#### Sarah Katherine Farmer Research Scientist I Center for Advanced Communications Policy

## **CURRENT FIELDS OF INTEREST:**

- Human factors and ergonomics
- Psychology
- Universal design

### I. MASTERY OF A COMPLEX FIELD

### A. <u>Published Journal Papers (refereed)</u>

 Farmer, S., Bricout, J. C., Baker, P. M., & Solomon, J. (2022). Personas, the Pandemic, and Inclusive, Synthetic, Smart City Planning. International Journal of E-Planning Research (IJEPR), 11(1), 1-15. <u>http://doi.org/10.4018/IJEPR.299545</u> <u>https://www.igi-global.com/article/personas-the-pandemic-and-inclusive-syntheticsmart-city-planning/299545</u>

Farmer was lead author on this manuscript.

 Waggoner, J. J., Vos, M. B., Tyburski, E. A., Nguyen, P.-V., Ingersoll, J. M., Miller, C., Sullivan, J., Griffiths, M., Stone, C., Benoit, M., Benedit, L., Seitter, B., Jerris, R., Levy, J. M., Kraft, C. S., Farmer, S., Peagler, A., Wood, A., Westbrook, A. L., Morris, C. R., Sathian, U. N., Heetderks, W., Li, L., Roth, K., Barcus, M., Stenzel, T., Martin, G. S., and Lam, W. A. (2022). Concordance of SARS-CoV-2 Results in Self-collected Nasal Swabs vs Swabs Collected by Health Care Workers in Children and Adolescents. *JAMA*, 328(10), 935-940. doi:10.1001/jama.2022.14877 https://jamanetwork.com/journals/jama/fullarticle/2795837

Farmer designed and led the usability evaluation for this study and contributed to the manuscript.

- Farmer, S., Razin, V., Peagler, A. F., Strickler, S., Fain, W. B., Damhorst, G. L., Kempker, R. R., Pollock, N. R., Brand, O., Seitter, B., Heilman, S. S., Nehl, E. J., Levy, J. M., Gottfried, D. S., Martin, G. S., Greenleaf, M., Ku, D. N., Waggoner, J. J., Iffrig, E., Mannino, R. G., Wang, Y. F., Ortlund, E., Sullivan, J. Rebolledo, P. A., Clavería, V., Roback, J. D., Benoit, M., Stone, C., Esper, A., Frank, F., Lam, W. A. (2022). Don't forget about human factors: Lessons learned from COVID-19 point-ofcare testing. *Cell Reports Methods 2*(5). doi:10.1016/j.crmeth.2022.100222. <u>https://www.sciencedirect.com/science/article/pii/S2667237522000856</u> Farmer was the lead author for this manuscript.
- Nehl, E. J., Heilman, S. S., Ku, D., Gottfried, D. S., Farmer, S., Mannino, R., Tyburski, E., Sullivan, J., Suesssmith, A., Bassit, L., Figueroa, J., Wood, A., Leong, T., Rao, A., Rogers, B., Jerris, R., Park, S., Gonzalez, M. D., Frediani, J., Morris, C. R., Levy, J. M., Schoof, N., Mavigner, M., Roback, J. D., Herzegh, K., Saakadze, N., Ingersoll, J., Cheerdaral, N., Neish, A., Hanberry, B., Porter, C. C., Esper, A. M., Kempker, R. R., Rebolledo, P. A., McGuinnes, P. D., Balagadde, F., Gore, R., Koren, A., Pollock, N., Rogers, E. J., Simin, K., Hafer, N. S., Picard, M. A., Ghezzi, C. E., McManus, D. D., Buchholz, B. O., Rostad, C. A., Claveria, V., Ramachandra, T., Wang, Y. F., Washington, C., Stone, C., Griffiths, M., Schinazi, R., Chahroudi, A., Vos, M. B., Brand, O., Martin, G. S., Lam, W. A. (2021). The RADx tech test verification core and the ACME POCT in the evaluation of COVID-19 testing

devices: A model for progress and change. *IEEE Open Journal of Engineering in Medicine and Biology*, 2, 142-151. doi: 10.1109/OJEMB.2021.3070825. <u>https://ieeexplore.ieee.org/abstract/document/9418534</u> Farmer was a contributor to this manuscript.

- Roback, J. D., Tyburski, E. A., Alter, D., Asakrah, S., Chahroudi, A., Esper, A., Farmer, S., Figueroa, J., Frediani, J. K., Gonzalez, M. D., Gottfried, D. S., Guarner, J., Gupta, N. A., Heilman, S. S., Hill, C. E., Jerris, R., Kempker, R. R., Ingersoll, J., Levy, J. M., Mavigner, M., Moreno, C. S., Morris, C. R., Nehl, E. J., Neish, A. S., Peker, D., Saakadze, N., Rebolledo, P. A., Rostad, C. A., Schoof, N., Suessmith, A., Sullivan, J., Wang, Y. F. W., Wood, A., Vos, M. B., Brand, O., Martin, G. S., Lam, W. A. (2021). The need for new test verification and regulatory support for innovative diagnostics. *Nature Biotechnology*, *39*(9), 1060-1062. doi:10.1038/s41587-021-01047-7. <u>https://www.nature.com/articles/s41587-021-01047-7</u> Farmer was a contributor to this manuscript.
- Frediani, J. K., Levy, J. M., Rao, A., Bassit, L., Figueroa, J., Vos, M. B., Wood, A., Jerris, R., Leung-Pineda, V., Gonzalez, M. D., Rogers, B. B., Mavigner, M., Schinazi, R. F., Schoof, N., Waggoner, J. J., Kempker, R. R., Rebolledo, P. A., O'Neal, J. W., Stone, C., Chahroudi, A., Morris, C. R., Suessmith, A., Sullivan, J., Farmer, S., Foster, A., Roback, J. D., Ramachandra, T., Washington, C., Le, K., Cordero, M. C., Esper, A., Nehl, E. J., Wang, Y. F., Tyburski, E. A., Martin, G. S., Lam, W. A. (2021). Multidisciplinary assessment of the Abbott BinaxNOW SARS-CoV-2 point-of-care antigen test in the context of emerging viral variants and selfadministration. *Scientific Reports, 11*(1), 14604. doi:10.1038/s41598-021-94055-1 <u>https://www.nature.com/articles/s41598-021-94055-1#citeas</u> Farmer designed and led the usability evaluation for this study and was a contributor to the manuscript.
- Harley, L., Kline, K., Bell, C., Baranak, A., Michelson, S., Farmer, S. & Fain, B. (2016). Designing Usable Voting Systems for Voters with Hidden Barriers: A Pilot Study, *International Journal of Human–Computer Interaction*, 32(2), 103-118, DOI: <u>10.1080/10447318.2015.1116759</u> <u>https://www.tandfonline.com/doi/citedby/10.1080/10447318.2015.1116759</u> Farmer was a contributor to this research and manuscript.
- Hutto, C.J., Bell, C., Farmer, S., Fausset, C., Harley, L., Nguyen, J., and Fain, B. (2015). Social Media Gerontology: Understanding Social Media Usage Among Older Adults. *Web Intelligence*, 13(1), 69 87, doi: 10.3233/WEB-15031 Farmer was a contributor to this research and manuscript.

## B. <u>Submitted Journal Papers</u>

 Manino, R., Nehl, E., Farmer, S., Parsell, M., Claveria, V., Gottfried, D., Chen, H., Brand, O., and Lam, W. (Submitted). The Critical Role of Engineering Assessments in the Rapid Development of COVID-19 Diagnostics: Lessons from the RADx Tech Test Verification Core, *Science Advances*.

# C. Invited Conference Presentations

- 1. **Farmer, S.** and Foster, A. (2021) Don't Forget About Human Factors Lessons from COVID 19 Point-of-Care Diagnostic Testing, *COVID Force Seminar Series*.
- 2. **Farmer, S.** (2020). Measuring Usability in a Virtual Environment, *PSCR 2020: The Digital Experience*, pscr.gov.

3. Fain, B., Kosoris, N., and **Farmer, S.** (2019). ARTEMIS: Augmented Reality Testing of Multiple Immersive Simulations, *Public Safety Broadband Stakeholder Meeting*, Chicago, IL.

## D. <u>Conference Presentations with Proceedings (refereed)</u>

- Mynatt, E. D., Vickers, K., LaForce, S., Farmer, S. K., Johnson, J. M., Doiron, M., Ramesh, A., Fain, W. B., Zubatiy, T., and Rodriguez, A. D. (2022). Pivoting an MCI Empowerment Program to Online Engagement. *ACM Human-Computer Interaction*, 6.
- Bradley Fain, W., Nare, M., Doiron, M., Farmer, S., Johnson, J., Laforce, S., Ramesh, A., Rodriguez, A., Vickers, K., Zubatiy, T., & Mynatt, E. (2021). Lessons Learned from Developing a MCI Virtual Empowerment Program. *International Symposium on Human Factors and Ergonomics in Health Care*, 10(1), 13–17.
- 3. Crane, M., **Farmer, S.**, Appling, S., & Briscoe, E. (2018). Beyond skill: Predictive modeling with individual and team attributes in League of Legends. *Cognitive Science*, Madison, Wisconsin.
- 4. Fain, B., **Farmer, S.**, Owens, S., Fausset, C., & Foster, A. (2017). Medication adherence facilitators and barriers for older adults with disabilities. *IAGG World Congress of Gerontology and Geriatrics*, San Francisco, California.
- Pater, J., Owens, S., Farmer, S., Fain, B., & Mynatt, E. (2017). Addressing medication adherence technology needs in an aging population. *EAI International Conference on Pervasive Computing Technologies for Healthcare*, Barcelona, Spain.
- 6. Kanfer, R., Betts, M., & **Farmer, S.** (2015). Identifying stressful work events: What are they and how do they compare? *International Conference on Occupational Stress and Health*, "Work, Stress and Health 2015: Sustainable Work, Sustainable Health, Sustainable Organizations," Atlanta, Georgia.
- Fausset, C.B., Baranak, A., Farmer, S. K., Mann, E. L., Harrington, C. N., Price, C. E., & Ray, J. (2014). Developing a scoring matrix to evaluate the usability of consumer packaging: A pilot study. *Human Factors and Ergonomics Society International Annual Meeting*, Chicago, Illinois.
- Fausset, C. B., Harley, L., *Farmer, S.*, Fain, B. (2013). Older adults' perceptions and use of technology: A novel approach. *International Conference on Human-Computer Interaction,* Las Vegas, Nevada.
- Bell, C., Fausset, C., *Farmer, S.*, Nguyen, J., Harley, L., Fain, W. B. (2013). Examining social media use among older adults. *ACM Conference on Hypertext and Social Media*, Paris, France.
- 10. Kanfer, R., Betts, M., **Farmer, S. K**., & Barnett, N. G. (2013). Development of the Work Events Inventory: Event Readjustment Difficulty. *Society for Industrial and Organizational Psychology*, Houston, Texas.
- 11. **Farmer, S.**, Wheaton, J., Simpson, E. & Frick, J. (2011). Don't trust him! Fertile females have enhanced detection of males' trustworthiness. *34th Annual Convention of the Behavioral Sciences*, University of Georgia, Athens, Georgia.

# E. Conference Presentations without Proceedings

- 1. **Farmer, S.** (2019). HomeLab: A Living Lab for Evaluations. *Southern Gerontological Society Annual Meeting*, Miramar Beach, Florida.
- Farmer, S. (2018). End user and caregiver experience of personal emergency response systems. Southern Gerontological Society Annual Meeting, Lake Lanier, GA.

- 3. Farmer, S., Harley, L., Bell, C., Baranak, A., and Fain, W.B. (2013). Voting accessibility survey of older adults in metro Atlanta. *National Institute of Standards and Technology's Accessible Voting Technologies Research Workshop*, Gaithersburg, Maryland.
- 4. Cain, B., Knight, W., **Farmer, S.**, Nix, M., Simpson, E. & Frick, J. (2010). Individual differences in facial identity discrimination in infancy. *Annual Convention of the Behavioral Sciences*, University of Georgia, Athens, Georgia.

## F. <u>Research Recognition Awards</u>

- 1. Outstanding Achievement in Research Program Development, Georgia Institute of Technology, 2022
- 2. Million Dollar Club Award, Ivan Allen College, 2022
- 3. Million Dollar Club Award, Ivan Allen College, 2021
- 4. Spot Award for Outstanding Employee Contributions, GTRI, 2017
- 5. Spot Award for Outstanding Employee Contributions, GTRI, 2016

# II. TECHNICAL CONTRIBUTIONS AND INNOVATION

## A. <u>Research Reports</u>

- Farmer, S., Martinez, A., Sheiner, R., and Peagler, A., "Accessibility Evaluation: MarcomCentral Digital Asset Management," Final, MarcomCentral, Inc., GR00017055, AGR DTD 7-11-22, September 2022, 27 pages. Farmer was the principal investigator for this project and primary author of the report.
- Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Cox Communications Customer Discovery: Ensight App," Final, Cox Communications Inc., GR00012883, AGR DTD 10/18/2021, July 2022, 17 pages. Farmer was the principal investigator for this project and primary author of the report.
- 3. **Farmer, S.**, Peagler, A., Sheiner, R., and Martinez, A., "Cue Health Monitoring System: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2022, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 4. **Farmer, S.**, Peagler, A., Sheiner, R., and Martinez, A., "Uh-Oh Labs COVID-19 Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Mologic COVI-GO SARS-COV-2 Ag Self-Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2022, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 6. **Farmer, S.**, Sheiner, R., and Martinez, A., "Clip Health Core Analyzer: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, July 2022, 12 pages. Farmer was the principal investigator for this project and primary author of the report.
- 7. **Farmer, S.**, Sheiner, R., and Martinez, A., "Roche Pilot COVID-19 At-Home Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, July 2022, 12 pages. Farmer was the principal investigator for this project and primary author of the report.

- 8. **Farmer, S.**, Sheiner, R., and Martinez, A., "Azure FaStep COVID-19 Antigen Pen Home Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, July 2022, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 9. **Farmer, S.**, Sheiner, R., and Martinez, A., "Mologic COVI-GO SARS-COV-2 Ag Self-Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2022, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- Farmer, S., Sheiner, R., and Martinez, A., "Siemens Clinitest Rapid COVID-19 Antigen Self-Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2022, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 11. **Farmer, S.**, Sheiner, R., and Martinez, A., "MaximBio ClearDetect COVID-19 Antigen Home Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2022, 9 pages. Farmer was the principal investigator for this project and primary author of the report.
- Farmer, S., Sheiner, R., and Martinez, A., "BD Veritor At-Home COVID-19 Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2022, 12 pages. Farmer was the principal investigator for this project and primary author of the report.
- 13. **Farmer, S.**, Sheiner, R., and Martinez, A., "Ellume COVID-19 Home Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2022, 14 pages. Farmer was the principal investigator for this project and primary author of the report.
- 14. **Farmer, S.**, Sheiner, R., and Martinez, A., "Twist uDetect COVID\_19 Quick Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 15. **Farmer, S.**, Sheiner, R., and Martinez, A., "Osang Healthcare COVID-19 Antigen Self-Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, May 2022, 12 pages. Farmer was the principal investigator for this project and primary author of the report.
- 16. Farmer, S., Sheiner, R., and Martinez, A., "Quidel QuickVue At-Home OTC COVID-19 Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, May 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 17. **Farmer, S.**, Sheiner, R., and Martinez, A., "OraSure InteliSwab COVID-19 Rapid Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, May 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- Farmer, S., Sheiner, R., and Martinez, A., "Azure FaStep COVID-19 Antigen Nasal Test: Preliminary Usability and Accessibility Evaluation," Final, National Institutes of Health., GR00005379, A416007, May 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report
- Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "ANP .NIDS COVID-19 Antigen Home Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, April 2022, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 20. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "AvantGen AccuRate COVID-19 SelfCheck: Preliminary Usability Evaluation," Final, National Institutes

of Health., GR00005379, A416007, April 2022, 12 pages. Farmer was the principal investigator for this project and primary author of the report.

- 21. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Azure FaStep COVID-19 Antigen Home Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, March 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 22. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Abbott PanBio COVID-19 Antigen Self-Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, February 2022, 12 pages. Farmer was the principal investigator for this project and primary author of the report.
- 23. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Boson Rapid SARS-CoV-2 Antigen Test Card: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, February 2022, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 24. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Osang GeneFinder COVID-19 Ag Home Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, January 2022, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 25. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Watmind USA SARS-Cov-2 Ag Self-Test Kit: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, January 2022, 16 pages. Farmer was the principal investigator for this project and primary author of the report.
- 26. Farmer, S., Peagler, A., Sheiner, R., and Martinez, A., "Roche COVID-19 At-Home Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, December 2021, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 27. **Farmer, S.** and Peagler, A., "Roche COVID-19 At-Home Test: ITAP Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, December 2021, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 28. Farmer, S. and Peagler, A. "Princeton Biomedical Status COVID-19 Ag Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, December 2021, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 29. Farmer, S. and Peagler, A., "Siemens Clinitest Rapid COVID-19 Antigen Home Use Test" Final, National Institutes of Health., GR00005379, A416007, November 2021, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 30. Farmer, S., Peagler, A., and Sheiner, R. "Anavasi Diagnostics AscenioDx COVID-19 Test Kit: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, November 2021, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 31. Farmer, S., Peagler, A., and Sheiner, R. "Glow Nanotech COVID-19 Ag Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, October 2021, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 32. Farmer, S., Peagler, A., and Sheiner, R. "Conservation X NABIT SARS-CoV-2 Rapid Diagnostic Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2021, 13 pages. Farmer was the principal investigator for this project and primary author of the report.

- 33. Farmer, S., Peagler, A., and Sheiner, R. "Palogen DX 64 COVID-19 Chip: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2021, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 34. Farmer, S. and Peagler, A., "QooLabs Know Now! Saliva- Based Home Test for COVID-19: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2021, 9 pages. Farmer was the principal investigator for this project and primary author of the report.
- 35. **Farmer, S.** and Peagler, A., "Salignostics COVID-19 Saliva Test Kit, version 3: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, June 2021, 9 pages. Farmer was the principal investigator for this project and primary author of the report.
- 36. Farmer, S., Peagler, A., and Razin, V., "DASH Minute Molecular SARS-CoV-2 Test Instrument: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, May 2021, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 37. **Farmer, S.**, Peagler, A., and Razin, V., "RingIR AG-4000 Breath Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, April 2021, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 38. Farmer, S., Peagler, A., and Razin, V., "Visby Medical COVID-19 Test, version 2: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, March 2021, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 39. **Farmer, S.**, Peagler, A., and Razin, V., "EasyStep Rapid COVID-19 Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, February 2021, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 40. **Farmer, S.**, Peagler, A., and Razin, V., "Mologic SARS-CoV-2 OTC Antigen Test, Nasal: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, February 2021, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 41. Farmer, S., Peagler, A., and Razin, V., "Qorvo Biotechnologies Omnia System: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, February 2021, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 42. Farmer, S. and Peagler, A., "Abbott BinaxNOW COVID-19 Ag Card: Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, February 2021, 23 pages. Farmer was the principal investigator for this project and primary author of the report.
- 43. **Farmer, S.**, Peagler, A., and Razin, V., "Mologic SARS-CoV-2 POC Antigen Test, Nasal: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, January 2021, 6 pages. Farmer was the principal investigator for this project and primary author of the report.
- 44. **Farmer, S.**, Peagler, A., and Razin, V., "Pine Trees Health Covid-19 Testing Device: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, January 2021, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 45. **Farmer, S.**, Peagler, A., and Razin, V., "Salignostics COVID-19 Saliva Test: Preliminary Usability Evaluation," Final, National Institutes of Health.,

GR00005379, A416007, January 2021, 9 pages. Farmer was the principal investigator for this project and primary author of the report.

- 46. **Farmer, S.**, Peagler, A., and Razin, V., "Talis One Test Kit: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, January 2021, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 47. **Farmer, S.**, Peagler, A., and Razin, V., "Veravas Saliva Collection Device: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, January 2021, 6 pages. Farmer was the principal investigator for this project and primary author of the report.
- 48. **Farmer, S.**, Peagler, A., and Razin, V., "Mologic SARS-CoV-2 Antigen Test, Saliva: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, December 2020, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 49. **Farmer, S.**, Peagler, A., and Razin, V., "Resonance Dx Rapidus-Pon Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, December 2020, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 50. Farmer, S., Peagler, A., and Razin, V., "ANP Technologies NIDS COVID-19 Antigen Rapid Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, November 2020, 7 pages. Farmer was the principal investigator for this project and primary author of the report.
- 51. Farmer, S., Peagler, A., and Razin, V., "Rover Dx Lightspeed COVID-19 Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, November 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 52. Farmer, S., Peagler, A., and Razin, V., "Twist Bioscience Antigen Lateral Flow Assay: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, November 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 53. **Farmer, S.**, Peagler, A., and Razin, V., "XTRAVA: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, November 2020, 10 pages. Farmer was the principal investigator for this project and primary author of the report.
- 54. **Farmer, S.**, Peagler, A., and Razin, V., "baebies FINDER 1.5 with SARS-CoV-2 Cartridge and Test Protocol: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, October 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 55. Farmer, S., Peagler, A., and Razin, V., "MobileDetect-BIO Test Kit, version 2: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, October 2020, 11 pages. Farmer was the principal investigator for this project and primary author of the report.
- 56. Farmer, S., Peagler, A., and Razin, V., "MobileDetect-BIO Test Kit, version 1: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, September 2020, 9 pages. Farmer was the principal investigator for this project and primary author of the report.
- 57. **Farmer, S.** and Peagler, A., "Optolane Direct Dr. PCR: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, September 2020, 10 pages. Farmer was the principal investigator for this project and primary author of the report.

- 58. Farmer, S. and Peagler, A., "Luminostics Clip COVID Rapid Antigen Test: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, August 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 59. Farmer, S. and Peagler, A., "Ubiquitome Liberty19 Real Time PCR Machine: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, July 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 60. **Farmer, S.** and Peagler, A., "Visby Disposable Molecular Diagnostic, version 1: Preliminary Usability Evaluation," Final, National Institutes of Health., GR00005379, A416007, July 2020, 5 pages. Farmer was the principal investigator for this project and primary author of the report.
- Farmer, S. and Peagler, A., "Maxim SARS-CoV-2 Antigen Rapid Test Kit, version 2: Failure Modes and Effects Analysis Final, National Institutes of Health., GR00005379, A416007, July 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 62. Farmer, S. and Peagler, A., "Maxim SARS-CoV-2 Antigen Rapid Test Kit, version 1: Failure Modes and Effects Analysis Final, National Institutes of Health., GR00005379, A416007, July 2020, 8 pages. Farmer was the principal investigator for this project and primary author of the report.
- 63. **Farmer, S.** and Robinson, L., "Accessibility Evaluation: MarcomCentral Digital Asset Management," Final, MarcomCentral, Inc., GR00005476, STANDARD SSA DTD 6-18-20, August 2020, 24 pages. Farmer was the principal investigator for this project and primary author of the report.
- 64. **Farmer, S.**, Foster, A., Broussard, K., and Fain, B., "Usability Test Report: Electronic Ballot Marker (EBM)," Final, Smartmatic, GR10025358, AGR MARCH 11, 2019, May 2019, 169 pages. Farmer was the task lead for this project and primary author of the report.
- 65. **Farmer, S.**, Foster, A., Broussard, K., and Fain, B., "Usability Test Report: Ballot Marking Device (BMD)," Final, Smartmatic, GR10025358, AGR MARCH 11, 2019, September 2019, 67 pages. Farmer was the task lead for this project and primary author of the report.
- 66. Farmer, S., "PSIAP: Research Performance Progress Report," Quarterly Report, National Institute of Standards and Technology, D8767.00.00.00000, 70NANB19H002, Quarterly reports submitted from April 2019- present (15 reports submitted), 4 pages. Farmer is the usability task lead for the project and authored the quarterly reports.
- 67. Farmer, S., "PSIAP: Research Performance Progress Report," Quarterly Report, National Institute of Standards and Technology, D8607.00.00.00000, 70NANB18H150, Quarterly reports submitted from September 2018- present (18 reports submitted), 3 pages. Farmer is the usability task lead for the project and authored the quarterly reports.
- 68. Farmer, S., Gleaton, E., and Sheiner, R., "A Consideration of the Needs of PWD in the development of FirstNet-Enabled Technologies for First Responders," Final, National Institute on Disability, Independent Living, and Rehabilitation Research, GR11006203, 90RE5025-03, January 2022, 29 pages. Farmer was the task lead for this project and primary author of the report.
- 69. Farmer, S., Peagler, A., Gleaton, E., and Fain, B., "Design Support and Evaluation of the Therapy Smart System," Final, La Valériane Health Solutions, GR00009741,

SSA DTD 4-7-2021, August 2021, 37 pages. Farmer was the task lead for this project and primary author of the report.

- Farmer, S., Peagler, A., and Fain, B., "Cause-of-Death Reporting: Human Factors Investigation," Final, Centers for Disease Control and Prevention, D8692.00.00.00000, 75D30118C02896, September 2020, 11 pages. Farmer was the task lead for this project and contributed to the report.
- 71. Farmer, S., Foster, A., Burney, C., Wright, C., and Fain, B. "Evaluation of PERS Technology," Final, Cox Communications Inc., D8158.00.00.00000, AGR DTD 04/01/17, September 2018, 30 pages. Farmer was the task lead for this project and primary author of the report.
- 72. **Farmer, S.**, Foster, A., Broussard, K., and Fain, B., "Ergonomic Evaluation of Children's Scissors," Final, Fiskars, D7251.00.00.00000, AGR DTD 3/28/14, October 2018, 28 pages. Farmer was the task lead for this project and primary author of the report.
- 73. Farmer, S., Grooms, A., McCord, H., and Fain, B., "Investigation of Acceleration of the Wrist in the Use of Spray Nozzles," Final, Fiskars, D7251.00.00.00000, AGR DTD 3/28/14, January 2018, 26 pages. Farmer was the task lead for this project and primary author of the report.
- 74. Farmer, S., Grooms, A., McCord, H., and Fain, B., "Ethnographic Investigation of Spray Nozzles," Final, Fiskars, D7251.00.00.0000, AGR DTD 3/28/14, January 2018, 19 pages. Farmer was the task lead for this project and primary author of the report.
- 75. Farmer, S., Foster, A., Wright, C., Chhabra, J., and Fain, B., "Georgia Tech HomeLab Evaluation of a Candidate PERS Technology," Final, Cox Communications Inc., D8158.00.00.00000, AGR DTD 04/01/17, September 2017, 48 pages. Farmer was the task lead for this project and primary author of the report.
- 76. Appling, S., **Farmer, S.**, and Brugh, W. "JIFX 17-4: After Action Report," Final, Naval Postgraduate School, FA8075-14-D-0018-0007, August 2017, 30 pages. Farmer planned and conducted field experiments, facilitated collaborations, and contributed to the report.
- 77. Fain, B. and Farmer, S., "Medication Adherence for Older Adults with Disabilities," Final, National Institute on Disability and Rehabilitation Research, GR10005111, 90RE5016-04-01, June 2017, 25 pages. Farmer led data collection for this project and was the primary author for the report.
- 78. Fain, B. and **Farmer, S.**, "Challenges in the Home for Adults Aging with Mobility Impairments," Final, National Institute on Disability and Rehabilitation Research, GR10005111, 90RE5016-04-01, June 2017, 21 pages. Farmer led data collection for this project and was the primary author for the report.
- 79. Fain, B. and **Farmer, S.**, "Development of Personas for Designing for Individuals with Mobility Impairments," Final, National Institute on Disability and Rehabilitation Research, GR10005111, 90RE5016-04-01, June 2017, 15 pages. Farmer led data collection for this project and was the primary author for the report.
- Fain, B., Farmer, S., and Foster, A., "Ethnographic Investigation of Challenges Involved in Food Preparation for Older Adults," Final, General Electric, 0D77810000, AGR DTD 09/25/15, June 2016, 26 pages. Farmer led data collection for this project and was the primary author for the report.
- 81. Fain, B., Farmer, S., and Fausset, C. "Ethnographic Investigation of Using Two-Handed Hand Tools: Shears, Loppers, and Tree Pruners," Final, Fiskars, D7251.00.00.00000, AGR DTD 3/28/14, February 2016, 28 pages. Farmer led data collection for this project and contributed to the report.

- 82. Owens, M.S., Foster, A., **Farmer, S.,** Fain, W.B. "Medication Adherence Final Report," Series of Reports of Research Findings, AARP, D7590, 129113, Various dates. Played key role in performing research, led data analysis, and contributed to reports.
  - April 2016 Final Report Revised
  - April 2016 Interim Report Visit 3
  - February 2016 Final Report
  - November 2015 Interim Report Visit 2
  - September 2015 Interim Report Ethnographic and Demographic Data
  - September 2015 Interim Report Visit 1
  - August 2012 Personas, Journey Maps, and Quotes
  - July 2015 Initial Interim Report
- 83. Owens, M.S., Foster, A., Farmer, S., Fain, W.B. "Activity Tracker Evaluation Final Report", Series of Reports of Research Findings, AARP, D7490, AGREEMENT DATED 12/5/14, Various dates. Played key role in performing research, led data analysis, and contributed to reports.
  - July 2015 AARP Released Final Report
  - May 2015 Draft Report
- 84. **Farmer, S.**, Fausset, C., and Fain, B., "Product Packaging and Older Adults: A Needs Analysis," Final, July 2013, 55 pages. Farmer contributed to this research and report.
- 85. Bell, C., **Farmer, S.**, Hutto, C. J., and Fain, B., "Use of Social Media Among Older Adults," Final, December 2012, 33 pages. Farmer contributed to this research and report.
- 86. Fausset, C., **Farmer, S.**, Price, C., and Fain, B., "Assessing Technology Perceptions of Older Adults," Final, November 2012, 28 pages. Farmer contributed to this research, led data analysis, and contributed to the report.

## B. Significant Technical Innovation and/or Contributions on Sponsored Programs

1. Name/Title for Key Delivered Product: F&F Usability Matrix Sponsor/ To Whom Delivered: Emory/NIH

**Date range for work performed by the candidate:** May 2020- present **Describe Product**: This homegrown rating scale allows a system or device to be scored on a 3x3 matrix along two dimensions: efficiency and errors. The intention was to encapsulate as many components of usability as possible into the scale, with the caveat that for this particular project, access to the device and timeline is sometimes prohibitive. This scale excludes some pieces of components of usability such as satisfaction (as user testing may not be conducted) and effectiveness (these evaluations sometimes occur before or in parallel to clinical validation). This rating scale was designed to provide the ability to compare dissimilar tests in addition to the ability to quickly and succinctly communicate the system-level usability to the larger RADx team, project team leads, and NIH leadership. Scoring consists of the risk of error that would lead to system failure and the expenditure of resources required from the user. While this scale presents a high-level snapshot of usability only, it provides a consistent and efficient method by which to communicate the results of human factors evaluations. **Candidate's specific technical contribution:** Farmer co-created the matrix with Amanda Foster.

2. Name/Title for Key Delivered Product: VPATs (quantity: over 50) Sponsor/ To Whom Delivered: Ricoh

**Date range for work performed by the candidate**: January 2018- present **Describe Product:** Voluntary Product Assessment Templates (VPATs) are standardized documents intended to indicate the conformance of information and communication technologies to the Revised 508 Standards for IT accessibility. VPATs are recommended for any ICT that will be marketed the federal government and also provide an overview of the accessibility of a technology for other prospective buyers.

**Candidate's specific technical contributions**: Farmer collected the data required and completed the VPATs.

3. Name/Title for Key Delivered Product: THESS Heuristic Evaluation Sponsor/ To Whom Delivered: La Valériane

**Date range for work performed by the candidate**: May 2021- August 2021 **Describe Product:** Farmer and her team conducted a heuristic evaluation on La Valériane's THerapy Smart System software (an online solution for monitoring patients and safely dispensing medication). The heuristic evaluation is an evaluation method that helps identify usability problems against human factors heuristics. This evaluation helped the sponsor better understand the impact of usability issues in the software.

**Candidate's specific technical contributions**: Farmer led the heuristic evaluation and documentation.

4. Name/Title for Key Delivered Product: Cause-of-Death Reporting Task Analysis Sponsor/ To Whom Delivered: CDC

**Date range for work performed by the candidate**: September 2019- September 2020

**Describe Product**: Data was collected (via observations, interviews, and analyzing documents and forms) such that a task analysis, which identifies all cognitive, physical, and sensory tasks associated with a protocol or procedure, could be completed for cause-of-death reporting across the United States. The analysis allows for specific identification of pain points and the impact these pain points have on later tasks.

**Candidate's specific technical contributions**: Farmer led data collection and analysis and constructed the task analysis with Amanda Foster.

5. Name/Title for Key Delivered Product: VVSG assessments (quantity: 2) Sponsor/ To Whom Delivered: Smartmatic USA Corporation Date range for work performed by the candidate: January 2018- September 2019 Describe Product: Voluntary Voting System Guidelines (VVSG) are a set of guidelines intended to assess whether voting systems meet required standards. Most US states and territories require their voting systems to conform to these guidelines. Farmer and her team collected data, both in-lab and during extensive user testing, required to complete VVSG assessments for two Smartmatic voting systems. Candidate's specific technical contributions: Farmer led data collection and VVSG completion. 6. Name/Title for Key Delivered Product: ISRs (quantity: 33) Sponsor/ To Whom Delivered: Arthritis Australia Date range for work performed by the candidate: January 2017- April 2019 Describe Product: Initial Scientific Reviews (ISRs) evaluate the packaging of food and beverage products utilized in hospitals and provides an accessibility rating based on an accessibility benchmark scale. These reviews evaluate ease of opening, safety, and readability of the products. Candidate's specific technical contributions: Farmer conducted the ISRs and

**Candidate's specific technical contributions:** Farmer conducted the ISRs and created factsheets to communicate accessibility at a glance.

7. Name/Title for Key Delivered Product: Medication Processes and Systems Task Analysis

Sponsor/ To Whom Delivered: Wellstar Health Systems

**Date range for work performed by the candidate**: August 2016- December 2017 **Describe Product**: Data was collected (via shadowing and interview physicians, nurses, pharmacist, and may other clinicians) in multiple Wellstar hospitals such that a task analysis, which identifies all cognitive, physical, and sensory tasks associated with a protocol or procedure, could be completed for medication delivery in a Wellstar hospital. The task analysis mapped tasks from the time a medication arrived in a hospital to when a patient took it. The analysis allowed for specific identification of pain points and the impact these pain points have on later tasks, and allowed for a list of recommendations for a smoother medication delivery process with fewer errors and time lags.

**Candidate's specific technical contributions**: Farmer led data collection and contributed to the task analysis with other team members.

8. Name/Title for Key Delivered Product: Personas for design Sponsor/ To Whom Delivered: N/A

**Date range for work performed by the candidate**: January 2016- December 2017 **Describe Product:** Personas were created to represent the unmet needs, challenges, motivations, and goals of older adults with pre-existing mobility impairments who experiencing normative age-related declines. End user data was collected via surveys, interviews, observations, imagery, and anecdotal data in order to create personas the protect participant privacy and represent general trends. These personas have been used in graduate school classes, workshops, and seminars.

**Candidate's specific technical contributions**: Farmer led data collection and contributed to persona development.

9. Name/Title for Key Delivered Product: Fiskars Tool Assessment & Design Assistant

**Sponsor/ To Whom Delivered**: Fiskars

**Date range for work performed by the candidate**: January 2016- December 2017 **Describe Product:** The Fiskars Tool Assessment & Design Assistant (TADA), a tool intended to assist in the design of accessible hand tools, with a specific version intended for different types of hand tools (i.e., pruners, scissors, snips, saws, hammers). TADA includes a checklist for ergonomic design (true/false statements based on human factors principles), data inputs, and data outputs. The tool was created by collecting extensive arthrometric data (via both the literature and user testing) and researching relevant design principles. **Candidate's specific technical contributions**: Farmer assisted with data collection, research, and creation of TADA.

**10. Name/Title for Key Delivered Product:** Packaging Scoring Matrix **Sponsor/ To Whom Delivered:** N/A

**Date range for work performed by the candidate**: January 2016- December 2017 **Describe Product:** The packaging scoring matrix was developed to evaluate and quantify the difficulty of use of consumer packaging for an older adult population. Packaging types (e.g., blister packaging, microwave meal packaging) were scored against two dimensions: frequency of use and difficulty of use; included a weighting multiplier indicative of the number of tasks associated with a packaging type; and scores ranged from 0-100. The matrix received preliminary validation via a survey completed by older adults.

**Candidate's specific technical contributions**: Farmer led validation data collection and contributed to the scoring matrix development.

# III. PROJECT LEADERSHIP AND SUPERVISION

### A. Leadership in Funded Research

Externally Sponsored Programs for which the Candidate served in a Leadership Role (NOTE: Only list information if you served as a PD/PI, co-PD, Task Leader, System Engineer, Lead HW Engineer, or Lead SW Engineer)

_	iter, Leau II W Engineer, or	Louis of Engineer
1.	Title:	Marcom Accessibility Research Support Program
	Contract Number:	AGR DTD 7-11-22
	Sponsor:	MarcomCentral
	P.I.:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$15,848.00
	Number and Rank of Persons Supervised:	4 (2 RSII, 1 RSI, 1 GRA)
	Period of Performance (Project):	11-Jul-2022 to 10-Jan-2023
	Period of Performance (Candidate):	11-Jul-2022 to 10-Jan-2023
	Contributions:	Farmer was the principal investigator for this project and oversaw data collection and reporting.
2.	Title:	HomeLab/Cox Communications Customer Discovery
	Contract Number:	AGR DTD 10/18/2021
	Sponsor:	Cox Communications, Inc.
	P.I.:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$94,763.00
	Number and Rank of Persons Supervised:	3 (2 RSIIs and 1 RSI)

	Period of Performance (Project):	18-Oct-2021 to 30-Sep-2022
	Period of Performance (Candidate):	18-Oct-2021 to 30-Sep-2022
	Contributions:	Farmer was the principal investigator for this project and oversaw data collection, reporting, and led weekly meetings with the sponsor.
3.	Title:	Marcom Accessibility Research Support Program
	Contract Number:	STANDARD SSA DTD 6-18-20
	Sponsor:	MarcomCentral
	P.I.:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$20,000.00
	Number and Rank of	
	Persons Supervised:	2 (2 RSIs)
	Period of Performance	10 J 2020 / 10 A 2020
	(Project):	18-Jun-2020 to 18-Aug-2020
	Period of Performance	10 Law 2020 to 19 Arrs 2020
	(Candidate):	18-Jun-2020 to 18-Aug-2020
	Contributions:	Farmer was the principal investigator for this project and oversaw data collection and reporting.
4	- TD1 - 1	
4.	Title: Contract Number:	RADx COVID-19 A416007
	Contract Number	A/116001/
	Sponsor:	Emory University
	Sponsor: P.I.:	Emory University Oliver Brand and Sarah Farmer
	Sponsor: P.I.: Candidate's Role:	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator
	Sponsor: P.I.: Candidate's Role: Budgetary Authority?	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes
	Sponsor: P.I.: Candidate's Role: Budgetary Authority? Amount Funded for Project:	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator
	Sponsor: P.I.: Candidate's Role: Budgetary Authority? Amount Funded for Project: Number and Rank of	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes
	Sponsor: P.I.: Candidate's Role: Budgetary Authority? Amount Funded for Project:	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes \$2,496,091.00
	Sponsor: P.I.: Candidate's Role: Budgetary Authority? Amount Funded for Project: Number and Rank of	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes \$2,496,091.00 9 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)
	Sponsor: P.I.: Candidate's Role: Budgetary Authority? Amount Funded for Project: Number and Rank of Persons Supervised:	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes \$2,496,091.00
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes \$2,496,091.00 9 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs) 22-May-2020 to 29-Sep-2022
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes \$2,496,091.00 9 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance	Emory University Oliver Brand and Sarah Farmer Co-Principal Investigator Yes \$2,496,091.00 9 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs) 22-May-2020 to 29-Sep-2022
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance(Candidate):	Emory UniversityOliver Brand and Sarah FarmerCo-Principal InvestigatorYes\$2,496,091.009 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)22-May-2020 to 29-Sep-202222-May-2020 to 29-Sep-2022Farmer is the principal investigator for this project and oversaw all human factors activities for the RADx Test
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance	Emory UniversityOliver Brand and Sarah FarmerCo-Principal InvestigatorYes\$2,496,091.009 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)22-May-2020 to 29-Sep-202222-May-2020 to 29-Sep-2022Farmer is the principal investigator for this project and
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance(Candidate):	Emory UniversityOliver Brand and Sarah FarmerCo-Principal InvestigatorYes\$2,496,091.009 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)22-May-2020 to 29-Sep-202222-May-2020 to 29-Sep-2022Farmer is the principal investigator for this project and oversaw all human factors activities for the RADx Test
	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance(Candidate):Contributions:	Emory UniversityOliver Brand and Sarah FarmerCo-Principal InvestigatorYes\$2,496,091.009 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)22-May-2020 to 29-Sep-202222-May-2020 to 29-Sep-2022Farmer is the principal investigator for this project and oversaw all human factors activities for the RADx Test Verification Center. Over 70 tests and test protocols have been evaluated for this project so far.
5.	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance(Candidate):Contributions:Title:	Emory UniversityOliver Brand and Sarah FarmerCo-Principal InvestigatorYes\$2,496,091.009 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)22-May-2020 to 29-Sep-202222-May-2020 to 29-Sep-2022Farmer is the principal investigator for this project and oversaw all human factors activities for the RADx Test Verification Center. Over 70 tests and test protocols have been evaluated for this project so far.ARTEMIS Quality Under Adjustable Realistic Conditions
5.	Sponsor:P.I.:Candidate's Role:Budgetary Authority?Amount Funded for Project:Number and Rank ofPersons Supervised:Period of Performance(Project):Period of Performance(Candidate):Contributions:	Emory UniversityOliver Brand and Sarah FarmerCo-Principal InvestigatorYes\$2,496,091.009 (2 GRAs, 2 RSIs, 2 RSIIs, 3 PRSs)22-May-2020 to 29-Sep-202222-May-2020 to 29-Sep-2022Farmer is the principal investigator for this project and oversaw all human factors activities for the RADx Test Verification Center. Over 70 tests and test protocols have been evaluated for this project so far.

P.I.:   Brad Fain     Candidate's Role:   Task Lead     Budgetary Authority?   Yes     Subtask Title?   Test and Measurement     Amount Funded for Project:   \$2,925,000.00     Number and Rank of Persons Supervised:   1 (1 RSII)     Period of Performance (Project):   15-Feb-2019 to 31-Mar-2023     Period of Performance (Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     6.   Title:   ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive Scenarios     Contract Number:   70NANB18H150     Sponsor:   National Institute of Standards and Technology	
Budgetary Authority?   Yes     Subtask Title?   Test and Measurement     Amount Funded for Project:   \$2,925,000.00     Number and Rank of Persons Supervised:   1 (1 RSII)     Period of Performance (Project):   15-Feb-2019 to 31-Mar-2023     Period of Performance (Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     ARTEMIS: Augmented Reality Testing of Equipmed Multiple Immersive Scenarios   ARTEMIS10	
Subtask Title?   Test and Measurement     Amount Funded for Project:   \$2,925,000.00     Number and Rank of Persons Supervised:   1 (1 RSII)     Period of Performance (Project):   15-Feb-2019 to 31-Mar-2023     Period of Performance (Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive Scenarios   ARTEMIS10	
Amount Funded for Project:\$2,925,000.00Number and Rank of Persons Supervised:1 (1 RSII)Period of Performance (Project):15-Feb-2019 to 31-Mar-2023Period of Performance (Candidate):15-Feb-2019 to 31-Mar-2023Contributions:Farmer is the usability task lead for this project.6.Title:ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive ScenariosContract Number:70NANB18H150	
Number and Rank of Persons Supervised:   1 (1 RSII)     Period of Performance (Project):   15-Feb-2019 to 31-Mar-2023     Period of Performance (Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     6.   Title:     ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive Scenarios     Contract Number:   70NANB18H150	
Persons Supervised:   I (I RSII)     Period of Performance (Project):   15-Feb-2019 to 31-Mar-2023     Period of Performance (Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     6.   Title:     ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive Scenarios     Contract Number:   70NANB18H150	
(Project):   15-Feb-2019 to 31-Mar-2023     Period of Performance (Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     6.   Title:     ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive Scenarios     Contract Number:   70NANB18H150	
(Candidate):   15-Feb-2019 to 31-Mar-2023     Contributions:   Farmer is the usability task lead for this project.     6.   Title:     ARTEMIS: Augmented Reality Testing of Equipment Multiple Immersive Scenarios     Contract Number:   70NANB18H150	
6. Title: ARTEMIS: Augmented Reality Testing of Equipment   Multiple Immersive Scenarios 70NANB18H150	
O. The: Multiple Immersive Scenarios   Contract Number: 70NANB18H150	
Contract Number: 70NANB18H150	ent in
Sponsor: National Institute of Standards and Technology	
P.I.: Brad Fain	
Candidate's Role: Task Lead	
Budgetary Authority? Yes	
Amount Funded for Project: \$1,270,000.00	
Number and Bank of	
Persons Supervised: 3 (1 GRA, 1 RSI, 1 RSII)	
Period of Performance (Project): 01-Jun-2018 to 31-Dec-2022	
Period of Performance (Candidate): 01-Jun-2018 to 31-Dec-2022	
Contributions: Farmer is the usability task lead for this project.	
7. Title: Design Support and Evaluation of the Therapy Sma System	rt
Contract Number: SSA DTD 4-7-2021	
Sponsor: La Valériane	
P.I.: Brad Fain	
Candidate's Role: Task Lead	
Budgetary Authority? Yes	
Amount Funded for Project: \$38,500.00	
Number and Bank of	
Persons Supervised: 2 (1 GRA and 1 RSII)	
Period of Performance (Project): 07-Mar-2021 to 07-Dec-2021	
Period of Performance (Candidate): 07-Mar-2021 to 07-Dec-2021	
Contributions: Farmer led data collection and reporting for this pro	iaat
8. Title: Ricoh Accessibility	geet.

	Contract Number:	AGR DTD 6/15/10
	Sponsor:	Ricoh Corporation Ltd
	P.I.:	Brad Fain
	Candidate's Role:	Task Lead
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$1,045,769.87
	Number and Rank of	
	Persons Supervised:	5 (2 RSIs, 3 RSIIs)
	Period of Performance (Project):	05-June-2010 to 31-Mar-2021
	Period of Performance (Candidate):	01-Jan-2018 to 31-Mar-2021
	Contributions:	Farmer led data collection and reporting for this program. She produced over 50 VPATs in the course of this program.
9.	Title:	ACDS Tool for Death Reporting
	Contract Number:	76D30118C02896
	Sponsor:	DHHS/NIOSH
	P.I.:	Jon Duke
	Candidate's Role:	Task Lead
	Budgetary Authority?	No
	Amount Funded for Project:	\$358,810.00
	Number and Rank of	\$550,010.00
	Persons Supervised:	1 (1 RSI)
	Period of Performance	
	(Project):	09/28/2018 - 06/30/2020
	Period of Performance (Candidate):	09/01/2019 - 06/01/2020
	Contributions:	Farmer led data collection and analysis, including stakeholder interviews and observations, and contributed to deliverables including a task analysis and final report.
10.	Title:	Smartmatic LA County 2019 Summative Evaluation
10.	Contract Number:	AGR MARCH 11, 2019
	Sponsor:	Smartmatic USA Corporation
	P.I.:	Brad Fain
	Candidate's Role:	Task Lead
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$105,000.00
	Number and Rank of	φ105,000.00
	Persons Supervised:	4 (1 RA, 1 GRA, 1 RSIs, 1 RSII, 1 other)
	Period of Performance (Project):	11-Mar-2019 to 11-Mar-2020
	Period of Performance (Candidate):	11-Mar-2019 to 11-Mar-2020
	Contributions:	Farmer created the project protocol and led data collection

		and reporting.
		and reporting.
11.	Title:	Smartmatic Voting Accessibility Evaluation
	Contract Number:	PO NO 05973
	Sponsor:	Smartmatic USA Corporation
	P.I.:	Brad Fain
	Candidate's Role:	Task Lead
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$1,527,502.00
	Number and Rank of	
	Persons Supervised:	4 (1 RA, 1 GRA, 1 RSIs, 1 RSII, 1 other)
	Period of Performance (Project):	06-Dec-2016 to 02-Mar-2019
	Period of Performance (Candidate):	01-Jan-2018 to 02-Mar-2019
	Contributions:	Farmer was a task lead for a portion of this project; she created the task protocol and led data collection and reporting.
12	Title:	HomeLab Cox Communications Customer Discovery
12.	Contract Number:	AGR DTD 04/01/17
-	Sponsor: P.I.:	Cox Communications, Inc. Brad Fain
	Candidate's Role:	Task Lead
	Budgetary Authority?	Yes
-	Amount Funded for Project:	\$315,237.07
	Number and Rank of Persons Supervised:	10 (1 RA, 5 RSIs, 2 RSIIs, 1 SRE, 1 PRS)
	Period of Performance (Project):	01-Apr-2017 to 13-Aug-2019
	Period of Performance (Candidate):	01-Apr-2017 to 13-Aug-2019
	Contributions:	Farmer created the project protocol, led data collection and reporting, and led weekly meetings with the sponsor.
13.	Title:	Fiskars Ergonomic Mapping
	Contract Number:	AGR DTD 3/28/14
	Sponsor:	Fiskars
	P.I.:	Brad Fain
	Candidate's Role:	Task Lead
	Budgetary Authority?	Yes
	Amount Funded for Project:	\$418,000.00
	Number and Rank of	
	Persons Supervised:	5 (1 RA, 1 GRA, 3 RSIs)
	Period of Performance	

	(Project):	28-Mar-2014 to 30-Apr-2019
	Period of Performance (Candidate):	28-Mar-2014 to 30-Apr-2019
	Contributions:	Farmer was the task lead for several tasks under this project. She created the project protocol and led data collection and reporting.
14.	Title:	GE Kitchen HomeLab Study
	Contract Number:	AGR DTD 09/25/15
	Sponsor:	General Electric Company
	P.I.:	Brad Fain
	Candidate's Role:	Task Lead
	Budgetary Authority?	No
	Amount Funded for Project:	\$45,000.00
	Number and Rank of Persons Supervised:	1 (1 GRA)
	Period of Performance (Project):	29-Jul-2015 to 30-Jun-2016
	Period of Performance (Candidate):	29-Jul-2015 to 30-Jun-2016
	Contributions:	Farmer was a task lead for this project and led data collection and reporting.

## B. Additional Supervisory Responsibilities

Farmer has been the Director of Testing and Evaluation at CACP since 2019, as well as the managing director of Georgia Tech's HomeLab since 2018. Under these roles, she currently leads a team of seven (2 GRAs, 3 RSIs, and 2 RSIIs). Under her direction, HomeLab has become involved in long-term research programs such as the NIH-sponsored RADx and ITAP initiatives.

## **IV. SPONSORED PROGRAM DEVELOPMENT**

## A. <u>Research Program Development</u>

Farmer has contributed to the development of the Rapid Acceleration of Diagnostics (RADx) Test Verification Core, which was tasked by the NIH with expediting evaluations of candidate COVID-19 diagnostic technologies beginning in May 2020. Specifically, she created and leads the human factors sub-core. This sub-core is tasked with rapidly evaluating candidate technologies and providing a usability score, feedback, and actionable recommendations for improvement. As the lead of the human factors sub-score, Farmer and her team have also assisted with the Independent Test Assessment Program (ITAP), an accessibility initiative, and will be involved in evaluating diagnostics for Monkeypox, maternal health, hepatitis-C, and other health conditions in the future.

Additionally, as the managing director of HomeLab, Farmer has continued work to create a substantial platform for the evaluations of technologies, systems, and services that supports both internal evaluations and user testing.

# B. <u>Research Proposals</u>

1.	Title:	ACME POCT Rapid Acceleration of Diagnostics (RADx)
	G	Emory University (prime)/National Institutes of Health
	Sponsor:	(sponsor)
	PI:	Oliver Brand and Sarah Farmer
	Candidate's Role:	Co-Principal Investigator
	Date Submitted:	5/1/2020
	Amount Requested:	\$2,496,091.00
	Result:	Funded
	Period of Performance:	5/1/2020-10/31/2020
	Contribution to December 1	Farmer contributed to the proposal and developed the human
	Contribution to Proposal:	factors sub-core evaluation method proposed.
2	Titler	Atlanta Center for Microsystems Engineered POC
2.	Title:	Technologies (ACME POCT)
	Saman	Emory University (prime)/National Institutes of Health
	Sponsor:	(sponsor)
	PI:	Oliver Brand, Sarah Farmer, David Gottfried, David Ku
	Candidate's Role:	Co-Principal Investigator
	Date Submitted:	5/1/2020
	Amount Requested:	\$2,161,780.00
	Result:	Pending
	Period of Performance:	7/1/2023-6/30/2028
	Contribution to Proposal:	Farmer contributed to the proposal and developed the planned usability protocol.
-		RADx Independent Test Assessment Program for Monkeypox
3.	Title:	– Validation Center
		Emory University (prime)/National Institutes of Health
	Sponsor:	(sponsor)
	PI:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Date Submitted:	8/29/2022
	Amount Requested:	\$63,038.00
	Result:	Pending (Prime has received funding/awaiting subaward)
	Period of Performance:	9/30/22-9/29/23
	Contribution to Proposal:	Farmer authored and submitted the proposal.
4.	Title:	ACME POCT Innovation Funnel Validation Center
	Sponsor:	Emory University (prime)/National Institutes of Health (sponsor)
	PI:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Date Submitted:	7/28/22
	Date Subilitied:	1120122

	Amount Requested:	\$398,135.00
	Result:	Pending
	Period of Performance:	9/30/22-9/29/23
	Contribution to Proposal:	Farmer authored and submitted the proposal.
	contribution to rioposui.	Tamer additioned and submitted the proposal.
5.	Title:	RADx Supplement
		Emory University (prime)/National Institutes of Health
	Sponsor:	(sponsor)
	PI:	Sarah Farmer
-	Candidate's Role:	Principal Investigator
	Date Submitted:	6/17/22
	Amount Requested:	\$1,065,200.00
	Result:	Pending (Prime has received funding/awaiting subaward)
	Period of Performance:	7/1/2022-8/31/2023
	Contribution to Proposal:	Farmer authored and submitted the proposal.
6	TT: (1	UXDOTFIT: User Experience Design of Operationally
6.	Title:	Transformative FirstNet Integrated Technologies
	Sponsor:	US Department of Commerce
	PI:	Brad Fain
	Candidate's Role:	Co-Principal Investigator
	Date Submitted:	1/14/22
-	Amount Requested:	\$1,200,000.00
	Result:	Pending
	Period of Performance:	10/1/22-9/30/24
		Farmer contributed to this proposal and helped to develop the
	Contribution to Proposal:	planned research program.
7.	Title:	HomeLab/Cox Communications Customer Discovery
	Sponsor:	Cox Communications, Inc.
	PI:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Date Submitted:	12/11/22
	Amount Requested:	\$94,763.00
	Result:	Funded
	Period of Performance:	1/1/21-6/30/22
	Contribution to Proposal:	Farmer authored and submitted the proposal.
8.	Title:	Marcom Accessibility Research Support Program
	Sponsor:	MarcomCentral
	PI:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Date Submitted:	7/5/22
	Amount Requested:	\$15,848.00
	Result:	Funded
	Period of Performance:	7/11/22-12/31/22
	Contribution to Proposal:	Farmer authored and submitted the proposal.
	controlation to riopoodi.	
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9.	Title:	Marcom Accessibility Research Support Program
	Sponsor:	MarcomCentral
	PI:	Sarah Farmer
	Candidate's Role:	Principal Investigator
	Date Submitted:	5/22/20
	Amount Requested:	\$20,000.00
	Result:	Funded
	Period of Performance:	6/1/20-7/31/20
	Contribution to Proposal:	Farmer authored and submitted the proposal.

## V. OUTREACH AND SERVICE

## A. On-Campus Committees

List activities such as:

1. Member, GTRI Diversity and Inclusion Working Council, 2017- present

## B. Special Activities

- 1. Led IPAT's Living Lab Seminar, October 2019
- 2. Presented at the 4-Minute Madness event for MS-HIS students, September 2019
- 3. Judge for the Atlanta Jewish Academy science fair, December 2018
- 4. Judge for the Atlanta Jewish Academy science fair, December 2017

## C. Editorial and Reviewer Work for Conferences

- 1. Health care track reviewer for Human Factors and Ergonomic Society annual meeting, 2022
- 2. Health care track reviewer for Human Factors and Ergonomic Society annual meeting, 2021