CURRICULUM VITAE

Name: SANTOSH KUMAR	**Department:**COMPUTER SCIENCE

EDUCATION

DEGREES	DISCIPLINE	INSTITUTION	YEAR
Ph.D.	Computer Science and Engineering	The Ohio State University	2006
M.S.	Computer and Information Science	The Ohio State University	2002
B. Tech.	Computer Science and Engineering	Indian Institute of Technology (IIT), Varanasi	1998

EXPERIENCE

RANK/POSITION	DEPARTMENT/DIVISION	INSTITUTION/COMPANY/ORGANIZATION	PERIOD
Lillian & Morrie Moss Chair of Excellence in Computer Science	Computer Science	University of Memphis	2015 - present
Professor	Computer Science	University of Memphis	2015 - present
Associate Professor	Computer Science	University of Memphis	2011 - 2015
Assistant Professor	Computer Science	University of Memphis	2006-2011
SBC Presidential Fellow	Computer Science & Engg.	The Ohio State University	2006
GTA & GRA	Computer Science & Engg.	The Ohio State University	2000-2005
Software Engineer		Siemens Communications Software	1998-2000

HONORS/AWARDS

HONOR/AWARD	INSTITUTION/COMPANY/ORGANIZATION	YEAR
Scientific Board Member	NSF Engineering Research Center (ERC); ASSIST at NC State	2017
Independent Committee of Experts for PRISMS Program	National Institutes of Health (NIH)	2017
Government Accountability Office Experts Panel for IoT	National Academy of Science	2016
Lillian & Morrie Moss Chair of Excellence in Computer Science	University of Memphis	2015
Eye of the Tiger	University of Memphis Alumni Association	2014
Alumni Association Distinguished Research Award	University of Memphis	2013
CAS Distinguished Research Award	University of Memphis	2012
Faudree Professorship	University of Memphis	2011
Brilliant Ten (Top Ten Scientists in the U.S. under 38)	Popular Science Magazine	2010
First Tennessee Foundation Innovation Fellow	First Tennessee Foundation	2010
Early Career Research Award	College of Arts and Sciences	2008
SBC Presidential Fellowship	Ohio State University	2006
Second Prize at the OSU Business Plan Competition	Ohio State University	2001

TEACHING EXPERIENCE

SUBJECT	INSTITUTION
COMP 9000: Dissertation	University of Memphis
COMP 7996: Thesis	University of Memphis
COMP 7980: Masters Project	University of Memphis
COMP 8901: Independent Study	University of Memphis
COMP 7901/8901: Independent Study	University of Memphis
COMP 3825: Networking and Information Assurance	University of Memphis
COMP 4270/6270: Introduction to Operating Systems	University of Memphis
COMP 7313/8313: Network Design and Performance Analysis	University of Memphis
CSE 222: Development of Software Components	Ohio State University
CSE 221: Software Development Using Components	Ohio State University
CES100: Introduction to Computing Technology	Ohio State University

STUDENT ADVISING/MENTORING

CURRENT DEGREE	NAME	YEAR OF GRADUATION
B.S.	Timothy Henry	2008
M.S.	Maheshbabu Satharla	2010
M.S.	Bhagavathy Krishna	2010
M.S.	Animikh Ghosh	2010
M.S.	Somnath Mitra	2012
Ph.D.	Amin Ahsan Ali	2014
M.S.	Sudip Vhaduri	2014
B.S.	David Vanelli	2015
B.S.	Kyle Krone	2015
Ph.D.	Mahbubur Rahman	2016
Ph.D.	Hillol Sarker	2016
M.S.	Nusrat Nasrin	2017
Ph.D.	Syed Monowar Hossain	2017
Ph.D.	Rumanna Bari	2019
Ph.D.	Nazir Seleheen	2019
Ph.D.	Sayma Akhtar	2021
Ph.D.	Soujanya Chaterjee	2020
Ph.D.	Md. Azim Ullah	2022
Ph.D.	Md. Shiplu Hawlader	2023
Ph.D.	Alina Zaman	2023
Ph.D.	Rabin Banjade	2023
Ph.D.	Mithun Saha	2023
Ph.D.	Sameer Neupane	2024
Ph.D.	Hasan Mashrique	2024
Ph.D.	Somnath Mitra	2024

Books Published

James M. Rehg, Susan A. Murphy, and Santosh Kumar, *Mobile Health: Sensors, Analytic Methods, and Applications*, Springer, 2017. **[Downloaded 38,079 times in 2 years]**

W. Nilsen, E. Ertin, E. B. Heckler, S. Kumar, I. Lee, R. Mungaram, M. Pavel, J. M. Rehg, W. Riley, D. E. Rivera, and D. Spruijt-Metz. Modeling Opportunities in Cyber-Physical Systems. Book chapter in *Mobile Health: Sensors, Analytic Methods, and Applications* (eds. J. M. Rehg, S. A. Murphy, S. Kumar), Springer, pp. 443-453, 2017. **[Times Cited: 3]**

H. Sarker, K. Hovsepian, S. Chatterjee, I. Nahum-Shani, S. A. Murphy, B. Spring, E. Ertin, M. al'Absi, M. Nakajima, and S. Kumar. mDebugger: From Markers to Interventions: The Case of Just-in-time Stress Intervention. Book chapter in *Mobile Health: Sensors, Analytic Methods, and Applications* (eds. J. M. Rehg, S. A. Murphy, S. Kumar), Springer, pp. 411-433, 2017. **[Times Cited: 8]**

J. Gao, S. Baskar, D. Teng, M. al'Absi, S. Kumar, and E. Ertin. A New Direction for Biosensing: RF Sensors for Monitoring Cardio-Pulmonary Function. Book chapter in *Mobile Health: Sensors, Analytic Methods, and Applications* (eds. J. M. Rehg, S. A. Murphy, S. Kumar), Springer, pp. 289-312, 2017.

M. Rahman, N. Ali, R. Bari, N. Saleheen, M. al'Absi, E. Ertin, A. P. Kennedy, K. L. Preston, and S. Kumar. mDebugger: Assessing and Diagnosing the Fidelity and Yield of Mobile Sensor Data. Book chapter in *Mobile Health: Sensors, Analytic Methods, and Applications* (eds. J. M. Rehg, S. A. Murphy, S. Kumar), Springer, pp. 121-143, 2017.

Santosh Kumar, Mustafa al'Absi, J Gayle Beck, Emre, Ertin, Marcia S. Scott, "Behavioral Monitoring and Assessment via Mobile Sensing Technologies," *Behavioral Healthcare and Technology: Using Science-based Innovations to Transform Practice*, eds. Lisa Marsch, Sarah Lord, JasseDallery, Oxford Press, pp. 27-39, 2014 (ISBN: 9780199314027). **Times Cited: 7**

Tom Kamarck, Mustafa al'Absi, David Epstein, Emre Ertin, Stephen Intille, Gregory Kirk, Santosh Kumar, Kenzie Preston, Mark Rea, Marcia Scott, Vivek Shetty, Saul Shiffman, Dan Siewiorek, Asim Smailagic, Clem Stone, and Manju Venugopal," Book Chapter, to appear in *Handbook of Cardiovascular Behavioral Medicine*, eds. Waldstein, S., Katzel, L. & Kop, W.J. (45 pages)

Santosh Kumar and Lan Wang, "Ad Hoc and Sensor Networks," Book Chapter in Wiley Encyclopedia of Computer Science and Engineering (edited by Benjamin Wah), Vol. 1, pp. 24-32, 2009. (9 pages)

Ho Woo Lee and Santosh Kumar, "Queuing Theory," Book Chapter in Wiley Encyclopedia of Computer Science and Engineering (edited by Benjamin Wah), Vol. 4, pp. 2316-2328, 2009. (13 pages) **Times Cited: 72**

Santosh Kumar, Anish Arora, and Ten H. Lai, "Maximizing the Lifetime of an Always-On Wireless Sensor Network Application: A Case Study," Book Chapter in Wireless Sensor Networks (edited by Y. Li, M. Thai, and W. Wu), Chapter 11, pp 259-283, Springer, 2008. (25 pages)

Refereed Journal Publications

Christine Vinci, Aaron Haslam, Cho Y Lam, Santosh Kumar, David W Wetter, "The use of ambulatory assessment in smoking cessation," *Addictive Behaviors*, vol. 83:18-24, 2018. [h5-index: 52] **Times Cited: 3**

Bari, R., Adams, R. J., Rahman, M., Parsons, M., Buder, E., Marlin, B. M., & Kumar, S. (2018). Moment by Moment Conversation Detection Using Mobile Respiration Sensor. *Interactive, Mobile, Wearable, and Ubiquitous Technologies (IMWUT)*, also in *ACM UbiComp*, 2018. [h5-index: 52] (25 pages) **Times Cited: 3**

David Kotz, Carl A Gunter, Santosh Kumar, and Jonathan P Weiner, "Privacy and Security in Mobile Health: A Research Agenda," *IEEE Computer Magazine*, vol. 49(6):22-30, June 2016. [h5-index: 49] **Times Cited: 44**

Santosh Kumar, Gregory D Abowd, William T Abraham, Mustafa al'Absi, J Gayle Beck, Duen Horng Chau, Tyson Condie, David E Conroy, Emre Ertin, Deborah Estrin, Deepak Ganesan, Cho Lam, Benjamin Marlin, Clay B Marsh, Susan A Murphy, Inbal Nahum-Shani, Kevin Patrick, James M Rehg, Moushumi Sharmin, Vivek Shetty, Ida Sim, Bonnie Spring, Mani Srivastava, David W Wetter, "Center of excellence for mobile sensor data-to-knowledge (MD2K)," *Journal of American Medical Informatics Association (JAMIA),* vol. 22(6), pp. 1137-1142, 2015. (invited) [h5-index: 56] **Times Cited: 24**

Ashley P Kennedy, David H Epstein, Michelle L Jobes, Daniel Agage, Matthew Tyburski, Karran A Phillips, Amin Ahsan Ali, Rummana Bari, Syed Monowar Hossain, Karen Hovsepian, Md Mahbubur Rahman, Emre Ertin, Santosh Kumar, Kenzie L Preston,"Continuous in-the-field measurement of heart rate: Correlates of drug use, craving, stress, and mood in polydrug users," *Drug and Alcohol Dependence*, vol. 151, pp. 159-166, 2015. [h5-index: 54] **Times Cited: 20**

Z. Zhang, Z. Lu, P. Sinha, and S. Kumar, "Ensuring Predictable Contact Opportunity for Scalable Vehicular Internet Access on the Go," *IEEE/ACM Transactions on Networking*, vol. 23(3), pp. 768-781, 2015. [h5-index: 58] **Times Cited: 4**

S. Kumar, W. Nilsen, A. Abernethy, A. Atienza, K. Patrick, M. Pavel, W. T. Riley, A. Shar, B. Spring, D. Spruijt-Metz, D. Hedeker, V. Honavar, R. L. Kravitz, R. C. Lefebvre, D. C. Mohr, S. A. Murphy, C. Quinn, V. Shusterman, and D. Swendeman, "mHealth Evidence Workshop - Exploring Innovative Methods to Evaluate the Efficacy and Safety of

Mobile Health," *American Journal of Preventive Medicine*,45(2), pp. 228-236, 2013. [h5-index: 73] **Times Cited: 503** &nbs

M. Nakajima, M. al'Absi, S. Kumar, L. Wittmers, M. Scott, "Psychophysiological Responses to Stress Following Alcohol Intake in Social Drinkers Who Are at Risk of Hazardous Drinking," *Biological Psychology*, 93(1): 9-16, 2013. [h5-index: 44] [Highlighted in NIAAA Director's (Dr. Kobb) address to the National Advisory Council] **Times Cited: 8**

Santosh Kumar, Wendy Nilsen, Misha Pavel, and Mani Srivastava, "Mobile Health – Revolutionizing Health via Transdisciplinary Research," *IEEE Computer Magazine*, Cover Feature, vol. 46(1):28-35, Jan 2013. [h5-index: 49] Times Cited: 183

Bruce Schatz, Clay Marsh, Kevin Patrick, Santosh Kumar. David Gustafson, Jerry Krishnan, Noshir Contractor, "Research challenges in measuring data for population health to enable predictive modeling for improving healthcare," *ACM SIGHIT Record*, 2(2):36-41, Sep 2012. Times Cited: 7

Santanu Guha, Kurt Plarre, Daniel Lissner, Somnath Mitra, Bhagavathy Krishna, Prabal Dutta, and Santosh Kumar, "AutoWitness: Locating and Tracking Stolen Property while Tolerating GPS and Radio Outages," ACM Transactions on Sensor Networks (ToSN), vol. 9(4), pp. , Sep. 2012. (28 pages) [h5-index: 30] Times Cited: 79

Zizhan Zheng, Prasun Sinha, and Santosh Kumar, "Sparse WiFi Deployment for Vehicular Internet Access with Bounded Interconnection Gap ," IEEE/ACM Transactions on Networking (ToN), vol. 20(3), pp. 956-969, 2012. [h5-index: 58] Times Cited: 33

Santosh Kumar, Ten H. Lai, Marc E. Posner, and Prasun Sinha, "Maximizing the Lifetime of a Barrier of Wireless Sensors," IEEE Transactions on Mobile Computing (TMC), vol. 9, no. 8, pp 1161-1172, 2010.[h5-index: 68] Times Cited: 100

Ai Chen, Santosh Kumar, and Ten H. Lai "Local Barrier Coverage in Wireless Sensor Networks," IEEE Transactions on Mobile Computing (TMC), vol. 9(4), pp 491-504, 2010. [h5-index: 68] Times Cited: 146

Santosh Kumar, Ten H. Lai, and Jozsef Balogh, "On k-Coverage in a Network of Mostly Sleeping Sensors," ACM Wireless Networks (WINET), vol. 14, pp. 277-294, 2008. [h5-index: 31]

Santosh Kumar, Ten H. Lai, and Anish Arora, "Barrier Coverage With Wireless Sensors," ACM Wireless Networks (WINET), vol. 13, pp. 817-834, 2007. [h5-index: 31]

Refereed Conference Publications

Santosh Kumar, Gregory Abowd, William T Abraham, Mustafa Al'Absi, Duen Horng Chau, Emre Ertin, Deborah Estrin, Deepak Ganesan, Timothy Hnat, Syed Monowar Hossain, Zachary Ives, Jacqueline Kerr, Benjamin M Marlin, Susan Murphy, James M Rehg, Inbal Nahum-Shani, Vivek Shetty, Ida Sim, Bonnie Spring, Mani Srivastava, Dave Wetter, "Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)," IEEE Pervasive Computing, pp. 18-22, 2017. (invited) Times Cited: 8

S. M. Hossain, T. Hnat, N. J. Nasrin, J. Noor, B.-J. Ho, T. Condie, M. Srivastava, and S. Kumar. mCerebrum: A Mobile Sensing Software Platform for Development and Validation of Digital Biomarkers and Interventions. *ACM SenSys*, 2017. [h5-index: 32](14 pages) Times Cited: 4

B. Wagner, E. Liu, S. D. Shaw, G. Iakolev, L. Zhou, C. Harrington, G. Abowd, C. Yoon, S. Kumar, S. Murphy, B. Spring, and I. Nahum-Shani. eWrapper: Operationalizing Engagement Strategies in mHealth. *ACM UbiComp/IWSC Workshop on Mental Health and Wellbeing*, pp. 790-798, 2017. Times Cited: 2

M. Sharmin, T. Weber, H. Sarker, N. Saleheen, S. Kumar, S. Ahmed, and M. al'Absi. Opportunities and Challenges in Designing Participant-Centric Smoking Cessation Systems. *IEEE COMPSAC*, pp. 835-844, 2017. [h5-index: 23]

Nazir Saleheen, Supriyo Chakraborty, Nasir Ali, Md Mahbubur Rahman, Syed Monowar Hossain, Rummana Bari, Eugene Buder, Mani Srivastava, Santosh Kumar, "mSieve: differential behavioral privacy in time series of mobile sensor data," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 863-874, 2016. [h5-index: 52] Honorable Mention Times Cited: 11

Soujanya Chatterjee, Karen Hovsepian, Hillol Sarker, Nazir Saleheen, Mustafa al'Absi, Gowtham Atluri, Emre Ertin, Cho Lam, Andrine Lemieux, Motohiro Nakajima, Bonnie Spring, David W Wetter, Santosh Kumar, "mCrave: continuous estimation of craving during smoking cessation," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 863-874, 2016. [h5-index: 52] Times Cited: 3

Roy J Adams, Nazir Saleheen, Edison Thomaz, Abhinav Parate, Santosh Kumar, Benjamin Marlin, "Hierarchical Span-Based Conditional Random Fields for Labeling and Segmenting Events in Wearable Sensor Data Streams," *International Conference on Machine Learning (ICML)*, pp. 334-343, 2016. [h5-index: 76] Times Cited: 10

Hillol Sarker, Matthew Tybursk, Md Mahbubur Rahman, Karen Hovsepian, Moushumi Sharmin, David Epstein, Kenzie Preston, Kenzie Preston, Adam Milam, Inbal Nahum-Shani, Mustafa al'Absi, and Santosh Kumar, "Finding Significant Stress Episodes in a Discontinuous Time Series of Rapidly Varying Mobile Sensor Data," *ACM SIGCHI Conference on Human Factors in Computing Systems (ACM CHI)*, pp.4489-4501, 2016. (13 pages) [h5-index: 84] Times Cited: 36

Nazir Saleheen, Amin Ahsan Ali, Syed Monowar Hossain, Hillol Sarker, Soujanya Chatterjee, Benjamin Marlin, Emre Ertin, Mustafa al'Absi, Santosh Kumar, "puffMarker: A Multi-sensor Approach for Pinpointing the Timing of First Lapse in Smoking Cessation," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 999-1010, 2015. [h5-index: 52] Times Cited: 54

Karen Hovsepian, Mustafa al'Absi, Emre Ertin, Thomas Kamarck, Motohiro Nakajima, Santosh Kumar, "cStress: Towards A Gold Standard for Continuous Stress Assessment in the Mobile Environment," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 493-504, 2015. [h5-index: 52] Times Cited: 77

Moushumi Sharmin, Andrew Raij, David Epstien, Inbal Nahum-Shani, J Gayle Beck, Sudip Vhaduri, Kenzie Preston, Santosh Kumar, "Visualization of Time-series Sensor Data to Inform the Design of Just-in-time Adaptive Stress Interventions," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 505-516, 2015. [h5-index: 52] Times Cited: 19

H. Sarker, M. Sharmin, A. Ali, M. Rahman, R. Bari, M. Hossain, and S. Kumar, "Assessing the Availability of Users to Engage in Just-in-Time Intervention in the Natural Environment," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 909-920, 2014. [h5-index: 52] Times Cited: 45

M. Rahman, R. Bari, A. Ali, M. Sharmin, A. Raij, K. Hovsepian, M. Hossain, E. Ertin, A. Kennedy, D. Epstein, K. Preston, M. Jobes, S. Kedia, K. Ward, M. al'Absi, and S. Kumar, "Are We There Yet? Feasibility of Continuous Stress Assessment via Wireless Physiological Sensors," *ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB)*, pp. 479-488, 2014. [h5-index: 17] Times Cited: 31

S. Vhaduri, A. Ali, M. Sharmin, K. Hovsepian, and S. Kumar, "Estimating Drivers' Stress from GPS Traces," *International Conference on Automotive User Interfaces and Interactive Vehicular Applications (Automotive UI)*, pp. 1-8, 2014. [h5-index: 20] Times Cited: 13

M. Hossain, A. Ali, E. Ertin, D. Epstein, K. Preston, A. Umbricht, Y. Chen, and S. Kumar, "Identifying Drug (Cocaine) Intake Events from Acute Physiological Response in the Presence of Free-living Physical Activity," *IEEE/ACM Information Processing in Sensor Networks (ACM/IEEE IPSN)*, pp. 71-82, 2014. [h5-index: 30] Times Cited: 33

J. Gao, E. Ertin, S. Kumar, and M. al'Absi, "Contactless Sensing of Physiological Signals Using Wideband RF Probes," Asilomar Conference on Signals, Systems, and Computers, pp. 86-90, 2013. (invited) [h5-index: 27] Times Cited: 4

Amin Ahsan Ali, Monowar Hussain, Md. Mahbubur Rahman, Karen Hovsepian, Kurt Plarre, and Santosh Kumar, "mPuff: Automated Detection of Cigarette Smoking Puffs from Respiration Measurements," *IEEE/ACM Information Processing in Sensor Networks (ACM/IEEE IPSN)*, pp. 269-280, 2012. [h5-index: 30] Times Cited: 79

Md. Mahbubur Rahman, Amin Ahsan Ali, Kurt Plarre, Mustafa al'Absi, Emre Ertin, and Santosh Kumar, "mConverse: Inferring Conversation Episodes from Respiratory Measurements Collected in the Field," ACM Wireless Health, San Diego, CA. 2011.(Acceptance Rate = 30%) [h5-index: 13] (Nominated for Best Paper Award) Times Cited: 43

Mohamed Mustang, Andrew Raij, Deepak Ganesan, Santosh Kumar and Saul Shiffman, "Exploring Micro-Incentive Strategies for Participant Compensation in High Burden Studies," *ACM International Joint Conference on Pervasive and Ubiquitous Computing (ACM UbiComp)*, pp. 435-444, 2011. [h5-index: 52] Times Cited: 73

Emre Ertin, Nathan Stohs, Siddharth Shah, Somnath Mitra, Taewoo Kwon, Mustafa al'Absi, and Santosh Kumar, "StressWare: Unobtrusively Wearable Sensor Suite for Inferencing of Onset, Causality, and Consequences of Stress in the Natural Environment," ACM Conference on Embedded Networked Sensor Systems (SenSys), pp. 274-287, 2011. [h5-index: 30] Times Cited: 179

Kurt Plarre, Andrew Raij, Monowar Hussain, Amin Ahsan Ali, Mustafa al'Absi, Emre Ertin, Tom Kamarck, Santosh Kumar, Marcia Scott, Asim Smailagic, and Dan Siewiorek, "Continuous Inference of Psychological Stress from Sensory Measurements Collected in the Natural Environment," ACM Information Processing in Sensor Networks (IPSN), pp. 97-108, 2011. [h5-index: 30] (Nominated for Best Paper Award) Times Cited: 181
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Md. Mahbubur Rahman, Amin Ahsan Ali, Andrew Raij, Mustafa al'Absi, Emre Ertin, and Santosh Kumar, "Demo Abstract: Online Detection of Speaking from Respiratory Measurements Collected in the Natural Environment," ACM Information Processing in Sensor Networks (IPSN), pp. 137-138, 2011. [h5-index: 33] Times Cited: 2

Andrew Raij, Animikh Ghosh, Santosh Kumar, and Mani Srivastava, "Privacy Risks Emerging from the Adoption of Innocuous Wearable Sensors in the Mobile Environment," ACM Conference on Human Factors in Computing (CHI), pp. 11-20, 2011. [h5-index: 84] Times Cited: 112

Santanu Guha, Kurt Plarre, Daniel Lissner, Somnath Mitra, Bhagavathy Krishna, Prabal Dutta, and Santosh Kumar, "AutoWitness: Locating and Tracking Stolen Property while Tolerating GPS and Radio Outages," in Proceedings of 8th ACM Conference on Embedded Networked Sensor Systems (SenSys), pp. 29-42, 2010. [h5-index: 32] (Nominated for Best Paper Award) Times Cited: 79

Zizhan Zheng, Zhixue Lu, Prasun Sinha, and Santosh Kumar "Maximizing the Contact Opportunity for Vehicular Internet Access," In Proceedings of the 29th IEEE INFOCOM, pp. 1-9, 2010.[h5-index: 76] Times Cited: 108

N. Hua, A. Lall, J. Romberg, Jun Xu, M. al'Absi, E. Ertin, and S. Kumar, S. Suri, "Just-in-time Sampling and Pre-filtering for Wearable Physiological Sensors: Going from Days to Weeks of Operation on a Single Charge," ACM Wireless Health, pp. 54-63, 2010. [h5-index: 13] Times Cited: 3

Kurt Plarre, Andrew Raij, Santanu Guha, and S. Kumar, "Automated Detection of Sensor Detachments for Physiological Sensors in the Wild," ACM Wireless Health, pp. 216-217, 2010. [h5-index: 13] Times Cited: 8

Y. Shi, M.H. Nguyen, P. Blitz, B. French, S, Frisk, F. Torre, A. Smailagic, D. Siewiorek, M. al'Absi, T. Kamarck, S. Kumar, "Personalized Stress Detection from Physiological Measurements," International Symposium on Quality of Life Technology, 2010. (5 pages) Times Cited: 73

Paul Balister, Zizhan Zheng, and Prasun Sinha, "Trap Coverage: Allowing Coverage Holed of Bounded Diameter in Wireless Sensor Networks," In Proceedings of the 28th IEEE INFOCOM, pp. 136-144, 2009. [h5-index: 76] Times Cited: 102

Somnath Mitra, Zizhan Zheng, Santanu Guha, Animikh Ghosh, Prabal Dutta, Bhagavathy Krishna, Kurt Plarre, Santosh Kumar, and Prasun Sinha, "Demo Abstract: An Affordable, Long-lasting, and Autonomous Theft Detection and Tracking System," ACM Conference on Embedded Networked Sensor Systems (SenSys), pp. 351-352, 2009. [h5-index: 32] Times Cited: 7

Paul Balister and Santosh Kumar, "Random vs. Deterministic Deployment of Sensors in the Presence of Failures and Placement Errors," IEEE INFOCOM Miniconference, pp. 2896-2900, 2009. [h5-index: 76] Times Cited: 53

Zizhan Zheng, Prasun Sinha, and Santosh Kumar "Alpha Coverage: Bounding the Interconnection Gap for Vehicular Internet Access," IEEE INFOCOM Miniconference, pp. 2831-2835, 2009. [h5-index: 76] Times Cited: 79

Emre Ertin, Lorentz Wittmers, Mustafa al'Absi, and, Santosh Kumar, "A Distributed Algorithm for Real Time Analysis of Heart Rate Variability Using Low Power Wireless Monitors," Abstract in Computers in Cardiology, Park City, Utah, 2009. [h5-index: 11]

Paul Balister, Bela Bollobas, Amites Sarkar, and Santosh Kumar "Reliable Density Estimates for Achieving Coverage and Connectivity in Thin Strips of Finite Length," International Conference on Mobile Computing and Networking (ACM MobiCom), pp. 75-86, 2007. [h5-index: 49] Times Cited: 172

Ai Chen, Santosh Kumar, and Ten H. Lai "Designing Localized Algorithms for Barrier Coverage," International Conference on Mobile Computing and Networking (ACM MobiCom), pp. 63-74, 2007. [h5-index: 49] Times Cited: 289

Santosh Kumar, Ten H. Lai, Marc E. Posner, and Prasun Sinha "Optimal Sleep Wakeup Algorithms for Barriers of Wireless Sensors," International Conference on Broadband Communications, Networks, and Systems (IEEE BROADNETS), pp. 327-336, 2007. [h5-index: 17] Times Cited: 82

Xiaole Bai, Santosh Kumar, Ziqiu Yun, Dong Xuan, and Ten H. Lai, "Deploying Wireless Sensors to Achieve Both Coverage and Connectivity," International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc), pp.131-142, 2006. [h5-index: 26] Times Cited: 650

Santosh Kumar, Ten H. Lai, and Anish Arora, "Barrier Coverage With Wireless Sensors," International Conference on Mobile Computing and Networking (ACM MobiCom), pp. 284-298, 2005. [h5-index: 49] Times Cited: 799

Santosh Kumar, Anish Arora, and Ten H. Lai, "On the Lifetime Analysis of Always-On Wireless Sensor Network Applications," IEEE International Conference of Mobile and Ad Hoc Sensor Systems (MASS), 2005. (3 pages) [h5-index: 18] Times Cited: 68

Santosh Kumar, Ten H. Lai, and Jozsef Balogh, "On k-Coverage in a Mostly Sleeping Sensor Network," International Conference on Mobile Computing and Networking (ACM MobiCom), pp.144-158, 2004. [h5-index: 49] Times Cited: 822

Santosh Kumar, Bruce W. Weide, Paolo A. G. Sivilloti, Nigamanth Sridhar, Jason O. Hallstrom, and Scott M. Pike, "Encapsulating Concurrency as an Approach to Unification," Workshop on Specification and Verification of Component-Based Systems (SAVCBS) at ACM SIGSOFT/FSE, 2004. (8 pages) Times Cited: 4

Non-Refereed Publications

Holger Fröhlich, Rudi Balling, Niko Beerenwinkel, Oliver Kohlbacher, Santosh Kumar, Thomas Lengauer, Marloes H Maathuis, Yves Moreau, Susan A Murphy, Teresa M Przytycka, Michael Rebhan, Hannes Röst, Andreas Schuppert, Matthias Schwab, Rainer Spang, Daniel Stekhoven, Jimeng Sun, Andreas Weber, Daniel Ziemek, Blaz Zupan, "From hype to reality: data science enabling personalized medicine," *BMC Medicine*, vol. 16 (1), 2018. (15 pages) [h5-index: 89] Times Cited: 7

W. Nilsen, S. Kumar, A. Shar, C. Varoquiers, T. Wiley, W. Riley, M. Pavel, A. Atienza, "Advancing the Science of mHealth," *Journal of Health Communication*, vlo. 17, pp. 5-10, 2012. [h5-index: 38] Times Cited: 140

Andrew Raij, Patrick Blitz, Amin Ahsan Ali, Scott Fisk, Brian French, Somnath Mitra, Motohiro Nakajima, M Nuyen, Kurt Plarre, Mahbubur Rahman, Siddharth Shah, Yuan Shi, Nathan Stohs, Mustafa al'Absi, Emre Ertin, Thomas Kamarck, Santosh Kumar, Marcia Scott, Daniel Siewiorek, Asim Smailagic, "mStress: Supporting Continuous Collection of Objective and Subjective Measures of Psychosocial Stress on Mobile Devices," Technical Report No. CS-10-004, Department of Computer Science, University of Memphis, 2010. (10 pages) Times Cited: 20

Santosh Kumar, Mani B. Srivastava, Mustafa al'Absi, J. Gayle Beck, Anind K. Dey, David Epstein, Emre Ertin, Deepak Ganesan, Greg Pottie, Kenzie Preston, Justin Romberg, and Jun Xu, "Challenges: Using Personal Sensor Networks for Scientific Behavioral Studies in the Wild," Technical Report No. CS-10-003, University of Memphis, 2010. (8 pages)

Anish Arora, Rajiv Ramnath, Emre Ertin, Prasun Sinha, Sansip Bapat, Vinayak Naik, Vinod Kulathumani, Hongwei Zhang, Hui Cao, Mukundan Sridharan, Santosh Kumar, et. al., "ExScal: Elements of an Extreme Scale Wireless Sensor Network," IEEE International Conference on Embedded and Real Time Computing Systems and Applications (IEEE RTCSA) 2005,pp. 102-108, 2005. (Invited) [h5-index: 16] Times Cited: 388

Presentations - Conference (refereed *)

"Dynamic Patient Re-stratification Using Mobile Sensors," Keynote Speech at Dagstuhl Seminar on Computational Challenges in Personalized Medicine, Dagstuhl, Germany, 11/20/2017.

"Mobile Sensor Big Data Challenges in Monitoring and Improving Health, Wellness, and Performance," Keynote Speech at Affective Computing and Intelligent Interaction Workshop on Mental Health and Wellbeing, Pain, and Distress, 10/23/2017. (Host: Drs. Rosalind Picard and Akane Sano, MIT)

"Using Mobile Sensors to Self-Monitor and Improve Health, Wellness, and Performance," Keynote Speech at ACM MobiSys Workshop on Wearable Systems and Applications (WearSys), 6/19/2017.

"Emerging Research Challenges – A Perspective from MD2K Center of Excellence," BDSouthHUB Workshop on Mobile Health, 5/15/2017.

"How Big Data on Your Body Can Improve Your Health, Wellness, and Performance," Plenary Lecture at the National Conference on Undergraduate Research, 4/7/2017.

"Individualized Mobile Health and Real-life Biosensor Technology within the CTN," Annual Meeting of NIDA Clinical Trials Network, 3/24/2017.

"Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)," SIM Strategy Series Executive Conference, 9/28/2016.

"Perils and Promise of mHealth Big Data," Scripps Translational Science Institute Conference on Evidence Driven mHealth, 10/2/2015.

"Towards Sensor-triggered Mobile Health Interventions," Keynote Speech, Annual Meeting of the Society for Ambulatory Assessment, 6/26/2015. (Host: Dr. Joshua Smyth)

"Sensor-triggered Just-in-time (JIT) Mobile Health Interventions – A Transdisciplinary Research Opportunity," OBSSR 20th Anniversary Celebrations, NIH, 6/25/2015. (Host: Dr. William Riley)

"Is the User Ready to Receive A Sensor-triggered Just-in-time Mobile Health Intervention?," Annual Meeting of the Society for Behavioral Medicine (SBM), 4/24/2015.

"Continuous Measurement of Stress – What Makes Driving Stressful?," Annual Meeting of the Society for Behavioral Medicine (SBM), 4/23/2015.

"Addressing Addictive Behaviors Using Sensor-Triggered Just-in-Time Mobile Health Interventions," Keynote Speech, NIDA Clinical Trials Network, Gaithersburg (MD), 4/16/2015.

"Designing Sensor-Triggered Just-in-Time Interventions," Keynote Speech, 14th Annual UT/KBRIN Bioinformatics Summit, Buchanan (TN), 3/21/2015.

"Measuring Stress & Addictive Behaviors Using Mobile Physiological Sensors," ENAR Meeting, Miami, 3/16/2015.

"Testing the Devices: Using the Cohort to Assess Efficacy," NIH Precision Medicine Workshop, NIH Campus, 2/12/2015.

"Sensor Triggered Just-in-Time Mobile Health Interventions – Opportunities& Challenges," Dartmouth College, January 2015. (Host: Dr. David Kotz)

"Computing Grand Challenges in Future Mobile Health Systems and Applications – Introduction & Chair's Address," NIH Campus, October 2014.

"mHealth – Cardiovascular Health Scenarios," ACM SIGKDD Workshop on Bigdata Opportunities & Challenges in Mobile Health, New York City, August 2014. (Hosts: Dr. Wendy Nilsen, Dr. Richard Conroy, Dr. Mary Rodgers, NIH)

"Cyber Physical Systems Models for Just-in-Time Care Delivery with Mobile Health Sensors," Mini-symposium #19, 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Chicago, August 2014. (Host: Dr. David Corman, NSF)

"Inferring Stress and Addictive Behaviors Using Mobile Sensors," Mini-symposium #41, 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Chicago, August 2014. (Host: Dr. Rich Fletcher, MIT)

"Computational Modeling for Automated Detection of Cocaine Use from ECG Response," Annual Meeting of the Society for Behavioral Medicine (SBM), Panel#16, Philadelphia, PA, April 2014. (Host: Dr. Rich Fletcher, MIT)

"Identifying Drug (Cocaine) Intake Events from Acute Physiological Response in the Presence of Free-living Physical Activity," ACM IPSN, Berlin, Germany, April 2014.

"Behavior Assessment with Mobile Sensors," NIH mHealth Training Institute, mHealth Summit, Dec 2013.

"Just-in-Time mHealth Intervention with Physiological Sensors," First International Symposium on Computational Behavioral Science, Kanagawa, Japan. Sep 2013

"The Future of Health IT for Behavioral Health – Biosensors," White House Speech at the Technology Innovations for Substance Abuse and Mental Health Treatment Conference. Sep2013

"Realizing Just-in-time mHealth Intervention via Mobile Assessment of Health, Behavior and Context – Opportunities and Challenges," Keynote Speech at the 6th Scientific Meeting of the International Society for Research on Internet Interventions (ISRII), May 2013

"Mobile Measurement of Behavioral and Social Health at Population Scale – Implications for Computing Research," Keynote Speech at the 10th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing and 15th IEEE International Conference on Computational Science and Engineering, Paphos, Cyprus, 12/5/2012

"mPuff: Automated Detection of Cigarette Smoking Puffs from Respiration Measurements," ACM/IEEE IPSN Conference, Beijing, China, 04/19/2012

"Mobile Measurement of Behavioral and Social Health at Population Scale – Implications for Computing Research," Keynote Speech at the 2nd Mobile Sensing Workshop, IEEE/ACM Information Processing in Sensor Networks (IPSN) Conference, Beijing, China, 04/16/2012

"Automated Assessment of Naturally Occurring Conversations," Symposium 17: Device-Enabled Measurement of Health Behaviors in Real-time (SY17), Annual Meeting of Society for Behavioral Medicine (SBM), New Orleans, 04/12/2012

"Measurement of Behavioral and Social Health at Population Scale," NSF Workshop on Measuring Population Health, Washington, D.C., 01/12/2012

"mHealth Evidence Workshop: Evaluating the Efficacy and Safety of Mobile Health," mHealth Summit, Washington, D.C., 12/06/2011.

"mHealth Evidence Workshop - Exploring Innovative Methods to Evaluate Efficacy and Safety of Mobile Health," Chair's Address, mHealth Evidence Workshop, Washington D.C., 8/16/2011.

"Scaling Personal Stress Assistance in Natural Environment," National Science Foundation Workshop on Pervasive Computing at Scale, Seattle, WA, 1/27/2011.

Integration of novel methods to assess effects of stress and alcohol use," *Annual Meeting of the Society for Prevention Research (SPR)*, Denver, CO, June 2010.

Integration of novel methods to assess effects of stress and alcohol use," *Annual Convention of the American Psychosomatic Society Meeting*, Portland, OR, March 2010.

"AutoSense: A Wireless Sensor System to Quantify Psychosocial Stress and Alcohol in Natural Environments," *New Frontiers in Measurement: Phenotypes, Endophenotypes, and Envirotypes for Genetic and Behavioral Studies of Nicotine Dependence*, at the Annual Conference of the *Society for Research on Nicotine and Tobacco (SRNT)*, Feb 2010.

"AutoSense: A Wireless Sensor System to Quantify Personal Exposures to Psychosocial Stress and Alcohol in Natural Environments," International Society for Exposure Sciences (ISES), Minneapolis, MN, 11/05/2009.

"Stress and Addiction: Integration of Novel Assessment Methods," within the Symposium titled '*Gene-Environment Interplay in Stress and Health: Network on Exposure to Psychosocial Stress and Addictive Substances*', Annual Convention of the Association for Psychological Sciences. San Francisco, CA, 05/22/2009.

"Enabling Physical, Emotional, and Social Well-Being Through Personalized Sensing in Natural Environments," National Science Foundation Workshop on Future Directions in Networked Sensing: Fundamentals and Applications, Arlington, VA, 11/12/2009.

"Trap Coverage: Allowing Coverage Holed of Bounded Diameter in Wireless Sensor Networks," IEEE INFOCOM, Rio De Janeiro, Brazil, 04/21/2009.

"Random vs. Deterministic Deployment of Sensors in the Presence of Failures and Placement Errors," IEEE INFOCOM, Rio De Janeiro, Brazil, 04/20/2009.

"Coverage and Connectivity in Wireless Networks: the Journey from Percolation to Reliable Density Estimates", First Workshop on the Theory of Ad-Hoc and Sensor Networks (ThASN) (in conjunction with IEEE MASS conference), 9/29/2008.

"Optimal Sleep Wakeup Algorithms for Barriers of Wireless Sensors," IEEE BROADNETS, Raleigh, NC, 2007.

"On k-Coverage in a Mostly Sleeping Sensor Network," ACM MobiCom, Philadelphia, PA, 2004.

Presentations - Universities/Industry (refereed *)

“Towards Sensor-assisted Stress Management,” Cognitive Science Seminar, University of Memphis, 10/31/2018.

“Mobile Sensor Big Data Software Platforms from MD2K,” mHealth Tech Showcase, NIH, 06/04/2018.

“Temporally Dense Biomarkers of Daily Behaviors from Mobile Sensors,” Brain Behavior Meeting by OBSSR, NIH, 04/08/2018.

“A Historical Perspective on the Evolution of MD2K Center of Excellence,” Grant Writing Course (in College of Education), University of Memphis, 1/24/2018.

“Mobile Sensor Big Data Challenges in Health, Wellness, and Productivity,” University of Utah, 11/06/2017. (Host: Dr. Ross Whitaker)

“Mobile Sensor Big Data Challenges in Monitoring and Improving Health, Wellness, and Performance,” University of Iowa, 09/28/2017. (Host: Dr. Guadalupe Canahuate)

“Collecting High-frequency Mobile Sensor Data for Long-lasting Research Utility,” Science of Behavior Change Program (SOBC), NIH, 09/25/2017.

“Utility of Collecting High-frequency Mobile Sensor Data in Health Research,” Steering Committee meeting of the Multi-ethnic Study of Atherosclerosis (MESA), NHLBI, NIH, 9/08/2017.

“Mobile Sensor Data-to-Knowledge (MD2K): Lessons Learned on Data Collection, Modeling, and Validation,” Health Data Exploration Summer Institute (HDESI), UC San Diego, 7/19/2017.

“Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K),” Center for Drug Use and HIV Research, New York University, 4/4/2017. (Host: Dr. Noelle Leonard)

"Biobank for mHealth: Collecting High-frequency Mobile Sensor Data for Long-lasting Research Utility," OBSSR Director's Seminar Series, 11/15/2016. (Host: Dr. William Riley)

"Promise and Potential of Mobile Sensor Data-to-Knowledge (MD2K)," BDSouthHUB (NSF), 11/3/2016.

"Promise and Potential of Mobile Sensor Data-to-Knowledge (MD2K)," Biological Sciences, University of Memphis, 10/20/2016.

"Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)," University of Memphis General Faculty Meeting, 8/18/2016.

"Development and Validation of Biomarkers from Mobile Sensor Data," Health Data Exploration Institute, UC San Diego, 07/12/2016.

"Biomarkers of Health Behaviors from Wearable Wireless Sensors," mHealth Training Institute, UCLA, 08/09/2016.

"Promise and Potential of Mobile Sensor Data-to-Knowledge (MD2K)," Florida Atlantic University, 5/19/2016. (Host: Prof. Jason Hallstrom)

"Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)," Memphis Area Psychological Association, 12/10/2015.

"Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)," Health Journal Club, College of Business, University of Memphis, 10/28/2015.

"Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)," Mayo Clinic Individualized Medicine Conference, 9/23/2015.

"Mobile Sensor Big Data Challenges in Realizing Precision Medicine," Microsoft Corporation, 9/1/2015. (Host: Dr. Harry, Shum, Senior VP and CTO)

"Incorporating Mobile Exposure in mHealth Precision Medicine," NIEHS Exposome Webinar Series, 8/4/2015. (Host: Dr. David Balshaw)

"Mobile Health (mHealth) Platforms for the Era of Precision Medicine," Intel Corporation, 6/30/2015. (Host: Dr. Arindam Saha)

"A Computer Scientist's Journey in mHealth," Keynote Speech, Smart and Connected Health Aspiring PI Meeting, National Science Foundation (NSF), 6/29/2015. (Host: Dr. Thurmon Lockhart)

"Detecting Cocaine Use from Wireless ECG Worn in Field Studies," NIDA Webinar, 5/21/2015. (Host; Dr. Betty Tai)

"Improving the Temporal Precision of Precision Medicine via Mobile Health," iDASH Webinar, UC San Diego, 5/15/2015. (Host: Dr. Lucila Ohno-Machado)

"Improving the Temporal Precision of Precision Medicine via Mobile Health," St. Jude's Children Research Hospital, 5/4/2015. (Host: Dr. Greg Armstrong)

"Designing Sensor-triggered Just-in-time Mobile Health Interventions," Wayne State University, 4/21/2015. (Host: Dr. Weisong Shi)

"Sensor Triggered Just-in-Time Mobile Health Interventions – Opportunities& Challenges," University of Michigan, January 2015. (Host: Dr. Susan Murphy)

"Continuous Measurement of Stress in the Mobile Environment via Wireless Physiological Sensors," NIH Annual Meeting of the Science of Behavior Change (SOBC), June 2014. (Host: Dr, Jonathan King, NIA, NIH)

"State-of-the-Science in Mobile Health," American Association for Advancement in Science (AAAS) Workshop on mHealth and Law, June 2014. (Host: Dr. Mark Frankel, AAAS)

“Predicting Smoking Abstinence via Mobile Monitoring of Stress and Social Context,” NIH OppNet Sleep & Stress Meeting, May 2014. (Hosts: Dr. Rosalind King & Dr. Catherine Stoney, NIH)

“Computational Modeling of Human Behaviors from Mobile Sensors,” Marquette University, April 2014 (Host: Dr. Sheikh Iqbal Ahamed)

“Realizing the Vision of P5 Medicine via Mobile Health – Application to Cardiac Care,” UCLA mHealth Symposium, jointly organized by UCLA Medical School, CTSI, and Bioengineering, March 2014. (Host: Dr. Vivek Shetty)

“Computational Modeling of Behaviors from Mobile Sensors: A Case Study of Modeling Cocaine Use Response in ECG,” NIDA Intramural Research Program, NIH, Feb 2014. (Host: Dr. Kenzie Preston)

“Computational Modeling of Behaviors from Mobile Measurement of Physiology,” Duke Medical School, Dec 2013. (Host: Dr. Bernard Fuemmeler)

“Computational Modeling of Behaviors from Mobile Measurement of Physiology,” Distinguished Lecture Series, Computer Science & Engineering, UC San Diego, Dec 2013.

“Understanding Data Yield in Mobile Health User Studies with Wearable Sensors,” The Ohio State University, Oct 11, 2013.

“Assessment of Behavioral Health with Physiological Sensors,” Mobile Data Repository and Analysis Platforms, iDASH Meeting, UC San Diego. Sep2013

“Revolutionizing Healthcare via Democratization of Mobile Health – An Agenda for Computing Research,” University of Texas, Arlington, Feb 2013. (Host: Prof. Sajal Das)

“Revolutionizing Healthcare via Democratization of Mobile Health – An Agenda for Computing Research,” Washington University in St. Louis, Feb 2013. (Host: Prof. Chenyang Lu)

“Measurement of Behavioral and Social Health at Population Scale,” Auburn University, 9/30/2012 (Host: Prof. Prathima Agrawal)

“Measurement of Behavioral and Social Health at Population Scale,” University of Illinois at Urbana Champaign (UIUC), 9/13/2012 (Host: Prof. Bruce Schatz)

“Measurement of Behavioral and Social Health at Population Scale,” Dartmouth College, 05/23/2012 (Host: Prof. David Kotz)

“Measurement of Behavioral and Social Health at Population Scale,” mHealth Extravaganza Lecture Series, National Institutes of Health (NIH), 05/03/2012 (Host: Dr. Wendy Nilsen, OBSSR)

“Measurement of Behavioral and Social Health at Population Scale,” Electrical Engineering and Computer Engineering, 03/20/2012 (Host: Prof. Chrysanthe Preza)

“Measurement of Behavioral and Social Health at Population Scale,” Georgia Institute of Technology, 03/07/2012 (Host: Prof. Jim Regh)

“Measurement of Behavioral and Social Health at Population Scale,” Biomedical Engineering, 01/27/2012 (Host: Prof. Erno Lindner)

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," University of California, Los Angeles, 11/4/2011.

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," University of Washington, 10/31/2011.

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," University of California, San Diego, 10/11/2011.

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," University of Pennsylvania, 10/19/2011.

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," Washington University in St. Louis, 09/30/2011.

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," Duke University, 04/13/2011.

"Addressing Stress and Addictive Behavior in the Natural Environment Using AutoSense," The Ohio state University, 10/28/2010.

"Wireless Sensor Networks: A New Revolution in Computing Coming Your Way," National Institute of Technology, Jamshedpur, India, 5/26/2009.

"AutoSense: A Wireless Sensor System to Quantify Psychosocial Stress and Alcohol in Natural Environments," National Institute on Alcohol Abuse and Alcoholosim (NIAAA), National Institutes of Health (NIH), 1/12/2009.

"Optimal Sleep Wakeup Algorithms for Barriers of Wireless Sensors," Invited (live video) Lecture to a joint course of Ohio State University and University of Cincinnati, 10/15/2007.

"Coverage and Connectivity in Wireless Networks: the Journey from Percolation to Reliable Density Estimates", Clemson University, 11/9/2007.

"Coverage and Connectivity in Wireless Networks: the Journey from Percolation to Reliable Density Estimates", Georgia Institute of Technology, 10/17/2007.

"Barrier Coverage With Wireless Sensors," University of Memphis, 2/24/2006.

SUPPORT

(External)

ACTIVITY	AGENCY/SOURCE	AMOUNT	PERIOD
CRI: CI: EN: Collaborative Research: mResearch: A Platform for Reproducible and Extensible Mobile Sensor Big Data Research (PI)	National Science Foundation (NSF)	$1.75 million	2018-2021
"Using Mobile Sensors to Predict Opioid Use in Patients with Sickle Cell Disease" Supplement to Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K) (PI)	National Institutes of Health (NIH)	$313k	2018-2019
Novel Use of mHealth Data to Identify States of Vulnerability and Receptivitiy to JITAI's	National Institutes of Health (NIH)/ University of Michigan	$347k	2018-2022
Affective Science and Smoking Cessation: Real Time World Assessment	National Institutes of Health (NIH)/ University of Utah	$460k	2018-2023
mPerf: A Theory-driven Approach to Model and Predict Everyday Job Performance Using Mobile Sensors (PI)	Intelligence Advanced Research Projects Agency (IARPA)	$13.8 million	2017-2018
SCH: INT: Collaborative Research: Enhancing Context-Awareness and Personalization for Intensively Adaptive Smoking Cessation Messaging Interventions (Co-PI)	National Science Foundation (NSF)	$196k	2017-2020
Open mHealth: Community-Based Data and Metada Standards for Mobile Health	National Institutes of Health (NIH)	$138k	2017-2020
Applying Novel Technologies and Methods to Inform the Ontology of Self-Regulation	National Institutes of Health	$79k	2017-2018
CIF21 DIBBS: EI: mProv: Provenance-based Data Analytics Cyberinfrastructure for High-Frequency Mobile Sensor Data; Role: PI	National Science Foundation (NSF)	$4 million	2016-2021

Applying mHealth to Tobacco-related Health Disparities: Enhancing aspects of Resiliency to aid Cessation Efforts; Role: subcontract PI	National Institutes of Health (NIH)	$106,847	2017-2020
Administrative Supplement to MD2K (1U54EB020404) "Combining Genomics and Mobile Data Around Physical Activity": Role: PI	National Institutes of Health (NIH)	$50,293	2016-2017
Toward Detecting Cocaine Use using Smartwatches in the NIDA Clinical Trials Network; Role: Co-PI	National Institutes of Health (NIH)	$112,256	2016-2018
Eliminating Tobacco-Related Disparities among African American Smokers (R01); Role: Co-investigator	National Institutes of Health (NIH)	$847,984	2016-2020
"Count Everything" Supplement to MD2K; Role: PI	National Institutes of Health (NIH)	$97k	2016-2017
Socioeconomic Status, Stress and Smoking Cessation (R01); Role: Co-investigator	National Institutes of Health (NIH)	$806k	2015-2020
ROBAS: A Multimodal Sensor System for Remote Assessment of Oral Health Behaviors (R01); Role: Co-Investigator	National Institutes of Health (NIH)	$500k	2015-2020
Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K); Role: PI, Center Director	National Institutes of Health (NIH)	$10.8 million	2014-2018
National Workshop on Computing Challenges in Future Mobile Health (mHealth) Systems and Applications; Role: PI	National Science Foundation (NSF)	$50k	2014-2017
Predicting Smoking Abstinence via Mobile Monitoring of Stress and Social Context (R01); Role: PI	National Institutes of Health (NIH)	$1.3 million	2012-2017
SHB: Type 1 (EXP): Collaborative Research: EasySense: Contact-less Physiological Sensing in the Mobile Environment Using Compressive Radio Frequency Probes; Role: PI	National Science Foundation (NSF)	$600k	2012-2017
CSR: Large: Collaborative Research: Enabling Privacy-Utility Trade-offs in Pervasive Computing Systems; Role: Co-PI	National Science Foundation (NSF)	$95k	2012-2015
mHealth Evidence National Meeting; Role: PI	McKesson Foundation	$25k	2011-2012
mHealth Evidence National Meeting; Role: PI	Robert Wood Johnson Foundation	$25k	2011-2012
First Tennessee Foundation Innovation Fellowship; Role: PI	First Tennessee Foundation	$24k	2010-2011
Alcohol Measurements in AutoSense: From Days to the Field; Role: PI	National Institutes of Health (NIH)	$173k	2010-2011
Making AutoSense robust for Everyday Wearing: A Field Test in Illicit Drug Users; Role: PI	National Institutes of Health (NIH)	$132k	2010-2011
NetSE Large: FieldStream: Network Data Services for Exposure Biology Studies in Natural Environments; Role: PI	National Science Foundation (NSF)	$2.7 million	2009-2013
Personalized Stress Inferencing in AutoSense; Role: PI	National Institutes of Health (NIH)	$238k	2009-2010
REU for Doing More with Less: Tracking Movements Using a Sparse Sensor Network; Role: PI	National Science Foundation (NSF)	$16k	2009-2010
Automated Wireless Measurement of Pulse Wave Velocity in AutoSense; Role: PI	National Institutes of Health (NIH)	$68k	2008-2009
REU for Doing More with Less: Tracking Movements Using a Sparse Sensor Network; Role: PI	National Science Foundation (NSF)	$12k	2008-2010
AutoSense: Quantifying Personal Exposures to Addictive Substances and Psychosocial Stress; Role: PI	National Institutes of Health (NIH)	$1.7 million	2007-2011
NeTS-NOSS: Collaborative Research: Doing More with Less: Tracking Movements Using a Sparse Sensor Network; Role: PI	National Science Foundation (NSF)	$500k	2007-2010
		$350k	

Foundations of Coverage and Connectivity for Wireless Sensor Networks Deployed in Thin Strips; Role: PI	National Science Foundation (NSF)		2007-2010

Internal Support

ACTIVITY	AGENCY/SOURCE	AMOUNT	PERIOD
AutoWitness: Detecting and Tracking Burglars Using a Sparse Wireless Sensor Network; Role: PI	Fedex Institute of Technology (FIT), Univ. of Memphis	$385,965	2008-2011
TAF (SIST) Grant; Role: PI	Advanced Learning Center	$10,000	2007-2008
New Faculty Startup Fund; Role: PI	University of Memphis	$70,000	2006-2008

SERVICE

UNIVERSITY	COMMITTEE/ACTIVITY	PERIOD
University of Memphis	University Research Council	2018 - present
University of Memphis	University Schools	2018 - present
University of Memphis	CS Faculty Search Committee	2015 - present
University of Memphis	CS Graduate Admissions Committee	2013 - 2018
University of Memphis	CS Research Day	2014 - 2016
University of Memphis	Provost Search Committee	2014-15
University of Memphis	Research Services Implementation Committee	2013
University of Memphis	Computer Science Graduate Program Committee	2009 - 2013
University of Memphis	University wide STEM Committee	2009 - 2011
University of Memphis	Computer Science GOALS Committee	2007 - 2015
University of Memphis	Computer Science Colloquium Committee	08/21/2006 - 2009
University of Memphis	Computer Science Undergraduate Curriculum Committee (observer)	2006-2007

OTHER

SOCIETY/ORGANIZATION/JOURNAL	COMMITTEE/EDITORIAL BOARD/OFFICE	PERIOD
Nature Digital Medicine	Associate Editor	2017 - present
Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)	Associate Editor	2016 - present
ACM UbiComp	Technical Program Commitee	2015 - present
ACM MobiSys	Technical Program Committee	2017
NSF National Workshop on Computing Challenges in Future Mobile Health (mHealth) Systems and Applications	Program & Organization Committee [C]	2014
American Association for the Advancement of Science (AAAS)	Advisor for National Study on mHealth and Law	2014-15
Otsuka America Pharmaceutical, Inc.	Advisory Board Member	2014-19
ACM BCB	Technical Program Committee [C]	2014
NIH mHealth Training Institute	Organizing Committee & Core Faculty	2012-present
ACM Wireless Health	Technical Program Committee	2011-present
Pervasive Health	Technical Program Committee	2013-present
ACM MobiHealth	Technical Program Committee	2013-present
NIH, NSF, RWJF, McKesson Foundation	mHealth Evidence National Meeting [C]	2011
IEEE PerCom	Technical Program Committee	2012
NetHealth Workshop	Technical Program Committee [C]	2012
ACM mHealthSys Workshop	Technical Program Committee [C]	2011
ACM IPSN	Technical Program Committee	2011

IEEE ICCCN	Technical Program Committee [C]	2010
IEEE INFOCOM	Technical Program Committee	2008-present
IEEE ICDCS	Technical Program Committee	2008, 2010
IEEE SECON	Technical Program Committee	2010-present
IEEE MASS	Technical Program Committee	2009-present
IEEE ICCCN	Technical Program Committee	2008-present
IEEE ICPP	Technical Program Committee	2008
IEEE BROADNETS	Technical Program Committee	2007-2009
ICDCN	Technical Program Committee	2009-present
ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC) with ACM MobiHoc	Technical Program Committee	2008-2009
ACM International Workshop on Medical-Grade Wireless Networks (WiMD) with ACM MobiHoc	Technical Program Committee	2009
ACM Symposium on Applied Computing	Technical Program Committee	2007-2009
Second International Conference on Mobile Ad Hoc and Sensor Networks (MSN)	Technical Program Committee	2006, 2008
International Symposium on Stabilization, Safety, and Security of Distributed System (SSS)	Technical program Committee	2009
International Conference on Wireless Algorithms, Systems and Applications (WASA)	Technical Program Committee	2008
International Symposium on Innovations and Real-time Applications of Distributed Sensor Networks (IRA-DSN)	Technical program Committee	2009
Sixth IFIP International Conference on Networking	Technical Program Committee	2007
Sixteenth World Wide Web Cnference (WWW)	Technical Program Committee	2007
Third ACIS International Workshop on Self-Assembling Wireless Networks (SAWN2007)	Technical Program Committee	2007
IEEE/ACM Transactions on Networking	External Reviewer	2006-
IEEE/ACM Transactions on Mobile Computing	External Reviewer	2006-
IEEE/ACM Transactions on Sensor Networks	External Reviewer	2006-
IEEE Transactions on Parallel and Distributed Systems	External Reviewer	2006-
IEEE Transactions on Wireless Communications	External Reviewer	2008-
IEEE Transactions on Computers	External Reviewer	2008-
IEEE Transactions on Information Theory	External Reviewer	2009 -
ACM Journal of Wireless Networks	External Reviewer	2006-
ACM Transactions on Autonomous and Adaptive Systems	External Reviewer	2007-
Elsevier Ad Hoc Networks Journal	External Reviewer	2006-
Elsevier Journal of Computer Networks	External Reviewer	2007-
Elsevier Journal of Parallel and Distributed Computing	External Reviewer	2006-
EURASIP Journal on Advances in Signal Processing	External Reviewer	2007-
Interscience Wireless Communications and Mobile Computing Journal	External Reviewer	2007-
Journal of Parallel and Distributed Systems	External Reviewer	2006-
International Journal of Wireless and Mobile Computing	External Reviewer	2006-
IEEE Communications Letters	External Reviewer	2007-
Journal of Computer Science and Technology, China	External Reviewer	2007-
ACM MobiHoc	External Reviewer	2008-2009
IEEE Wireless Communications and Networking Conference (WCNC)	External Reviewer	2006-2007
IEEE International Conference on Pervasive Computing and Communications (PerCom)	External Reviewer	2006

Wiley Handbook of Computer Networks	External Reviewer	2006
Symposium on Agents and Multi Agent Systems	External Reviewer	2006

Appendix A

Academic Year (please indicate year)	**Course #**	**Course Name**	**Credit Hours**	**Percent Taught**	**Enroll**	**Labratory Supervised (S)/Instructed(I)**	**New Preparation (Y) /(N)**
2018	COMP 9000	Dissertation	3	100	6	N	N
2018	EECE 9000	Dissertation	1	100	2	N	N
2018	Thesis	COMP 7996	3	100	1	N	N
2018	COMP 8901	Independent Studies	3	100	8	N	N
2018	COMP 7980	Master's Project	3	100	1	N	N
2017	COMP 9000	Dissertation	3	100	6	N	N
2017	COMP 8901	Independent Studies	3	100	9	N	N
2017	COMP 7980	Masters Project	3	100	1	N	N
2016	COMP 9000	Dissertation	3	100	6	N	N
2016	COMP 8901	Independent Studies	3	100	5	N	N
2016	COMP 7980	Masters Project	1	100	2	N	N
2015-16	COMP 9000	Dissertation	6	100	6	N	N
2015-16	COMP 7980	Masters Project	3	100	2	N	N
2015-16	COMP 8901	Independent Studies	3	100	3	N	N
2014-15	COMP 8901	Independent Studies	3	100	2	N	N
2014-15	COMP 9000	Dissertation	6	100	4	N	N
2014-15	COMP 7996	Thesis	3	100	4	N	N
2013-14	COMP 4/6270	Introduction to Operating Systems	3	100	46	N	N
2013-14	COMP 8901	Independent Study	3	100	10	N	N
2013-14	COMP 7996	Thesis	3	100	5	N	N
2013-14	COMP 9000	Dissertation	6	100	2	N	N
2013-14	EECE 8992	Projects II	3	100	2	N	N
2013-14	COMP 7980	Research Seminar	3	100	1	N	N
2012-13	COMP 4270/6270	Introduction to Operating Systems	3	100	38	N	N
2012-13	COMP 9000	Dissertation	3	100	1	N	N
2012-13	COMP 7996	Thesis	3	100	7	N	N
2012-13	COMP 8901	Individual Studies	3	100	7	N	N
2012-13	COMP 7901	Individual Studies	3	100	1	N	N
2012-13	EECE 8992	Projects II	3	100	1	N	N
2011-12	COMP 4270/6270	Introduction to Operating Systems	3	100	27		N
2011-12	COMP 7996	Thesis	3	100	8		
2011-12	COMP 7901/8901		3	100	8		

		Independent Study					
2010-11	COMP 4/6270	Introduction to Operating Systems	3	100	11		N
2010-11	COMP 7/8313	Network Design and Performance Analysis	3	100	6		N
2010-11	COMP 7996	Thesis	3	100	5		
2010-11	COMP 7901/8901	Independent Study	3	100	4		
2010-11	COMP 7980	Research Seminar	1	100	1		
2009-10	COMP 4/6270	Introduction to Operating Systems	3	100	11		N
2009-10	COMP 7/8313	Network Design and Performance Analysis	3	100	5		N
2009-10	COMP 7901/8901	Independent Study	3	100	9		
2009-10	COMP 7996	Thesis	1	100	5		
2009-10	COMP 7980	Research Seminar	2	100	1		
2008-09	COMP 4/6270	Introduction to Operating Systems	3	100	9		N
2008-09	COMP 7/8313	Network Design and Performance Analysis	3	100	6		N
2008-09	COMP 7996	Thesis	3	100	3		
2008-09	COMP 6901/7901/8901	Independent Study	3	100	6		
2008-09	COMP 7980	Research Seminar	3	100	1		
2007-08	COMP 4/6270	Introduction to Operating Systems	3	100	14		N
2007-08	COMP 7/8313	Network Design and Performance Analysis	3	100	6		N
2007-08	COMP 7996	Thesis	3	100	1		
2007-08	COMP 4901	Independent Study	3	100	1		
2006-07	COMP4270/6270	Introduction to Operating Systems	3	100%	5		Y
2006-07	COMP3825	Networking and Information Assurance	3	100%	7		Y
2006-07	COMP 7/8313	Network Design and	3	100%	6		Y

		Performance Analysis					

Appendix B

Ph.D. Dissertation Committee Member, Austin Henley, 2018
Dissertation Committee Chair for Syed Monowar Hossain, Final defense in Spring 2017.
Masters Project Committee Chair for Nusrat Nasrin, Spring 2017.
Dissertation Committee Chair for Hillol Sarker, Final Defense in Fall 2016.
Ph.D. Dissertation Committee Chair for Md. Mahbubur Rahman, Proposal Defense in Spring'15 and Final Defense in Spring'16.
Ph.D. Dissertation Committee Chair for Amin Ahsan Ali, Fall 2014.
M.S. Thesis Committee Chair for Hillol Sarker, Fall 2014.
M.S. Project Committee Member, Gaurav Sunit Kedia, Summer 2014
M.S. Thesis Committee Chair, Md. Mahbubur Rahman, Spring 2014
M.S. Thesis Committee Chair, Sudip Vhaduri, Spring 2014
M.S. Project Committee Member, Kazi Iftekhar Zaman, Spring 2014
M.S. Project Committee Member, Austin Henley, 2013
M.S. Thesis Committee Chair for Somnath Mitra, Fall 2012.
M.S. Project Committee Member, Durdana Naseem, Fall 2012
M.S. Project Committee Member, Steve Ash, Summer 2012
M.S. Project Committee Member, Abhinav Sharma, 2011
M.S. Project Committee Member, Naga Sravana Sunil Saladi, 2011
M.S. Thesis Committee Chair, Bhagavathy Krishna, Fall2010.
M.S. Project Committee Chair, Animikh Ghosh, Fall 2010.
Ph.D. Dissertation Committee Member, Yunyue Lin, Fall 2010.
M.S. Project Committee Member, Praveen Kolla, Fall 2010.
M.S. Project Committee Member, Phani Deepak Vajjha, Fall 2010.
M.S. Project Committee Chair, Maheshbabu Satharla, Spring 2010.
M.S. Project Committee Member, Aishwarya Kaushal, Spring 2009.
M.S. Thesis Committee Member, Venu Dukka, Fall 2007.

Appendix D

mHealth Biomarker & Technology Resource Center (mBTRC)
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Mani B. Srivastava and Dr. Vivek Shetty, UCLA
Dr. Susan Murphy, Harvard
Dr. Ida Sim, UC San Francisco
Dr. Benjamin Marlin, UMass Amherst
Dr. Jim Rehg, Georgia Tech
Dr. Emre Ertin, Ohio State
Sponsor: National Science Foundation (NSF)
Status: Pending (NIH completed a site visit in Memphis on 3/6/19)
Period: 7/1/2019-6/30/2024
Amount: $6.08 million.

Rethinking Cancer Caregiver Stress: A dynamic approach to optimizing personalized support for family caregivers (Rethink Study)
PI: Dr. Kathy Mooney, University of Utah
Co-Investigators:
Dr. Santosh Kumar
Dr. Emre Ertin, Ohio State University
Sponsor: National Institutes of Health (NIH)
Status: Pending
Period: 7/1/2019-6/30/2024
Amount: $1,788,775 (for Memphis).

"Using Mobile Sensors to Predict Opioid Use in Patients with Sickle Cell Disease" Supplement to Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)
PI: **Dr. Santosh Kumar**
Co-Investigators:
Dr. Patrick Finan. Johns Hopkins Medical School
Sponsor: National Institutes of Health (NIH)
Status: Awarded.
Period: 10/1/2018-9/30/2019
Amount: $313,357.

Collaborative Research: FW-HTF Theme 1: mWork: Foundations of Sensor-Based Organizational Assessment and Sensor-Informed Distributed Interventions to Enhance Work Performance
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Deniz Ones and Dr. Joseph Konstan, University of Minnesota
Dr. Benjamin Marlin, UMass Amherst
Dr. Emre Ertin, Ohio State
Sponsor: National Science Foundation (NSF)
Status: Not awarded
Period: 9/1/2018-8/31/2022
Amount: $3 million.

CRI: CI: EN: Collaborative Research: mResearch: A Platform for Reproducible and Extensible Mobile Sensor Big Data Research
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Mani B. Srivastava, UCLA
Dr. Benjamin Marlin, UMass Amherst
Dr. Jim Rehg, Georgia Tech
Dr. Emre Ertin, Ohio State
Sponsor: National Science Foundation (NSF)

Status: Awarded
Period: 9/1/2017-8/31/2021
Amount: $1.75 million.

Novel Use of mHealth Data to Identify States of Vulnerability and Receptivitiy to JITAI's
PI: Inbal Nahum-Shani, University of Michigan
Co-Investigators:
Dr. Santosh Kumar
Drs. Cho Lam and David Wetter, Rice University
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Emre Ertin, Ohio State University
Dr. Li Liang, MD Anderson Cancer Center
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 7/1/2018-6/30/2022
Amount: $347,594 (for Memphis).

The BIGHEADS BD Spoke: An Integrated and Sustainable Ecosystem for BIG HEAlth Data Science
PI: Dr. Brad Malin, Vanderbilt University
Co-Investigators:
Dr. Santosh Kumar
Drs. Jim Rehg, Jimeng Sun, Georgia Tech
Drs. Mark Frisse and Dr. Frank Harrell, Vanderbilt University
Sponsor: National Science Foundation
Status: Not awarded
Period: 7/1/2018-6/30/2021
Amount: $300k (for Memphis)

Affective Science and Smoking Cessation: Real Time World Assessment
PI: Dr. David Wetter, University of Utah
Co-Investigators:
Dr. Santosh Kumar
Dr. Cho Lam, University of Utah
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Emre Ertin, Ohio State University
Dr. Li Liang, MD Anderson Cancer Center
Dr. Christopher Fagundes, Rice University
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 1/2/2018-1/1/2023
Amount: $459,537 (for Memphis).

mPerf: A Theory-driven Approach to Model and Predict Everyday Job Performance Using Mobile Sensors
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Mani B. Srivastava, UCLA
Dr. Deepak Ganesan, Dr. Benjamin Marlin, UMass Amherst
Dr. Tanzeem Choudhury, Cornell
Dr. Emre Ertin, Ohio State
Dr. Mustafa al'Absi, Dr. Deniz Ones, University of Minnesota
Dr. Eugene Buder, Memphis
Sponsor: IARPA
Status: Awarded
Period: 06/27/2017-9/30/2018
Amount: $13.8 million.

Open mHealth: Community-Based Data and Metadata Standards for Mobile Health
PI: Dr. Ida Sim, UC San Francisco
Co-Investigators:
Dr. Santosh Kumar

Dr. Mark Braunstein, Georgia Tech
Sponsor: National Institutes of Health
Status: Awarded
Period: 7/1/2017-6/30/2020
Amount: $148k (for Memphis)

Administrative Supplement for "Applying Novel Technologies and Methods to Inform the Ontology of Self-Regulation"
PI: Dr. Lisa Marsch, Dartmouth College
Co-Investigators:
Dr. Santosh Kumar
Dr. Mustafa al'Absi, University of Minnesota
Dr. Emre Ertin, Ohio State
Sponsor: National Institutes of Health
Status: Awarded
Period: 7/1/2017-6/30/2018
Amount: $79k (for Memphis)

SCH: INT: Collaborative Research: Enhancing Context-Awareness and Personalization for Intensively Adaptive Smoking Cessation Messaging Interventions
PI: Dr. Benjamin Marlin, UMass Amherst
Co-Investigators:
Dr. Santosh Kumar
Dr. Deepak Ganesan, Dr. Prashant Shenoy, UMass Amherst
Dr. Thomas Houston, Dr. Rajani Sadasivam, UMass Medical School
Sponsor: National Science Foundation
Status: Awarded
Period: 9/1/2017-8/31/2020
Amount: $196k (for Memphis)

CIF21 DIBBS: EI: mProv: Provenance-based Data Analytics Cyberinfrastructure for High-Frequency Mobile Sensor Data
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Mani B. Srivastava, UCLA
Dr. Zach Ives, UPenn
Dr. Ida Sim, UCSF
Consultants: Dr. Emre Ertin, Ohio State
Dr. Jim Rehg, Georgia Tech
Collaborators: Open Humans, Quantified Self
Sponsor: National Science Foundation (NSF)
Status: Awarded
Period: 09/1/2016-08/31/2021
Amount: $4 million.

SCH: INT: Collaborative Research: Stress Mirror: Measuring and Visualizing Dynamics of Workplace Stress
PI: Dr. Gloria Mark, UC Irvine
Co-Investigators:
Dr. Santosh Kumar
Dr. Munmun DeChoudhury, Dr. Polo Chau, Georgia Tech
Dr. Thomas Kamarck, University of Pittsburgh
Sponsor: National Science Foundation
Status: Declined
Period: 8/1/2017-7/31/2021
Amount: $502k (for Memphis)

Healthier You: Bending the Curve on Cardiovascular Diseases Through Personalized Mobile Technology
PI: **Dr. Santosh Kumar**
Co-Investigators: 14 co-investigators from Albert Einstein, Georgia Tech, UCLA, UCSF, Northwestern, Michigan, Memphis, Ohio State, Partners Health, and Wake Forest

3 corporate partners: Deloitte, Quintiles, and Artefact
Sponsor: McArthur Foundation
Status: Declined.
Period: 10/1/2017-9/30/2022
Amount: $100 million.

Precision Medicine Initiative Cohort Program Participant Technologies Center
PIs: Dr. Jefferey Olgin (contact PI), Dr. Gregory Marcus, Dr. Mark Pletcher, Dr. Ida Sim, UC San Francisco
Dr. Santosh Kumar
Dr. James Rehg, Georgia Tech
Co-Investigators:
Dr. Susan Murphy, Dr. Inbal Nahum-Shani, Dr. Pedrag Klasanja, University of Michigan,
Dr. Barbara Koenig, Urmimala Sarkar, UC San Francisco
Dr. Dawn Song, Dr. Sofia Villas-Boas, UC Berkeley
Dr. Emre Ertin, Ohio State University,
Dr. Mani Srivastava, UCLA
Dr. Stephan Thomas, University of Maryland,
Dr. James Fowler, Kevin Patrick, UC San Diego,
Sponsor: National Institutes of Health (NIH)
Status: Finalist (but not awarded)
Period: 7/1/2016-6/30/2021
Amount: $5.85 million (for Memphis) out of $60 million total.

Towards Detecting Cocaine Use Using Smartwatches in the NIDA Clinical Trials Network
PI: Dr. Lisa Marsch, Dartmouth College
Co-Investigators:
Dr. Santosh Kumar
Dr. Emre Ertin, Ohio State University
Dr. August Holtyn, Johns Hopkins University
Sponsor: National Institutes of Health (NIH)
Status: Awarded.
Period: 6/1/2016-5/31/2018
Amount: $100,818.

"Combining Genomic and Mobile Data Around Physical Activity" Supplement to Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)
PI: **Dr. Santosh Kumar**
Co-Investigators:
Dr. Ida Sim. UC San Francisco
Sponsor: National Institutes of Health (NIH)
Status: Awarded.
Period: 6/1/2016-5/31/2017
Amount: $49,426.

"Count Everything" Supplement to Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)
PI: **Dr. Santosh Kumar**
Co-Investigators:
Dr. Ida Sim. UC San Francisco
Sponsor: National Institutes of Health (NIH)
Status: Awarded.
Period: 2/12/2016-5/31/2016 (to be carried over to next year)
Amount: $97,636.

SCH: INT: Collaborative Research: Stress Mirror: Measuring and Visualizing Dynamics of Workplace Stress
PI: Dr. Gloria Mark, UC Irvine
Co-Investigators:
Dr. Santosh Kumar
Dr. Munmun DeChoudhury, Georgia Tech
Dr. Thomas Kamarck, University of Pittsburgh

Sponsor: National Science Foundation
Status: Declined
Period: 8/1/2016-7/31/2020
Amount: $459k (for Memphis)

CSR: Large: Collaborative Research: SensorGate-Minimizing Sensitive Inferences in Mobile and Pervasive Sensing via Context-driven Privacy Transformations
PI: Dr. Mani Srivastava, **UCLA**
Co-Investigators:
Dr. Santosh Kumar
Dr. Suman Jana, Columbia University
Dr. Ashwin Machanavajjhala, Duke University
Dr. Supriyo Chakrabarty, IBM Research
Sponsor: National Science Foundation
Status: Declined
Period: 9/1/2016-8/31/2020
Amount: $500k (for Memphis)

Eliminating Tobacco-related Disparities Among African-American Smokers
PI: Dr. David Wetter, Rice University
Co-Investigators:
Dr. Santosh Kumar
Dr. Cho Lam, Rice University
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Emre Ertin, Ohio State University
Dr. Li Liang, MD Anderson Cancer Center
Dr. Winfred Hamilton, Baylor College of Medicine
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 4/1/2016-3/31/2021
Amount: $847,984 (for Memphis).

Social Media and Mobile Health for Precision Medicine: Big Data Methods
PI: Dr. Munmun DeChoudhury, Georgia Tech
Co-PIs:
Dr. Daniel Rivera, Arizona State University
Co-Investigators:
Dr. Santosh Kumar
Dr. Jim Rehg, Georgia Institute of Technology
Dr. David Wetter, Rice University
Dr. Cho Lam, Rice University
Sponsor: National Institutes of Health (NIH)
Status: Declined
Period: 1/1/2016-12/30/2018
Amount: $271,103 (for Memphis).

CHS: Medium: Collaborative Research: Leveraging Emerging Techologies for Advancing the Ability to Understand and Manage Personal and Collective Stress in College Students
PI: Dr. Munmun DeChoudhury, Georgia Tech
Co-Investigators:
Dr. Santosh Kumar
Dr. Gloria Mark, UC Irvine
Sponsor: National Science Foundation
Status: Declined
Period: 7/1/2016-6/30/2019
Amount: $300k (for Memphis)

Sensor-enabled Stress Assessment and Intervention to Address Addictive Behaviors
PIs: Dr. Mustafa al'Absi (contact PI), University of Minnesota Medical School

Dr. Santosh Kumar
Co-Investigators:
Dr. Sharon Allen, Dorothy Hatsukami, James Hodges, Motohiro Nakajima, Jacob Prunuske, Alexander Rothman, Ruth Westra, Melissa Walls, University of Minnesota Medical School
University of Minnesota Medical School
Dr. Susan Murphy, Dr. Inbal Nahum-Shani, University of Michigan,
Dr. Emre Ertin, Ohio State University,
Dr. Kenneth Ward, School of Public Health, University of Memphis
Sponsor: National Institutes of Health (NIH)
Status: Declined
Period: 9/1/2015-8/31/2020
Amount: $971k (for Memphis) out of $4.7 million total.

Using Systems Science and Mobile Data to Model Risk for Smoking Relapse
PI: Dr. David Wetter, Rice University
Co-PIs:
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Daniel Rivera, Arizona State University
Co-Investigators:
Dr. Santosh Kumar
Dr. Cho Lam, Rice University
Dr. Emre Ertin, Ohio State University
Dr. Chris Fagundes, MD Anderson Cancer Center
Sponsor: National Institutes of Health (NIH)
Status: Declined
Period: 7/1/2015-6/30/2020
Amount: $797,601 (for Memphis).

TWC: Large: Collaborative: ObiSense: Realizing Responsible Pervasive Sensing Systems via Privacy Mechanisms for Controlling Personae
PI: Dr. Mani Srivastava, **UCLA**
Co-Investigators:
Dr. Santosh Kumar
Dr. Todd Milstein, UCLA
Dr. Helen Nissenbaum, New York University
Dr. Mathias Payer, Purdue University
Dr. Kamalika Choudhary, UC San Diego
Dr. Supriyo Chakrabarty, IBM Research
Sponsor: National Science Foundation
Status: Declined
Period: 9/1/2015-8/31/2019
Amount: $460k (for Memphis)

SCH-INT: Collaborative Research: mEye: Turning Regular Eyeglasses into Fatigue Monitors Using Nano-power Imager Arrays
PI: Dr. Deepak Ganesan, UMass Amherst
Co-Investigators:
Dr. Santosh Kumar
Dr. Ben Marlin, Christopher Salthouse, UMass Amherst
Dr. Alyosha Molnar, Cornell University
Dr. Emre Ertin, Ohio State University
Sponsor: National Science Foundation
Status: Declined
Period: 9/1/2015-8/31/2019
Amount: $199k (for Memphis).

Socioeconomic Status, Stress, and Smoking Cessation
PI: Dr. David Wetter, MD Anderson Cancer Center
Co-Investigators:

Dr. Santosh Kumar
Dr. Li Liang, Dr. Cho Lam, MD Anderson Cancer Center
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Funded
Period: 7/1/2015-6/30/2020
Amount: $806,302 (for Memphis).

ROBAS: A Multimodal Sensor System for Remote Assessment of Oral Health Behaviors (R01)
PI: Dr. Vivek Shetty, UCLA
Co-Investigators:
Dr. Santosh Kumar
Dr. Thomas Belin, UCLA
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Proctor & Gamble Research
Sponsor: National Institutes of Health (NIH)
Status: Funded
Period: 7/1/2015-6/30/2020
Amount: $500k (for Memphis).

Self-regulatory Strength and Smoking Cessation (U01)
PI: Dr. David Wetter, Rice University
Co-Investigators:
Dr. Santosh Kumar
Dr. Li Liang, Dr. Cho Lam, Rice University
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Declined
Period: 4/1/2015-3/31/2020
Amount: $862,623 (for Memphis).

Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)
PI: **Dr. Santosh Kumar**
Co-Investigators: (21 co-investigators and 4 senior personnel from 11 institutions)
9 CS and EE Investigators
Dr. Deborah Estrin, Cornell
Dr. Gregory Abowd, Dr. Jim Rehg, Dr. Polo Chau, Georgia Tech,
Dr. Mani Srivastava, Dr. Tyson Condie, UCLA,
Dr. Emre Ertin, Ohio State University,
Dr. Deepak Ganesan, Dr. Benjamin Marlin, UMass Amherst,
2 Experiment Design Experts
Dr. Susan Murphy, Dr. Inbal Nahum-Shani, University of Michigan,
5 MDs
Dr. William Abraham, Dr. Clay Marsh, Ohio State Medical School,
Dr. Vivek Shetty, UCLA
Dr. Kevin Patrick, UC San Diego,
Dr. Ida Sim. UC San Francisco,
5 Behavioral Scientists
Dr. Bonnie Spring, Northwestern Medical School,
Dr. David Wetter, Dr. Cho Lam, MD Anderson Cancer Center,
Dr. Mustafa al'Absi, University of Minnesota Medical School
Dr. J Gayle Beck, University of Memphis
Sponsor: National Institutes of Health (NIH)
Status: Awarded.
Period: 9/29/2014-9/30/2018
Amount: $10.8 million.

National Workshop on Computing Challenges in Future Mobile Health (mHealth) Systems and Applications
PI: **Dr. Santosh Kumar**
Sponsor: National Science Foundation (NSF)
Status: Awarded.
Period: 08/1/2014-07/31/2015
Amount: $50,000.

Real-time Association Among Social Media, Use, Smoking, and Drinking
PI: Dr. David Wetter, MD Anderson Cancer Center
Co-Investigators:
Dr. Santosh Kumar
Dr. Li Liang, Dr. Cho Lam, MD Anderson Cancer Center
Dr. Jim Rehg, Dr. Munmun DeChoudhary, Georgia Institute of Technology
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 9/1/2014-8/31/2019
Amount: $271k (for Memphis).

Socioeconomic Status, Stress, and Smoking Cessation
PI: Dr. David Wetter, MD Anderson Cancer Center
Co-Investigators:
Dr. Santosh Kumar
Dr. Li Liang, Dr. Cho Lam, MD Anderson Cancer Center
Dr. Jim Rehg, Georgia Institute of Technology
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 9/1/2014-8/31/2019
Amount: $847,984 (for Memphis).

Eliminating Tobacco-related Disparities Among African-American Smokers
PI: Dr. David Wetter, MD Anderson Cancer Center
Co-Investigators:
Dr. Santosh Kumar
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 7/1/2014-6/30/2019
Amount: $299,400.

Predicting Smoking Abstinence in Polydrug Users via Mobile Sensing of Behaviors
PI: **Dr. Santosh Kumar**
Co-Investigators:
Dr. Mustafa al'Absi, University of Minnesota Medical School
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Dr. Kenzie Preston, National Institute on Drug Abuse Intramural Research Program (NIDA IRP), NIH
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 9/15/2013-9/14/2015
Amount: $289,866.

CSR: Small: RelaxRoute: Reducing Commute Stress Among Drivers Using Mobile Devices
PI: **Dr. Santosh Kumar**, University of Memphis
Co-PI:
Dr. Paul Balister, University of Memphis
Sponsor: National Science Foundation (NSF)
Status: Not awarded

Period: 08/15/2013-08/14/2016
Amount: $500,000.

Point of Sale Marketing and Tobacco Use in Vulnerable Populations (P50)
PIs: Dr. David Wetter, Health Disparities Research, M.D. Anderson Cancer Center, University of Texas
Dr. James Sargent, School of Medicine, Dartmouth College
Co-Investigators:
Dr. **Dr. Santosh Kumar**, University of Memphis (Lead for the Technology Core, $2.8 million)
23 investigators from M.D. Anderson Cancer Center, Dartmouth College, University of North Carolina, Ohio State, and Mofit Cancer Center
Sponsor: National Institutes of Health and FDA
Status: Not awarded
Period: 09/1/2013-08/31/2018
Amount: $1,662,992 (for Memphis out of total $20 million).

BIGDATA: Mid-Scale: DCM: DA: Collaborative Research: Addressing Bigdata Challenges in Mobile Health Sensing and Analytics -Fundamentals and Methods
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Laura Bolzano, Electrical Engineering Computer Science, University of Michigan
Dr. Robert Novak, Electrical Engineering, University of Wisconsin, Madison
Dr. Mani B. Srivastava, Electrical Engineering & Computer Science, UCLA
Dr. Benjamin Marlin, Computer Science, UMass, Amherst
Dr. Deepak Ganesan, Computer Science, UMass, Amherst
Dr. Emre Ertin, Electrical & Computer Engineering, The Ohio State University
Consultants:
Dr. Kenzie Preston, National Institute on Drug Abuse Intramural Research Program, NIH
Dr. Mustafa al'Absi, University of Minnesota Medical School
Dr. Annie Umbricht, Johns Hopkins University School of Medicine
Dr. Vladimir Shusterman, University of Pittsburgh School of Medicine
Dr. Donald Hedeker, University of Illinois at Chicago School of Public Health
Sponsor: National Science Foundation (NSF)
Status: Not awarded
Period: 09/1/2013-08/31/2017
Amount: $2,815,211.

SHB: Type I (INT): Collaborative Research: EasySense: Contact-less Physiological Sensing in the Mobile Environment Using RF Probes
PI: **Dr. Santosh Kumar**, University of Memphis
Co-PIs:
Dr. Mustafa al'Absi, University of Minnesota Medical School
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Science Foundation (NSF)
Status: Awarded.
Period: 08/15/2012-08/14/2015
Amount: $600,000.

Predicting Smoking Abstinence via Mobile Stress and Social Context (R01)
PI: **Dr. Santosh Kumar**
Co-Investigators:
Dr. Mustafa al'Absi, University of Minnesota Medical School
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 9/1/2012-8/31/2015
Amount: $1,300,750.

HCC: Small: Collaborative Research: Ubiquitous Sensing of Mental Health Using Mobile Phones
PI: Dr. Tanzeem Choudhary, Computer Science, Cornell University

Co-PIs:
Dr. Santosh Kumar, University of Memphis
Sponsor: National Science Foundation (NSF)
Status: Not awarded.
Period: 08/15/2012-08/14/2016
Amount: $500,000.

CSR: Large: Collaborative Research: Enabling Privacy Utility Trade-offs in Pervasive Computing Systems
PI: Dr. Mani B. Srivastava, Electrical Engineering & Computer Science, UCLA
Co-PIs:
Dr. Santosh Kumar, University of Memphis
Dr. Greg Pottie, Electrical Engineering, UCLA
Dr. Todd Millstein, Computer Science, UCLA
Dr. Sharad Mehrotra and Dr. Gene Tsudik, Computer Science, UC Irvine
Sponsor: National Science Foundation (NSF)
Status: Awarded.
Period: 09/15/2012-07/31/2014
Amount: $400k.

Center for Mobile Health Science and Technology
Director: Anish Arora, Ohio State University
Deputy Director: **Dr. Santosh Kumar**
Investigators: 27 investigators from Ohio State, UCLA, University of Washington, University of Minnesota, Dartmouth College, and University of Memphis
Sponsor: National Science Foundation (NSF)
Status: Not invited (pre-proposal stage)
Period: 2013-2023
Amount: $50 million.

mHealth Evidence Meeting
PI: **Dr. Santosh Kumar**
Sponsor: Robert Wood Johnson Foundation (RWJF)
Status: Awarded.
Period: 08/1/2011-05/31/2012
Amount: $25,000.

mHealth Evidence Meeting
PI: **Dr. Santosh Kumar**
Sponsor: McKesson Foundation
Status: Awarded.
Period: 08/1/2011-05/31/2012
Amount: $25,000.

Predicting Smoking Abstinence via Fine-Grained Monitoring of Social Environment
PI: **Dr. Santosh Kumar**
Co-Investigators:
Dr. Mustafa al'Absi, University of Minnesota Medical School
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Dr. Saul Shiffman, Psychology, University of Pittsburgh
Dr. Kenneth Ward, School of Public Health,University of Memphis
Senior Personnel:
Dr. Dorothy Hatsukami, Psychiatry, University of Minnesota
Dr. Lorentz Wittmers, Physiology, University of Minnesota Medical School
Dr. Ebenezer Olesegun George, Statistics, University of Memphis
Dr. Ron Regan, Mathematics & Statistics, University of Minnesota Medical School
George Relyea, School of Public Health,University of Memphis
Sponsor: National Institutes of Health (NIH)
Status: Not Awarded

Period: 8/1/2011-7/31/2016
Amount: $3,597,059.

SMB: Medium: Collaborative Research: mHealthGuardian: Protecting Personal Sensory Information with Learning Techniques
PI: Dr. Ninghui Li, Computer Science, Purdue University
Co-PIs:
Dr. Santosh Kumar, University of Memphis
Dr. Mani B. Srivastava, Electrical Engineering & Computer Science, UCLA
Dr. Alan Qi, Computer Science, Purdue University
Sponsor: National Science Foundation (NSF)
Status: Not awarded.
Period: 08/1/2011-07/31/2014
Amount: $1,200,000.

CAREER: Personal Stress Assistant: Providing Timely Assistance for Coping with Daily Stress on the Mobile Phone
PI: **Dr. Santosh Kumar**
Sponsor: National Science Foundation (NSF)
Status: Not awarded.
Period: 06/1/2011-05/31/2016
Amount: $596,215.

Mechanisms of Stress Effects on Smoking and Relapse: From the Lab to the Field
PI: **Dr. Santosh Kumar**
Dr. Mustafa al'Absi, University of Minnesota Medical School
Co-Investigators:
Dr. Anind Dey, Human Computer Interaction Institute, Carnegie Mellon University
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 10/1/2010-9/30/2014
Amount: $2,860,537.

Alcohol Measurements in AutoSense - From Days to Weeks in the Field
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Linda Tempelman, Giner Inc.
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Emre Ertin, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 7/1/2010-6/30/2011
Amount: $172,949.

Making AutoSense Robust for Everyday Wearing: A Field Test in Illicit Drug Users
PIs: Dr. Kenzie Preston, National Institute on Drug Abuse, NIH
Dr. Santosh Kumar, University of Memphis
Co-PIs:
Dr. David Epstein, National Institute on Drug Abuse, NIH
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Emre Ertin, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 7/1/2010-6/30/2011
Amount: $132,081.

Quantifying Stress, Alcohol, and Physical Activity in the Field via AutoSense
PIs: Dr. Patty Freedson, UMass Amherst
Dr. Santosh Kumar, University of Memphis
Dr. Thomas Kamarck, Psychology, University of Pittsburgh
Co-PIs:
Dr. Daniel P. Siewiorek, Computer Science, CMU
Dr. Asim Smialagic, Computer Science, CMU
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Emre Ertin, Electrical & Computer Engineering, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 8/1/2010-7/31/2011
Amount: $154,655.

eTHICS: Technology for Health Information Confidentiality and Security
PI: Dr. Lucila Ohno-Machado, Division of Biomedical Informatics, School of Medicine, UCSD
Co-Investigators:
Dr. **Dr. Santosh Kumar**, University of Memphis,
25 investigators from Stanford University, UC Berkeley, UCLA, UCSD, UC Irvine, UC Davis, San Francisco State University Medical School, Kestrel Institute, Naval Research Lab, and Worcester Polytechnic Institute
Consultants:
5 from Carnegie Mellon University, Intel, UCLA, and Kunin & Associates
Sponsor: Department of Health & Human Services (HHS) (Parent depart of NIH)
Status: Not Awarded
Period: 04/1/2010-03/31/2014
Amount: $17,874,143.

NeTS: Small: Modeling the Arrival of Events and Packets in Diverse Wireless Sensor Networks
PI: **Dr. Santosh Kumar**, University of Memphis
Co-PIs:
Dr. Paul Balister, Mathematical Sciences, University of Memphis
Dr. Ebenezer O. George, Mathematical Sciences, University of Memphis
Sponsor: National Science Foundation (NSF)
Status: Not Awarded
Period: 09/1/2010-08/31/2013
Amount: $500,000.

CSR: Large: Collaborative Research: Application Support for Energy-Efficient Inferencing of Semantically Rich Contexts on Mobile Platforms
PI: Dr. Andreas Savvides, Electrical Engineering, Yale University
Co-PIs:
Dr. Santosh Kumar, University of Memphis
Dr. Mani B. Srivastava, Electrical Engineering & Computer Science, UCLA
Dr. Fei Sha, Computer Science, USC
Sponsor: National Science Foundation (NSF)
Status: Not Awarded
Period: 09/1/2010-08/31/2014
Amount: $1,623,634.

NetSE: Large: Collaborative Research: FieldStream: Network Data Services for Exposure Biology Studies in Natural Environments
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. J Gayle Beck, Psychology, University of Memphis
Dr. Jun Xu, College of Computing, Georgia Tech
Dr. Justin Romberg, School of Electrical and Computer Engineering, Georgia Tech
Dr. Anind Dey, Computer Science, Carnegie Mellon University
Dr. Mani B. Srivastava, Electrical Engineering & Computer Science, UCLA

Dr. Gregory J. Pottie, Electrical Engineering, UCLA
Dr. Deepak Ganesan, Computer Science, UMass, Amherst
Consultant:
Dr. Mustafa al'Absi, University of Minnesota Medical School
Sponsor: National Science Foundation (NSF)
Status: Awarded
Period: 09/1/2009-08/31/2013
Amount: $2,699,990.

REU for Doing More with Less: Tracking Movements Using a Sparse Sensor Network
PI: **Dr. Santosh Kumar**
Sponsor: National Science Foundation (NSF)
Status: Awarded
Period: 09/01/2009-08/31/2010
Amount: $16,000.

Personalized Stress Inferencing in AutoSense
PIs: **Dr. Santosh Kumar**
Dr. Thomas Kamarck, Psychology, University of Pittsburgh
Co-PIs:
Dr. Daniel P. Siewiorek, Computer Science, CMU
Dr. Asim Smialagic, Computer Science, CMU
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Emre Ertin, Ohio State Univ.
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 9/15/2009-9/14/2010
Amount: $238,185.

Privacy-aware Management for Sensor-based Information in Physiological and Behavioral Studies
PI: Dr. Mani Srivastava, Electrical Engineering & Computer Science, UCLA
Co-PIs:
Dr. Santosh Kumar, Computer Science, University of Memphis
Dr. Stephen Chong, Computer Science, Harvard University
Dr. Paul Appelbaum, Law, Ethics and Psychiatry, Columbia University
Dr. Kevin Patrick, Family and Preventive Medicine, UCSD
Sponsor: National Institutes of Health (NIH)
Status: Not Awarded (though in top 5 percentile)
Period: 09/1/2009-08/31/2011
Amount: $1,000,000.

Intermediate Validation in AutoSense
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Emre Ertin, Ohio State University
Sponsor: National Institutes of Health (NIH)
Status: Not Awarded
Period: 9/15/2009-9/14/2010
Amount: $137,525.

Assessment of Stress Hormones Using Automated Sampling Technology
PI: **Dr. Santosh Kumar**
Co-PIs:
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Manju Venugopal, Guided Therapeutics
Sponsor: National Institutes of Health (NIH)
Status: Not Awarded

Period: 9/15/2009-9/14/2010
Amount: $69,881

NeTS: Medium: Collaborative Research: Succinct: Towards Ultra-Quiet Wireless Sensor Networks
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Ebenezer O. George, University of Memphis
Dr. Jun Xu, Georgia Institute of Technology
Dr. Mitsui Ogihara, University of Miami
Sponsor: National Science Foundation (NSF)
Status: Not Awarded
Period: 8/1/2009-7/31/2012
Amount: $705,978.

NeTS: Medium: Collaborative Research: WideSpot: Enabling Predictable Wide-Area Coverage with Scattered Hotspots
PI: Dr. Prasun Sinha, Ohio State University
Co-PIs: **Dr. Santosh Kumar**
Sponsor: National Science Foundation (NSF)
Status: Not Awarded
Period: 05/1/2009-04/30/2012
Amount: $665,041.

AutoWitness: Detecting and Tracking Burglars Using a Sparse Wireless Sensor Network
PI: **Dr. Santosh Kumar**
Sponsor: Fedex Institute of Technology (FIT), Univ. of Memphis
Status: Awarded
Period: 8/1/2008-7/31/2010
Amount: $385,965.

Automated Wireless Measurement of Pulse Wave Velocity in AutoSense
PI: **Dr. Santosh Kumar**
Co-PI: Dr. Emre Ertin, Ohio State University
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 08/14/2008-04/30/2009
Amount: $68,286.

REU for Doing More with Less: Tracking Movements Using a Sparse Sensor Network
PI: **Dr. Santosh Kumar**
Sponsor: National Science Foundation (NSF)
Status: Awarded
Period: 05/12/2008-08/31/2010
Amount: $12,000.

Collaborative Research:NeTS-NECO: Inferential: Intelligence Gathering in Wireless Sensor Networks with Zero Communication Overhead
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Ebenezer O. George, University of Memphis
Dr. Mitsui Ogihara, University of Miami
Dr. Jun Xu, Georgia Institute of Technology
Sponsor: National Science Foundation (NSF)
Status: Not awarded
Period: 10/1/2008-9/30/2011
Amount: $677,013.

Collaborative Research:NeTS-NEDG: Bargain: Enabling Predictable Widc Area Coverage with Scattered Hotspots
PI: Dr. Prasun Sinha, Ohio State University

Co-PIs: Dr. Paul Balister and **Dr. Santosh Kumar**
Sponsor: National Science Foundation (NSF)
Status: Not awarded
Period: 10/1/2008-9/30/2011
Amount: $662,292.

Constructing Social Interaction Maps from Real-Time, Objective, and Real-Life Data
PI: **Dr. Santosh Kumar**
Sponsor: University of Memphis
Status: Not awarded
Period: 7/1/2008 - 6/30/2009
Amount: $6,500.

CDI Type I: Distributed sensing and processing for monitoring psychosocial stress dynamics over social networks
PI: Dr. Emre Ertin, Ohio State University
Co-PIs: **Dr. Santosh Kumar**
Dr. Mustafa al'Absi, University of Minnesota
Sponsor: National Science Foundation (NSF)
Status: Not invited
Period: 09/15/2008-09/14/2011
Amount: $611,898.

StressSmart: Quantifying Personal Exposures to Psychosocial Stress in the Field
PI: Dr. Manju Venugopal, SpectRx Inc.
Co-PIs: **Dr. Santosh Kumar**, Univ. of Memphis,
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School, and
Dr. Shabbir Bambhot, SpectRx Inc.
Sponsor: National Institutes of Health (NIH)
Status: Not awarded
Period: 7/15/2008- 7/14/2010
Amount: $800,000.

Foundations of Coverage and Connectivity for Wireless Sensor Networks Deployed in Thin Strips
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Paul Balister and Dr. Bela Bollobas
Sponsor: National Science Foundation (NSF)
Status: Awarded
Period: 10/1/2007-9/30/2010
Amount: $350,000.

NeTS-NOSS: Collaborative Research: Doing More with Less: Tracking Movements Using a Sparse Sensor Network
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Bela Bollobas and Dr. Prasun Sinha (Ohio State Univ.)
Senior Personnel: Derek Myers, Deputy Director, Univ. of Memphis Police Services
Sponsor: National Science Foundation (NSF)
Status: Awarded
Period: 9/12007-8/31/2010
Amount: $499,989.

AutoSense: Quantifying Personal Exposures to Addictive Substances and Psychosocial Stress
PI: **Dr. Santosh Kumar**
Co-PIs, Investigators, and other personnel: 15 total
Dr. Satish Kedia, and Dr. Kenneth Ward, Univ. of Memphis
Dr. Mustafa al'Absi, Univ. of Minnesota Medical School
Dr. Emre Ertin, Ohio State Univ.
Dr. Kent Hutchison, Univ. of Colorado

Dr. Mark Faupel, Dr. Manju Venugopal, Rick Fowler, Kathryn Feuvrel, Erika Eckler, SpectRx Inc.
Sponsor: National Institutes of Health (NIH)
Status: Awarded
Period: 8/14/2007-4/30/2011
Amount: $1,659,605.

Preparing Students for an Embedded Everywhere World
PI: **Dr. Santosh Kumar**
Co-PIs: Dr. Lan Wang and Dr. Qishi Wu
Sponsor: Advanced Learning Center, University of Memphis
Status: Awarded
Period: 1/2/2007 - 6/30/2007
Amount: $10,000.

Self-Regenerative Network Immunity
PI: Dr. Dipankar Dasgupta
Co-PIs: Dr. Victor Skormin (Binghamton Univ.) and **Dr. Santosh Kumar**
Sponsor: Air Force Office of Scientific Research (AFOSR)
Status: Not awarded
Amount: $1,352,114.