and Shear Force**
Choi, H., Brouwer, D., Lin, M. A., Yoshida, K. T., Rognon, C., Stephens-Fripp, B., Okamura, A. M., Cutkosky, M. R., IEEE
IEEE.2022: 3659-3665
 - **FingerPrint: A 3-D Printed Soft Monolithic 4-Degree-of-Freedom Fingertip Haptic Device with Embedded Actuation**
Zhakypov, Z., Okamura, A. M., IEEE
IEEE.2022: 938-944
 - **A Lightweight, High-Extension, Planar 3-Degree-of-Freedom Manipulator Using Pinched Bistable Tapes**
Osele, O., Okamura, A. M., Do, B. H., IEEE
IEEE.2022
 - **Between-Tactor Display Using Dynamic Tactile Stimuli**
Eguchi, R., Vacek, D., Godzinski, C., Curry, S., Evans, M., Okamura, A. M.
edited by Seifi, H., Kappers, A. M., Schneider, O., Drawing, K., Pacchierotti, C., Abbasimoshaei, A., Huisman, G., Kern, T. A.
SPRINGER INTERNATIONAL PUBLISHING AG.2022: 379-381
 - **Feasibility of Smartphone Vibrations as a Sensory Diagnostic Tool**
Adenekan, R. A. G., Lowber, A. J., Huerta, B. N., Okamura, A. M., Yoshida, K. T., Nunez, C. M.
edited by Seifi, H., Kappers, A. M., Schneider, O., Drawing, K., Pacchierotti, C., Abbasimoshaei, A., Huisman, G., Kern, T. A.
SPRINGER INTERNATIONAL PUBLISHING AG.2022: 337-339
 - **Wearable Haptic Device for Individuals with Congenital Absence of Proprioception**
Kodali, S., Okamura, A. M., Bulea, T. C., Chesler, A. T., Bonnemann, C. G.
edited by Seifi, H., Kappers, A. M., Schneider, O., Drawing, K., Pacchierotti, C., Abbasimoshaei, A., Huisman, G., Kern, T. A.
SPRINGER INTERNATIONAL PUBLISHING AG.2022: 433-435
 - **Geometric Solutions for General Actuator Routing on Inflated-Beam Soft Growing Robots** *IEEE TRANSACTIONS ON ROBOTICS*
Blumenschein, L. H., Koehler, M., Usevitch, N. S., Hawkes, E., Rucker, D., Okamura, A. M.
2021
 - **Effects of Peripheral Haptic Feedback on Intracortical Brain-Computer Interface Control and Associated Sensory Responses in Motor Cortex** *IEEE TRANSACTIONS ON HAPTICS*
Deo, D. R., Rezaei, P., Hochberg, L. R., Okamura, A. M., Shenoy, K., Henderson, J. M.
2021; 14 (4): 762-775
 - **Teaching With Hapkit Enabling Online Haptics Courses With Hands-On Laboratories** *IEEE ROBOTICS & AUTOMATION MAGAZINE*
Morimoto, T. K., Martinez, M., Davis, R. L., Blikstein, P., Okamura, A. M.
2021; 28 (3): 79-91
 - **Body-Mounted Vibrotactile Stimuli: Simultaneous Display of Taps on the Fingertips and Forearm** *IEEE TRANSACTIONS ON HAPTICS*
Williams, S. R., Okamura, A. M.
2021; 14 (2): 432-444
 - **Affective Ratings of Vibrotactile Signals in Older Adults With and Without History of Stroke**
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- Seim, C. E., Ritter, B., Flavin, K. E., Lansberg, M. G., Okamura, A. M., IEEE
IEEE.2021: 457-462
- **A Dynamics Simulator or Soft Growing Robots**
Jitosho, R., Agharese, N., Okamura, A., Manchester, Z., IEEE
IEEE.2021: 11775-11781
 - **Macro-Mini Actuation of Pneumatic Pouches for Soft Wearable Haptic Displays**
Do, B. H., Okamura, A. M., Yamane, K., Blumenschein, L. H., IEEE
IEEE.2021: 14499-14505
 - **Toward Force Estimation in Robot-Assisted Surgery using Deep Learning with Vision and Robot State**
Chua, Z., Jarc, A. M., Okamura, A. M., IEEE
IEEE.2021: 12335-12341
 - **Augmented Haptic Guidance for Needle Insertion with a 2-DoF Wrist-Worn Haptic Device**
Sarac, M., Loke, D., Evans, M., Chong, O., Saunders, J., Makled, B., Okamura, A. M., Hallett, K., IEEE
IEEE.2021: 872
 - **Embedded Laser-Cut Constraints for Elastomeric Soft Actuators**
Winston, C. E., Yoshida, K. T., Williams, S. R., Okamura, A. M., IEEE
IEEE.2021: 863
 - **Human Perception of Wrist Torque Magnitude During Upper and Lower Extremity Movement**
Welker, C., Collins, S. H., Okamura, A. M., IEEE
IEEE.2021: 870
 - **Augmented Needle Decompression Task with a Wrist-Worn Haptic Device**
Sarac, M., Hallett, K., Saunders, J., Makled, B., Okamura, A. M., IEEE
IEEE.2021: 873
 - **Design, Modeling, Control, and Application of Everting Vine Robots.** *Frontiers in robotics and AI*
Blumenschein, L. H., Coad, M. M., Haggerty, D. A., Okamura, A. M., Hawkes, E. W.
2020; 7: 548266
 - **Continuous Closed-Loop 4-Degree-of-Freedom Holdable Haptic Guidance** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Walker, J. M., Okamura, A. M.
2020; 5 (4): 6853–60
 - **Efficient and Trustworthy Social Navigation via Explicit and Implicit Robot-Human Communication** *IEEE TRANSACTIONS ON ROBOTICS*
Che, Y., Okamura, A. M., Sadigh, D.
2020; 36 (3): 692–707
 - **Model-Based Design of a Soft 3-D Haptic Shape Display** *IEEE TRANSACTIONS ON ROBOTICS*
Koehler, M., Usevitch, N. S., Okamura, A. M.
2020; 36 (3): 613–28
 - **3D Electromagnetic Reconfiguration Enabled by Soft Continuum Robots** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Gan, L. T., Blumenschein, L. H., Huang, Z., Okamura, A. M., Hawkes, E. W., Fan, J. A.
2020; 5 (2): 1704–11
 - **Retraction of Soft Growing Robots Without Buckling** *IEEE ROBOTICS AND AUTOMATION LETTERS*
Coad, M. M., Thomasson, R. P., Blumenschein, L. H., Usevitch, N. S., Hawkes, E. W., Okamura, A. M.
2020; 5 (2): 2115–22
 - **Robust navigation of a soft growing robot by exploiting contact with the environment** *INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH*
Greer, J. D., Blumenschein, L. H., Alterovitz, R., Hawkes, E. W., Okamura, A. M.
2020

- **An untethered isoperimetric soft robot.** *Science robotics*
Usevitch, N. S., Hammond, Z. M., Schwager, M., Okamura, A. M., Hawkes, E. W., Follmer, S.
2020; 5 (40)
- **An untethered isoperimetric soft robot** *SCIENCE ROBOTICS*
Usevitch, N. S., Hammond, Z. M., Schwager, M., Okamura, A. M., Hawkes, E. W., Follmer, S.
2020; 5 (40)
- **Investigating Social Haptic Illusions for Tactile Stroking (SHIFTS)**
Nunez, C. M., Huerta, B. N., Okamura, A. M., Culbertson, H., IEEE
IEEE.2020: 629–36
- **Teleoperation of an ankle-foot prosthesis with a wrist exoskeleton.** *IEEE transactions on bio-medical engineering*
Welker, C. G., Chiu, V. L., Voloshina, A. n., Collins, S. n., Okamura, A. M.
2020; PP
- **Human Interface for Teleoperated Object Manipulation with a Soft Growing Robot**
Stroppa, F., Luo, M., Yoshida, K., Coad, M. M., Blumenschein, L. H., Okamura, A. M., IEEE
IEEE.2020: 726-732
- **Dynamically Reconfigurable Discrete Distributed Stiffness for Inflated Beam Robots**
Do, B. H., Banashek, V., Okamura, A. M., IEEE
IEEE.2020: 9050-9056
- **Evaluation of Non-located Force Feedback Driven by Signal-independent Noise**
Chua, Z., Okamura, A. M., Deo, D. R., IEEE
IEEE.2020: 3686-3692
- **A Tip Mount for Transporting Sensors and Tools using Soft Growing Robots**
Jeong, S., Coad, M. M., Blumenschein, L. H., Luo, M., Mehmood, U., Kim, J., Okamura, A. M., Ryu, J., IEEE
IEEE.2020: 8781-8788
- **AFREEs: Active Fiber Reinforced Elastomeric Enclosures**
Yoshida, K. T., Ren, X., Blumenschein, L. H., Okamura, A. M., Luo, M., IEEE
IEEE.2020: 305–11
- **Understanding Continuous and Pleasant Linear Sensations on the Forearm From a Sequential Discrete Lateral Skin-Slip Haptic Device** *IEEE TRANSACTIONS ON HAPTICS*
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