Research
Events & Calendars
Resources
Reimbursement Information
Graduate
Undergraduate
People
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Password
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Links for Faculty

Gregory J. Gerling

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Degrees:
Ph.D, The University of Iowa

Biography:

Dr. Gerling joined the faculty in 2005. Before leaving to further pursue academia, Dr. Gerling was a software engineer with Motorola and had held short-term positions with Rockwell-Collins and NASA Ames Research Center. He is a member of the IEEE Robotics and Automation, Haptics, Computer, and Engineering in Medicine and Biology Societies, and the Human Factors and Ergonomics Society.

Research Interests:

- Haptics
- Computational neuroscience
- Human factors/ergonomics
- Human-machine interaction

Research Groups:

- Human Factors

Research Centers:

Representative Publications:

1. Lesniak, D.R., Marshall, K.L., Wellnitz, S.A., Jenkins, B.A., Baba, Y., Rasband, M.N., Gerling, G.J., and Lumpkin, E.A. (2014). Computation Identifies Structural Features that Govern Neuronal Firing Properties in Slowly Adapting Touch Receptors. *eLife, 3:e01448*.
2. Gerling, G.J., Rivest, I.I., Lesniak, D.R., Scanlon, J.R., and Wan, L. (2014). Validating a Population Model of Tactile Mechanotransduction of Slowly Adapting Type I Afferents at Levels of Skin Mechanics, Single-unit Response, and Psychophysics. *IEEE Transactions on Haptics, in press*.
3. Lesniak, D.R. and Gerling, G.J. (2014). Mimicking the End Organ Architecture of Slowly Adapting Type I Afferents May Increase the Durability of Artificial Touch Sensors. *Proceedings of the 2014 IEEE Haptic Interfaces for Virtual Environment and Teleoperator Systems, Houston, TX in press*.
4. Wang, Y., Marshall, K.L., Baba, Y., Gerling, G.J., Lumpkin, E.A. (2013). Hyperelastic material properties of mouse skin under compression. *PLoS ONE, 8(6): e67439*.
5. Kim, E.K., Sugg, K.B., Langhals, N.B., Lightbody, S.M., Baltrusaitis, M.E., Urbanchek, M.G., Cederna, P.S., Gerling, G.J. (2013). An Engineered Tactile Afferent Modulation Platform to Elicit Compound Sensory Nerve Action Potentials in Response to Force Magnitude. *Proceedings of the IEEE World Haptics Conference 2013, The 5th Joint Eurohaptics Conference and IEEE Haptics Symposium, Daejeon, South Korea,* pp. 241-230 *(* best paper)*.
6. Baumgart, L.A., Gerling, G.J., and Bass, E.J. (2010). Characterizing the range of simulated prostate abnormalities palpable by digital rectal examination. *Cancer Epidemiology, 34 (1),* 79-84.
7. Wang, N., Gerling, G.J., Moyer Childress, R., and Martin M.L. (2010). Quantifying palpation techniques in relation to performance in a clinical prostate exam. *IEEE Transactions on Information Technology in Biomedicine, 14(4):* 1088-97.

Other Activities:

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- Omega Rho
- INCOSE

- Sean Gallahan
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