

Most of these papers are either posted off my research group's publication website ( <http://resenv.media.mit.edu/#Publications> ), which is updated much more frequently than this list, or can be downloaded via links from an academic search engine, such as [Google Scholar](https://scholar.google.com/citations?user=-hcRfgAAAAJ&hl=en) (<https://scholar.google.com/citations?user=-hcRfgAAAAJ&hl=en>) . More info on the older stuff may be on my [old page](http://www.media.mit.edu/~joep/pubsx.html) (<http://www.media.mit.edu/~joep/pubsx.html>). This list is up to date as of January 13, 2016.

### Papers in Refereed Journals:

- 1) Gillian, N. and Paradiso, J.A., "The Gesture Recognition Toolkit," *Journal of Machine Learning Research*, Vol. 15, October 2014, pp. 3483-3487.
- 2) \*Zoran, A., Shilkrot, R., Goyal, P., Maes, P., Paradiso, J.A., "The Wise Chisel: The Rise of the Smart Handheld Tool," *IEEE Pervasive Computing*, 13(3), July-Sept. 2014, pp.48-57.
- 3) Ray, S.D, Gong, N.-W., Glicksman, L.R., Paradiso, J.A., "Experimental characterization of full-scale naturally ventilated atrium and validation of CFD simulations," *Energy and Buildings*, Volume 69, February 2014, pp. 285–291.
- 4) \*Zoran, A., Shilkrot, R., Nanyakkara, S., Paradiso, J., "The Hybrid Artisans: A Case Study in Smart Tools," *ACM Trans. Comput.-Hum. Interact. (ToCHI)*, Vol. 21, No. 3, Article 15 (June 2014), 29 pages.
- 5) \*Mittal, M., and Paradiso, J.A., "Ubicorder: A Mobile Device for Situated Interactions with Sensor Networks," *IEEE Sensors Journal*, Vol. 11, No. 3, March 2011, pp. 818-828.
- 6) \*Zoran, A. and Paradiso, J.A. "The Chameleon Guitar-Guitar with a Replaceable Resonator," in *Journal of New Music Research*, 40.1 (2011), pp. 59–74.
- 7) Paradiso, J.A., Gips, J., Laibowitz, M., Sadi, S., Merrill, D., Aylward, R., Maes, P., and Pentland, A., "Identifying and Facilitating Social Interaction with a Wearable Wireless Sensor Network," in the *Springer Journal of Personal & Ubiquitous Computing*, Volume 14, Number 2, February 2010, pp 137-152.
- 8) \*Lifton, J., Laibowitz, M., Harry, D., Gong, N.W., Mittal, M. and Paradiso, J.A., "Metaphor and Manifestation – Cross Reality with Ubiquitous Sensor/Actuator Networks," *IEEE Pervasive Computing Magazine*, July-September 2009 (vol. 8 no. 3), pp. 24-33
- 9) \*Bamberg, S.J.M., Benbasat A.Y., Scarborough D.M., Krebs D.E., Paradiso J.A., "Gait analysis using a shoe-integrated wireless sensor system," *IEEE Transactions on Information Technology in Biomedicine*, Vol. 12, No. 4, July 2008, pp. 413-423. **Winner of the IEEE (EMB) Transactions on Information Technology in Biomedicine 2012 Outstanding Paper Award.**

\* Outgrowth of supervised thesis

- 10) \*Feldmeier, M. and Paradiso, J.A., "An Interactive Music Environment for Large Groups with Giveaway Wireless Motion Sensors," to appear in *Computer Music Journal*, Vol. 31, No. 1 (Spring 2007), pp. 50-67.
- 11) \*Broxton, M., Lifton, J., and Paradiso, J.A., "Localization on the Pushpin Computing Sensor Network Using Spectral Graph Drawing and Mesh Relaxation," *ACM Mobile Computing and Communications Review*, Vol. 10, No. 1, January 2006, pp. 1-12.
- 12) \*Paradiso, J.A., and Leo, C-K, "Tracking and Characterizing Knocks Atop Large Interactive Displays," *Sensor Review*, 25:2, (invited paper in special issue on vibration and impact sensing), Vol. 25, No. 2, 2005, pp. 134-143.
- 13) Paradiso, J.A. and Starner, T., "Energy Scavenging for Mobile and Wireless Electronics," *IEEE Pervasive Computing*, Vol. 4, No. 1, February 2005, pp. 18-27.
- 14) Paradiso, J.A., Lifton, J., and Broxton, M., "Sensate Media - Multimodal Electronic Skins as Dense Sensor Networks," *BT Technology Journal*, 22(4), October 2004, pp. 32-44.
- 15) Paradiso, J.A., O'Modhrain S., "Current Trends in Electronic Music Interfaces," *Journal of New Music Research*, Vol. 32, No. 4, December 2003, pp. 345-349.
- 16) \*Paradiso, J.A., Pardue, L.S., Hsiao, K, Benbasat, A.Y., "Electromagnetic Tagging for Electronic Music Interfaces," *Journal of New Music Research*, Vol. 32, No. 4, December 2003, pp. 395-409.
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- 22) Smith, J., White, T., Dodge, C., Allport, D., Paradiso, J. and Gershenfeld, N., "Electric Field Sensing for Graphical Interfaces," *IEEE Computer Graphics and Applications*, Vol. 18, N. 3, May-June 1998, pp. 54-60.

- 23) Paradiso, J.A., "Electronic Music Interfaces: New Ways to Play," *IEEE Spectrum* (cover article), Vol. 34, No. 12, December 1997, pp. 18-30.
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- 25) Paradiso, J.A., "New Technologies for Monitoring the Precision Alignment of Large Detector Systems," *Nuclear Instruments and Methods in Physics Research A386*, 1997, pp. 409-420.
- 26) Paradiso, J.A., "The Interactive Balloon: Sensing, Actuation, and Behavior in a Common Object," *IBM Systems Journal*, Vol. 35, Nos. 3&4, 1996, pp. 473-487.
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- 28) Aziz, T., *et al.*, "A Precision Experiment On Electrons, Photons and Muons at LHC," *Nuclear Instruments and Methods in Physics Research*, A325, 1994, pp. 23-91.
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- 30) Paradiso, J.A., "Adaptable Method of Managing Jets and Aerosurfaces for Aerospace Vehicle Control," *Journal of Guidance, Control and Dynamics*, Vol. 14, No. 1, January-February 1991, pp. 44-50.
- 31) \*Dzielski, J., Bergmann, E., Paradiso, J., Rowell, D., Wormley, D., "An Approach to CMG Steering Using Feedback Linearization," *Journal of Guidance, Control and Dynamics*, Vol. 14, No. 1, January-February 1991, pp. 96-106.
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- 34) Antreasyan, D., *et al.*, "Associated multiplicities in mu -pair events at the ISR," *Nuovo Cimento A*, Vol.99A, Ser.2, No.5, May 1988, pp. 595-617.
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- 47) Barber, D., *et al.*, "Measurement of the Relative Total Hadronic Cross-Section R at PETRA," *Physical Review Letters*, 42, 1979, pp. 1110-1113.

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- 2) Nakagaki, K., Dementyev, A., Follmer, S., Paradiso, J., and Ishii, H., ‘ChainFORM: A Linear Integrated Modular Hardware System for Shape Changing Interfaces,’ in Proc. of ACM UIST 2016, October 16-19, 2016.
- 3) Liu, X., Vega, K., Qian, J., Paradiso, J., and Maes, P., “Fluxa: Body Movements as a Social Display,” in Adj. Proc. of UIST 2016, October 16-19, 2016, pp. 155-157.
- 4) Paradiso, J. et al, “(UnderWare) Aesthetic, Expressive, and Functional On-Skin Technologies,” in Ubicomp/ISWC 2016 Adjunct Proceedings, Heidelberg Germany, Sept. 12-16, 2016.
- 5) Orner, B.A., Reilly, D.E., Chase, A., Deokar, V., Linder, S.P., Goyal, P., Paradiso, J.A., and Zuckerman, E., “Sambaza Watts: a nano-grid for accessing and sharing energy,” in the Proc. of the CIRED Workshop, Helsinki Finland, June 14-15, 2016, Paper 0348.
- 6) \*Cherston, J., Hill, E., Goldfarb, S. and Paradiso, J., “Musician and Mega-Machine: Compositions Driven by Real-Time Particle Collision Data from the ATLAS Detector,” in Proc. of the NIME 2016 Conference, Brisbane Australia, July 11-15, 2016.
- 7) \*Lynch, E. and Paradiso, J.A., “SensorChimes: Musical Mapping for Sensor Networks,” in Proc. of the NIME 2016 Conference, Brisbane Australia, July 11-15, 2016.
- 8) Xiao, X, Haddad, D.D., Sanchez, T., van Troyer, A., Kleinberger, R., Webb, P. Paradiso, J., Machover, T., and Ishii, H., “Kinéphone: Exploring the Musical Potential of an Actuated Pin-Based Shape Display,” Proc. of the NIME 2016 Conference, Brisbane Australia, July 11-15, 2016.
- 9) Kao, H-L, Mohan, M., Vega, K., Schmandt, C., and Paradiso, J.A., ‘ChromoSkin: Towards Interactive Cosmetics Using Thermochromic Pigments,’ in Proc. of *CHI 2016*, May 2016, pp. 3703-3706.
- 10) \*Cherston, J., Hill, E., Goldfarb, S., and Paradiso, J.A., “Sonification Platform for Interaction with Real-Time Particle Collision Data from the ATLAS Detector,” in Proc. of *CHI 2016*, May 2016, pp. 1647-1653.
- 11) Liu, X., Vega, K., Maes, P., and Paradiso, J.A., ‘Wearability Factors for Skin Interfaces,’ in Proc. of the *ACM Augmented Human Conference*, Geneva Switzerland, February 2016. **Best Paper Award (second prize).**

- 12) \*Russell, S., Dublon, G., and Paradiso, J.A., ‘HearThere: Networked Sensory Prosthetics Through Auditory Augmented Reality,’ to be presented at the *ACM Augmented Human Conference*, Geneva Switzerland, February 2016.
- 13) Azaria, A., Mayton, B., and Paradiso, J.A., “Thumbs-Up: Wearable Sensing Device for Detecting Hand-to-Mouth Compulsive Habits,” to be presented at the *9<sup>th</sup> International Conference on Biomedical Electronics and Devices (BIODEVICES 2016)*, Rome Italy, February 2016.
- 14) \*Zhao, N., Aldrich, M., Reinhart, C.F., and Paradiso, J.A., “A multidimensional continuous contextual lighting control system using Google Glass,” in Proc. of the *2nd ACM International Conference on Embedded Systems For Energy-Efficient Built Environments (BuildSys 2015)*, Nov. 2015. **Best Presentation Award**
- 15) \*Dementyev, A., Kao, H-L, and Paradiso, J.A., “SensorTape: Modular and Programable 3D-Aware Dense Sensor Network on a Tape,” in Proc. of *ACM UIST (User interface software and technology)* November, 2015.
- 16) Benavides, X., Zhu, Chang Long, Maes, P., Paradiso, Joseph A., “KickSoul: A Wearable System for Feet Interactions with Digital Devices,” in Proc. of *ACM UIST (User interface software and technology)* November, 2015.
- 17) Zhao, N. and Paradiso, J.A., “HALO: wearable lighting,” in Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers, pp. 601-606, Sept. 7-11, 2015. **ISWC Design Exhibition Best Aesthetics Award**
- 18) Amores, J., Maes, P., and Paradiso, J., “Bin-ary: Detecting the State of Organic Trash to Prevent Insalubrity,” Ubicomp 2015 (ACM International Joint Conference on Pervasive and Ubiquitous Computing), Sept. 7-11, 2015.
- 19) Zhao, N., Dublon, G., Gillian, N., Dementyev, A., Paradiso, J., “EMI Spy: Harnessing Electromagnetic Interference for Low-Cost, Rapid Prototyping of Proxemic Interaction,” presented at the *2015 International Conference on Wearable and Implantable Body Sensor Networks (BSN '15)*, June 2015.
- 20) Haddad, D.D., Tome, B., Machover, T., and Paradiso, J.A., “MMODM: Massively Multipler Online Drum Machine,” presented at *International Conference on New Interfaces for Musical Expression (NIME '15)*, Baton-Rouge, LA, 2015.
- 21) Ramsay, D.B., and Paradiso, J.A., “GroupLoop: A Collaborative, Network-Enabled Audio Feedback Instrument,” presented at *International Conference on New Interfaces for Musical Expression (NIME '15)*, Baton-Rouge, LA, 2015.
- 22) Kleinberger, R., Dublon, G., Paradiso, J.A., and Machover, T., “PHOX Ears: A Parabolic, Head-mounted, Orientable, eXtrasensory Listening Device presented at *International Conference on New Interfaces for Musical Expression (NIME '15)*, Baton-Rouge, LA, 2015.

- 23) Kao, H-L., Dementyev, A., Paradiso, J.A., and Schmandt, C., “NailO: Fingernails as Input Surfaces,” to appear in the Proceedings of *the International Conference on Human Factors in Computing Systems (CHI'15)*, Seoul Korea, April 2015. **Honorable Mention for Best Paper**
- 24) \*Russell, S. and Paradiso, J.A., “Hypermedia APIs for sensor data: A pragmatic approach to the Web of Things,” in the *Proceedings of ACM Mobiquitous 2014*, London UK, December 2014, pp. 30-39.
- 25) \*Dementyev, A. and Paradiso, J., “WristFlex: Low-Power Gesture Input with Wrist-Worn Pressure Sensors,” in the *Proceedings of UIST 2014, the 27th annual ACM symposium on User interface software and technology*, Honolulu Hawaii, October 2014, pp. 161-166.
- 26) \*Goyal, P., Maes, P., Paradiso, J., “Nishanchi: CAD for hand-fabrication,” in the *Adjunct Proceedings of UIST 2014, the 27th annual ACM symposium on User interface software and technology*, Honolulu Hawaii, October 2014, pp. 63-64.
- 27) Gillian, N., Pfenninger, S., Russell, S., and Paradiso, J.A., “Gestures Everywhere: A Multimodal Sensor Fusion and Analysis Framework for Pervasive Displays,” In *Proceedings of The International Symposium on Pervasive Displays (PerDis '14)*, Sven Gehring (Ed.). ACM, New York, NY, June 2014, pp. 98-103.
- 28) \*Way, D. and Paradiso, J., “A Usability User Study Concerning Free-Hand Microgesture and Wrist-Worn Sensors,” In *Proceedings of the 2014 11th International Conference on Wearable and Implantable Body Sensor Networks (BSN '14)*. IEEE Computer Society, June 2014, pp. 138-142.
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- 32) \*Aldrich, M., Badshah, A., Mayton, B., Paradiso, J.A., “Random Walk and Lighting Control,” in *Proceedings of the 2013 IEEE Sensors Conference*, Baltimore, MD, November 2013, 4 pages.
- 33) \*Zoran, A., Shilkrot, R., Paradiso, J.A. “Human-computer interaction for hybrid carving,” in *Proceedings of the 26th annual ACM symposium on User interface software and technology (UIST 2013)*, October 2013, pp. 433-440.

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- 35) \*Goyal, P., Agrawal, H., Paradiso, J.A., and Maes, P., “BoardLab: PCB as an interface to EDA software,” In *Proceedings of the adjunct publication of the 26th annual ACM symposium on User interface software and technology (UIST '13 Adjunct)*, October 2013, pp. 19-20.
- 36) \*Gong, N.-W., Zoran, A., Paradiso, J.A., “Inkjet-printed Conductive Patterns for Physical Manipulation of Audio Signals,” in the *Adjunct Proceedings of the 26th annual ACM symposium on User interface software and technology (UIST 2013)*, pp. 13-14.
- 37) \*Mayton, Brian D., Zhao, N., Aldrich, M., Gillian, N., Paradiso, Joseph A., “WristQue: A personal sensor wristband,” in *Proc. of the IEEE International Conference on Wearable and Implantable Body Sensor Networks (BSN '13)*, pp.1-6, 2013. **Best Session Paper**
- 38) \*Zoran, A. and Paradiso, J.A., “FreeD – A Freehand Digital Sculpting Tool”, in The 31st International Conference on Human Factors in Computing Systems (CHI '13). ACM, Paris, France, April/May 2013, pp. 2613-2616. **Best Paper Award**
- 39) \*Gong, N.-W., Zhao, N., Paradiso, J.A., “Conductive inkjet printed DIY music control surface,” in *CHI '13 Extended Abstracts on Human Factors in Computing Systems (CHI EA '13)*. ACM, April/May 2013, pp. 2895-2896.
- 40) \*Joliat, N., Mayton, B., Paradiso, J.A., “Spatialized Anonymous Audio for Browsing Sensor Networks Via Virtual Worlds,” in *The 19th International Conference on Auditory Display (ICAD)*, Lodz, Poland, July 2013, pp. 67-75.
- 41) \*Gong, N.-W., Wang, C.-Y., and Paradiso, J.A., “Low-cost Sensor Tape for Environmental Sensing Based on Roll-to-roll Manufacturing Process,” in *IEEE SENSORS 2012*, Taipei, October 2012, 4 pages.
- 42) \*Gong, N.-W., Ware, L., Ray, S., Ware, G., Leida, B., Ren, T., London, P., Turza, A., Way, D., Glicksman, L., Paradiso J.A., “Dense, Low-Power Sensor Network for Three-Dimensional Thermal Characterization of Large-Scale Atria Spaces,” in *IEEE SENSORS 2012*, Taipei, October 2012, 4 pages.
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- 44) \*Gong, N.-W., Zhao, N., and Paradiso, J.A., “A Customizable Sensate Surface for Music Control,” in *Proceedings of NIME 2012*, Ann Arbor, Michigan, May 2012, pp. 417-420.
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- 47) Dublon, G. and Paradiso, J.A., "Tongueduino: hackable, high-bandwidth sensory augmentation," In *CHI '12 Extended Abstracts on Human Factors in Computing Systems (CHI EA '12)*. ACM, May 2102, pp. 1453-1454.
- 48) \*Zoran, A. and Paradiso, J.A., The FreeD-A Handheld Digital Milling Device for Craft and Fabrication, in *Adjunct proceedings of the 25th annual ACM symposium on User interface software and technology (UIST Adjunct Proceedings '12)*, Oct 7-10, 2012, pp. 3-4.
- 49) \*Lapinski, M., Feldmeier, M. and Paradiso, J.A., "Wearable Wireless Sensing for Sports and Ubiquitous Interactivity," in *IEEE SENSORS 2011*, Limerick Ireland, Oct. 28-31, 2011, pp. 1425-1428.
- 50) \*Dublon, G., Pardue, L. S., Mayton, B., Swartz, N., Joliat, N., Hurst, P. and Paradiso, J.A., "DoppelLab: Tools for Exploring and Harnessing Multimodal Sensor Network Data," in *IEEE SENSORS 2011*, Limerick Ireland, Oct. 28-31, 2011, pp. 1612-1615.
- 51) \*Bainbridge, R. and Paradiso, J.A., "Wireless Hand Gesture Capture Through Wearable Passive Tag Sensing," in *International Conference on Body Sensor Networks (BSN '11)*, Dallas, TX, May 23-25, 2011, pp. 200-204.
- 52) \*Reben, A. and Paradiso, J.A., "A Mobile Interactive Robot for Gathering Structured Social Video," in *Proceedings of ACM Multimedia '11*, Scottsdale, Arizona, Nov. 28-Dec. 1, 2011, pp. 917-920.
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- 54) \*Lee, B., Aldrich, M., and Paradiso, J.A., "Methods for Measuring Work Surface Illuminance in Adaptive Solid State Lighting Networks," in *Proc. SPIE 8123*, 81230V, San Diego CA, September 23, 2011, 10 pages.
- 55) \*Feldmeier, M., and Paradiso, J.A., "Personalized HVAC Control System," in *Proc. of Internet of Things (IoT) 2010*, Tokyo Japan, Nov. 29 - Dec. 1, 2010, 8 pages.
- 56) \*Gong, N-W., Laibowitz, M., and Paradiso, J.A., "Dynamic Privacy Management in Pervasive Sensor Networks," in *Proc. of Ambient Intelligence (AmI) 2010*, Malaga, Spain, 25-29 October 2010, pp. 96-106.
- 57) \*Laibowitz, M., Gong, N-W., and Paradiso, J.A., "Multimedia Content Creation using Societal-Scale Ubiquitous Camera Networks and Human-Centric Wearable Sensing," in *Proc. of ACM Multimedia 2010*, Florence Italy, 25-29 October 2010, pp. 571-580.

- 58) \*Aldrich, M., Zhao, N., and Paradiso, J.A., “Energy Efficient Control of Polychromatic Solid-State Lighting Using a Sensor Network,” in *Proc. SPIE (OP10) 7784*, San Diego CA, August 1-5, 2010, 15 pages.
- 59) \*Gong, N-W., Laibowitz, M., and Paradiso, J.A., “Experiences and Challenges in Deploying Potentially Invasive Sensor Systems for Dynamic Media Applications,” in *Proc. of the Cloud-Mobile Convergence for Virtual Reality Workshop (CMCVR 2010)*, Waltham MA, March 20, 2010, pp. 18-21.
- 60) \*Mistree, B.F.T., and Paradiso, J.A., “ChainMail – A Configurable Multimodal Lining to Enable Sensate Surfaces and Interactive Objects,” in *Proc. of the Fourth International Conference on Tangible, Embedded, and Embodied Interaction, (TEI 2010)*, Cambridge MA, January 25-27, 2010, pp. 65-72.
- 61) \*Lapinski, M., Berkson, E., Gill, T., Reinold, M., and Paradiso, J.A., “A Distributed Wearable, Wireless Sensor System for Evaluating Professional Baseball Pitchers and Batters,” in *Proc. of the IEEE International Symposium on Wearable Computers (ISWC 2009)*, Linz, Austria, September 4-7, 2009, pp. 131-138.
- 62) \*Lifton, J. and Paradiso, J.A., “Dual Reality: Merging the Real and Virtual,” in *Proceedings of the First International ICST Conference on Facets of Virtual Environments (FaVE)*, Berlin, Germany, 27-29 July 2009, Springer LNICST 33, pp. 12-28.
- 63) \*Laibowitz, M., Gong, N-W., and Paradiso, J.A., “Wearable Sensing for Dynamic Management of Dense Ubiquitous Media,” in the *Proc. of the Sixth International Workshop on Wearable and Implantable Body Sensor Networks (BSN 2009)*, Berkeley, CA, June 3-5, 2009, pp. 3-8.
- 64) \*Gong, N.W., Laibowitz, M., and Paradiso, J.A., “MusicGrip: A Writing Instrument for Music Control,” in *Proceedings of NIME 2009*, Pittsburgh, PA, June 4-6, 2009, pp. 74-77.
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