

EDUCATION

- 1995-2001** **New York University**, New York, New York
PhD Computer Science
Dissertation title: *CollageMachine*: A Model of 'Interface Ecology'.
Advisor: Academy Award winner Ken Perlin. Committee includes: director & TDR editor Richard Schechner, Guggenheim Fellowship winner Barbara Kirshenblatt-Gimblett.
- 1991-93** **Wesleyan University**, Middletown, Connecticut
M.A. Music, Composition
The Economic Survival Rite of Passage: a multimedia opera of musicians, actors, dancers & digitally sampled found sounds. Advisors: new music pioneers Alvin Lucier and Anthony Braxton (Macarthur Fellowship).
- 1977-82** **Harvard University**, Cambridge, Massachusetts
B.A. Applied Mathematics / Electronic Media
Created a new sub-concentration in Applied Mathematics. Advisor: Anthony Oettinger.

ACADEMIC POSITIONS

- 2019-** **National Science Foundation**, Alexandria, VA
Program Director (IPA), CISE, Information and Intelligent Systems, Human-Centered Computing.
- Serve as program director for HCC programs, including CAREER, CRII, Core Small, and Core Medium.
 - Serve as program director for cross-cutting programs: Cyberlearning/RETTL, Future of Work at the Human-Technology Frontier, Ethical and Responsible Research (ER2), and RAPID COVID-19.
 - Collaborate with colleagues in all phases of program development and management.
 - Contribute wording to solicitations.
 - Mentor PIs in articulating their research areas through stages of the proposal development cycle: from informal discussions and 1-page summaries, to writing project abstracts.
 - Mentor panelists about how to write constructive reviews and panel summaries through a Generous Reviewing Guide.
 - Champion building scientific community as an essential aspect of participating in NSF panels.
 - Gender equity in panels: 58% of my panelists have been women.
 - Gender equity in awards: 68% of PIs in my awards happen to be women.
 - Champion design methodologies as critical to the NSF mission for (1) generating new ideas for what new technologies are good (and bad) for; and (2) gathering data about human experiences with new technologies, as they are being developed, and using this data to improve new technologies to better meet human needs.
 - Champion inclusion of caregivers in panels by keeping reviewing loads low and modeling that the presence of kids is welcome rather than intrusive.
 - Make building community an explicit component of the work of participating in panels. This helps motivate and fulfill panelists, which, in turn, creates camaraderie and better collaboration. Making community building explicit leads to valuable outcomes including better reviews, better summaries, and better decision-making, as well as better overall feelings about involvement in NSF as an institution.
 - Lead authoring of revised instructions for how to write an abstract (IIS Division edition).
 - Work as co-chair of the IIS Retreat Planning committee: discover prior best practices by meeting with other divisions; shepherd program director and management participation.
 - Develop and teach workshop to diverse PI's in New Mexico (an EPSCOR state): (1) NSF Overview; (2) NSF Proposal Writing: An Unofficial Perspective.

2016-	Texas A&M University , College Station, TX <i>Professor, Computer Science and Engineering</i>
2008-16	Texas A&M University , College Station, TX <i>Associate Professor, Computer Science and Engineering</i>
2012-13	University of Nottingham , Nottingham, United Kingdom <i>Sabbatical Fellow, Horizon Digital Economy Research Institute / Computer Science</i>
2002-08	Texas A&M University , College Station, TX <i>Assistant Professor, Computer Science</i>
2000-01	Tufts University , Medford, MA <i>Visiting Professor, Computer Science</i>
1997	Parsons School of Design , New York, NY <i>Lecturer, Interactive Art</i>

Research

GRANTS \$3,099,448 [\$2,958,181]	[my share in brackets]
<i>External: NSF</i>	
2015-20	Kerne, A., CHS: Small: Learning Communities in the Crowd: Scaling Participation in Online Courses through Social Live Media Composition, National Science Foundation, \$563,827 [\$563,827].
2015	Kerne, A., I-Corps: Transforming the Web to Support New Ideas: Beyond the Feed and the Board, National Science Foundation, \$50,000 [\$50,000].
2012-17	Kerne, A., EAGER: Embodying Visual Semantic Information Composition to Stimulate Sensemaking and Ideation, National Science Foundation, \$344,000 [\$344,000].
2008-17	Kerne, A., CAREER: A Multimodal Mixed-Initiative Research Notebook for Information Discovery, National Science Foundation, Intelligent Information Systems: Human-Centered Computing, \$650,000 [\$650,000].
2008-13	Kerne, A., HCC-Medium: Location-Aware Non-Mimetic Simulation Game for Teaching Team Coordination, National Science Foundation, \$539,806 [\$539,986].
2012	Kerne, A., I-Corps: ZeroTouch: High-Performance Sensing for Multi-Touch and Free-Air Interaction, \$50,000 [\$50,000].
2007-8	Kerne, A., SGER: Non-Mimetic Simulation of Fire Emergency Response Team Cognition Stress through a Mixed Reality Game, National Science Foundation, \$96,893 [\$96,893].
2006-9	Kerne, A., ALT: Promoting Information Discovery in Learning: Mixed-Initiative Composition of Hybrid Image-Text Surrogates, National Science Foundation, Advanced Learning Technologies, \$266,940 [\$266,940].
2004-5	Kerne, A., Smith, S.M., SGER: Extending Working Memory Functions by Presenting Bookmark and Result Sets as Temporal Visual Compositions, National Science Foundation, \$84,295 [\$43,874].
<i>External: Other</i>	
2015-17	Kerne, A., Collaborative Pen+Touch Design Ideation on Large Surfaces, Microsoft Surface Hub for Research, \$55,998 [\$55,998].

2016-17	Kerne, A., Fostering Participation in Online Learning through Live Media Composition in the Cloud, Microsoft Azure for Research, \$25,000 [\$25,000]
2016-17	Kerne, A., Kerne, A., Unrestricted Gift, Adobe Systems, \$12,400 [\$12,400].
2012-13	Kerne, A., Embodied Interactive Installation Ecologies, Horizon Digital Economy Research Institute at The University of Nottingham, \$72,602 [\$72,602].
2012	Kerne, A., Interface Ecology Lab, Meta-Metadata is S.IM.PL, Google Summer of Code (GSoC), \$40,500 [40,500].
2011-12	Kerne, A., PSoC Ubiquitous Computing and Education: Arduino & 8051 Development Boards, Cypress Semiconductor, \$44,988 [\$44,988].
2011	Kerne, A., Interface Ecology Lab, Meta-metadata semantics, S.IM.PL: Support for Information Mapping in Programming Languages, Google Summer of Code (GSoC), \$23,801 [\$23,801].
2012	Kerne, A., Scaling Zero Touch, TEEEX Disaster Preparedness and Response, \$10,000 [\$10,000].
2010	Kerne, A., U.S. Participation in ACM Multimedia Interactive Art Exhibition: An Interactive Renaissance of Color, National Science Foundation, \$10,000 [\$1906].
<i>Internal</i>	
2015	Kerne, A., Vanegas, J., Empowering Texas Innovation: Disseminating IdeaMâché to Support Creativity among Students and Educators, TAMU System: Chancellor’s Area 41 Challenge Grant, \$25,000 [\$20,000]
2005-7	Kerne, A., Gutierrez-Osuna, R., Song, D., Perceptive Sensor Networks Lab, Texas A&M College of Engineering, \$80,000 [\$26,667]
2006-7	Kerne, A., Visual Representations to Promote Creativity in The Design Process, Katrina-Rita Locative Media Dialogue, Texas A&M Arts Academy, \$9,000 [\$9,000].
2004-5	Kerne, A., Enhanced Generation of Navigational Information Compositions through Semantic Clustering, Texas A&M Humanities Informatics Initiative, \$16,000 [\$16,000].
2004	Leggett, J., Shipman, F., Kerne, A., Computational Media Lab, Texas A&M CAF, \$38,398 [\$12,799].

PUBLICATIONS - JOURNAL

* indicates my student

1. Kerne, A., Webb, A.M*, Smith, S.M., Linder, R.*, Lupfer, N.*, Qu, Y.*, Moeller, J.*, Damaraju, S.*, Using Metrics of Curation to Evaluate Information-based Ideation, *ACM Transactions on Computer-Human Interaction (ToCHI)*, 21(3) June 2014, 48 pages.
2. Pipek, V., Liu, S., Kerne, A., Crisis Informatics and Collaboration: A Brief Introduction, *Journal of Computer Supported Cooperative Work (JCSCW)*, 23(4) July 2014, 339-345.
3. Troups, Z. O.*, Hamilton, W.*, Kerne, A. The Team Coordination Game: A zero-fidelity simulation abstracted from fire emergency response practice, *ACM Transactions on Computer-Human Interaction (ToCHI)*, 18 (4) Dec 2011, 37 pages.
4. Kerne, A., Koh, E.*, Smith, S.M., Choi, H., Webb, A.M*, Dworaczyk, B.*, combinFormation: Mixed-Initiative Composition of Image and Text Surrogates Promotes Information Discovery, *ACM Transactions on Information Systems*, 27 (1) Dec 2008, 5:1 - 5:45.
5. Kerne, A., Smith, S.M., Koh, E.*, Graeber, R.*, An Experimental Method for Measuring the Emergence of New Ideas in Information Discovery, *International Journal of Human Computer Interaction (IJHCI)*, 24 (5) July 2008, 460-477.

6. Kerne, A., Koh, E.*, Representing Collections as Compositions to Support Distributed Creative Cognition and Situated Creative Learning, *New Review of Hypermedia and Multimedia (NRHM)* Special Issue on Studying the Users of Digital Education Technologies, 13(2) Dec 2007, 135-162.
7. Webb, A.M.*, Kerne, A., Koh, E.*, Human Movement and Clear Affordances Promote Social Interaction, *Leonardo Electronic Almanac (MIT Press)*, 19(5) May 2007.
8. Kerne, A., Doing Interface Ecology: The Practice of Metadisciplinarity, *Intelligent Agent*, 6(1) Jan. 2006, 1-6.
9. Kerne, A., Interface Ecology: An Open Conceptual Space of Collage and Emergence, *ArtLab23*, 1(1) Spring 2002, School of Visual Arts, NYC.
10. Kerne, A., The Conceptual Space of Collage, from CollageMachine to Interface Ecology and Back. *Cultronix*, 5, 2001, Carnegie Mellon University, Pittsburgh.
11. Kerne, A., CollageMachine: An Interactive Agent of Web Recombination, *Leonardo Journal of Arts and Sciences* (Juried Digital Salon Issue), 33(5) Nov 2000, 347-350.
12. Kerne, A., Cultural Representation in Interface Ecosystems Amendments to the interactions Design Awards Criteria. *ACM interactions*, 5(1) Jan 1998, 37-43.
13. Kerne, A. Lang, M., Kofi, F., Cultural Ecology from Ghana to the World Wide Web, *Leonardo Electronic Almanac (MIT Press)*, 4(3) March 1996.

PUBLICATIONS - CONFERENCE – FULL + ARCHIVAL

[acceptance rate %]

14. Jain, A. *, Kerne, A., Lupfer, N. *, Britain, G. *, Perrine, A. *, Choe, Y., Keyser, J., Huang, R. Recognizing Creative Visual Design: Multiscale Design Characteristics in Free-Form Web Curation Documents, *Proc. ACM DocEng 2021*, 1-10 [33%]. Best Paper Nominee.
15. Lupfer, N. *, Kerne, A., Linder, R. *, Fowler, H. *, Rajanna, V., Carrasco, M. *, Valdez, A. *, Multiscale Design Curation: Supporting Computer Science Students' Iterative and Reflective Creative Processes, *Proc ACM Creativity and Cognition 2019*, 233-245 [29%].
16. Webb, A.M. *, Fowler, H. *, Kerne, A., Newman, G., Kim, J.H., Mackay, W.E., Interstices: Sustained Spatial Relationships between Hands and Surfaces Reveal Anticipated Action, *Proc CHI 2019*, paper 288, 12 pages [24%].
17. Lupfer, N. *, Fowler, H. *, Valdez, A. *, Webb, A.M. *, Merrill, J., Newman, G., Kerne, A., Multiscale Design Strategies in a Landscape Architecture Classroom, *Proc ACM DIS 2018*, 1081-1093 [25%].
18. Hamilton, W.A. *, Lupfer, N. *, Botello, N. *, Tesch, T. *, Stacy, A. *, Merrill, J., Williford, B. *, Kerne, A. Collaborative Live Media Curation: Shared Context for Participation in Online Learning, *Proc. ACM CHI 2018*, paper 555, 14 pages [26%].
19. Carrasco, M. *, Kerne, A., Queer Visibility: Supporting LGBT+ Selective Visibility on Social Media, *Proc. ACM CHI 2018*, paper 250, 12 pages [26%].
20. Kerne, A., Lupfer, N. *, Linder R. *, Qu, Y. *, Valdez, A. *, Jain, A. *, Keith, K. *, Carrasco, M. *, Vanegas, J., Billingsley, A., Strategies of Free-form Web Curation: Processes of Creative Engagement with Prior Work, *Proc. ACM Creativity & Cognition 2017*, 380-392 [29%].
21. Lupfer, N. *, Kerne, A., Webb, A.M. *, Linder, R. *, Patterns of Free-form Curation: Visual Thinking with Web Content, *Proc. ACM Multimedia 2016*, 12-21 [20%]. **Best Paper Candidate [top 2% of papers]**.
22. Webb, A.M. *, Kerne, A., Brown, Z., Kim, J.H., Kellogg, E., LayerFish: Bimanual Layering with a Fisheye In-Place, *Proc. ACM Conf on Interactive Surfaces and Spaces (ISS) 2016*, 189-198 [28%].
23. Sharma, H.N., Toups, Z.O., Dolgov, I., Kerne, A., Jain, A. *, Evaluating Display Modalities Using a Mixed Reality Game, *Proc. ACM SIGCHI Symposium on Computer-Human Interaction in Play (CHI PLAY) 2016*, 65-77 [29%].
24. Webb, A.M. *, Wang, C., Kerne, A., Cesar, P., Distributed Liveness: Understanding How New Technologies Transform Performance Experiences, *Proc. ACM CSCW 2016*, 432-437 [25%].
25. Jain, A. *, Lupfer, N. *, Qu, Y. *, Linder, R. *, Kerne, A., Smith, S., Evaluating TweetBubble with Ideation Metrics of Exploratory Browsing, *Proc. ACM Creativity and Cognition 2015*, 178-187 [28%],
Best Paper Honorable Mention [top 2% of papers].
26. Linder, R. *, Lupfer, N. *, Kerne, A., Webb, A.M. *, Hill, C. *, Qu, Y. *, Keith, K. *, Carrasco M. *, Kellogg, E., Beyond Slideware: How a Free-form Presentation Medium Stimulates Free-form Thinking in the Classroom, *Proc. ACM Creativity and Cognition 2015*, 285-294 [28%].
27. Wilkins, J., Järvi, J., Jain, A. *, Kejriwal, G., Kerne, A., Kumar, V., EvolutionWorks: Towards Improved Visualization of Citation Networks, *Proc. IFIP International Conference on Computer-Human Interaction (INTERACT) 2015*, 213-230 [29.9%].
28. Qu, Y. *, Kerne, A., Lupfer, N. *, Linder, R. *, Jain, A. *, Metadata Type System: Integrate Presentation, Data Models and Extraction to Enable Exploratory Browsing Interfaces, *Proc. ACM Engineering Interactive Computing Systems (EICS) 2014*, 107-116 [18%].
29. Linder, R. *, Snodgrass, C. *, Kerne, A. Everyday Ideation: All of My Ideas Are On Pinterest, *Proc. ACM CHI 2014*, 2411-2420 [23%].
30. Hamilton, W. *, Garretson, O. *, Kerne, A. Streaming on Twitch: Fostering Participatory Communities of Play

- within Live Mixed Media, *Proc. ACM CHI 2014*, 1315-1324 [23%].
31. Fischer, J., Jiang, W., Kerne, A., Greenhalgh, C., Ramchurn, S., Reece, S., Pantidi, N., Rodden, T., Supporting Team Coordination on the Ground: Requirements from a Mixed-Reality Game, *Proc Intl. Conf on Design of Cooperative Systems (Coop) 2014*, 49-67, Springer [42%].
 32. Webb, A.M.*, Linder, R.*, Kerne, A., Lupfer, N.*, Qu, Y.*, Poffenberger, B.*, Revia, C., Promoting Reflection and Interpretation in Education: Curating Rich Bookmarks as Information Composition, *Proc. ACM Creativity and Cognition 2013*, 53-62 [32%].
 33. Damaraju, S.*. Seo, J.H., Hammond, T., Kerne, A., Multi-tap sliders: advancing touch interaction for parameter adjustment. *Proc ACM Intelligent User Interfaces (IUI) 2013*, 445-452 [22%].
 34. Moeller, J.*, Kerne, A., ZeroTouch: An Optical Multi-Touch and Free-Air Interaction Architecture, *Proc ACM CHI 2012*, 2165-2174 [23%], **Best Paper Honorable Mention [top 5% of accepted papers]**.
 35. Hamilton, W.*, Kerne, A., Robbins, T.*, High-Performance Pen + Touch Modality Interactions: A Real-Time Strategy Game eSports Context, *Proc. ACM UIST 2012*, 309-318 [21%].
 36. Kerne, A., Hamilton, W.*, Toups, Z. O. Culturally Based Design: Embodying Trans-Surface Information Exchange in Rummy. *Proc ACM CSCW 2012*, 509-518 [top 9%].
 37. Toups, Z.*, Kerne, A., Hamilton, W.*, Shahzad, N.*, Zero-Fidelity Simulation of Fire Emergency Response: Improving Team Coordination Learning, *Proc ACM CHI 2011*, 1959-1968 [26%].
 38. Webb, A.M.*, Kerne, A., Integrating Implicit Structure Visualization with Authoring Promotes Ideation, *Proc ACM/IEEE Joint Conference on Digital Libraries (JCDL) 2011*, 203-212 [29%].
 39. Kerne, A., Qu, Y.*, Webb, A.M.*, Damaraju, S.*, Lupfer, N.*, Mathur, A.*, Meta-Metadata: A Metadata Semantics Language for Collection Representation Applications, *Proc ACM Conf. on Information and Knowledge Management (CIKM) 2010*, 1129-1138 [12.7%].
 40. Toups, Z. O.*, Kerne, A., and Hamilton, W.*, Game design principles for engaging cooperative play: core mechanics and interfaces for non-mimetic simulation of fire emergency response. *Proc ACM SIGGRAPH Symposium on Video Games 2009*, 71-78 [30%].
 41. Toups, Z.O.*, Kerne, A., Hamilton, W.*, Blevins, A.*, Emergent Team Coordination: Non-Mimetic Simulation Game Design from Fire Emergency Response Practice, *Proc ACM Group 2009*, 341-350 [36%].
 42. Koh, E.*, Kerne, A. 2009. Deriving image-text document surrogates to optimize cognition. *Proc ACM DocEng 2009*, 84-93 [29.6%].
 43. Karlsen, K., Maiden, N., Kerne, A., Inventing Requirements with Creativity Support Tools, *Proc REFSQ 2009 (International Working Conference on Requirements Engineering: Foundation for Software Quality)*, 162-174 [29%].
 44. Webb, A.M.*, Kerne, A., The In-Context Slider: A Fluid Interface Component for Visualization and Adjustment of Values while Authoring, *Proc ACM AVI 2008 (Advanced Visual Interfaces)*, 91-99, [27.5%].
 45. Toups, Z.O.*, Kerne, A., Implicit Coordination in Firefighting Practice: Design Implications for Training Fire Emergency Responders, *Proc ACM CHI 2007*, 277-286 [25%].
 46. Kerne, A., Koh, E.*, Smith, S.M., Choi, H., Graeber, R.*, Webb, A.M.*, Promoting Emergence in Information Discovery by Representing Collections with Composition, *Proc ACM Creativity & Cognition 2007*, 117-126 [23%].
 47. Koh, E.*, Kerne, A., Webb, A.M.*, Damaraju, S.*, Sturdivant, D.*, Generating Views of the Buzz: Browsing Popular Media and Authoring using Mixed-Initiative Composition, *Proc ACM Multimedia 2007*, 228-237 [19%].
 48. Koh, E.*, Caruso, D.*, Kerne, A., Gutierrez-Osuna, R., Elimination of Junk Document Surrogate Candidates through Pattern Recognition, *Proc ACM Symposium on Document Engineering 2007*, 187-195 [39%].
 49. Kerne, A., Koh, E.*, Dworaczyk, B.*, Mistrot, J.M.*, Choi, H., Smith, S.M., Graeber, R.*, Caruso, D.*, Webb, A.M.*, Hill, R., Albea, J., combinFormation: A Mixed-Initiative System for Representing Collections as Compositions of Image and Text Surrogates, *Proc ACM/IEEE Joint Conference on Digital Libraries (JCDL) 2006*,

- 11-20 [23%].
50. Webb, A.M.*, Kerne, A., Koh, E.*, Joshi, P.*, Park, Y.*, Graeber, R.*, Choreographic Buttons: Promoting Social Interaction through Human Movement and Clear Affordances, *Proc ACM Multimedia 2006*, 451-460 [16%].
 51. Koh, E.*, Kerne, A., "I Keep Collecting": College Students Build and Utilize Collections in Spite of Breakdowns, *Proc European Conference on Digital Libraries 2006*, 303-314 [27%].
 52. Kerne, A., Koh, E.*, Choi, H., Dworaczyk, B.*, Smith, S.M., Hill, R., Albea, J., Supporting Creative Learning Experience with Compositions of Image and Text Surrogates, *Proc Ed Media 2006*, 2567-2574 [29%].
 53. Toups, Z.O.*, Graeber, R.*, Kerne, A., Tassinary, L., Berry, S.*, Overby, K.*, Johnson, M.*, A Design for Using Physiological Signals to Affect Team Game Play, *Proc Augmented Cognition International 2006* [70%].
 54. Kerne, A., Koh, E.*, Sundaram, V.*, Mistrot, J.M.*, Generative Semantic Clustering in Spatial Hypertext, *Proc ACM Document Engineering 2005*, 84-93 [30%].
 55. Aley, E.*, Cooper, T.*, Graeber, R.*, Kerne, A., Overby, K.*, Toups, Z.O.*, Censor chair: exploring censorship and social presence through psychophysiological sensing, *Proc. ACM Multimedia 2005*, 922-929 [16%].
 56. Kerne, A., doing interface ecology: the practice of metadisciplinarity, *Proc ACM SIGGRAPH 2005 Art and Animation*, 181-185 [20%].
 57. Chang, M.*, Leggett, J.L., Furuta, R., Kerne, A., Williams, J.P., Burns, S.L., Bias, R.G., Collection Understanding, *Proc ACM/IEEE Joint Conference on Digital Libraries 2004*, 334-342 [24%].
 58. Kerne, A., Mistrot, J.M.*, Khandelwal, M.*, Sundaram, V.*, Koh, E.*, Using Composition to Re-Present Personal Collections of Hypersigns, *Proc Computational Semiotics in Games and New Media (CoSIGN) 2004*, 72-81 [17%].
 59. Kerne, A. Smith S.M., Mistrot, J.M.*, Sundaram, V.*, Khandelwal, M.*, Wang, J.*, Mapping Interest and Design to Facilitate Creative Process During Mixed-Initiative Information Composition, *Proc Creativity & Cognition Symposium: Interaction: Systems, Practice and Theory*, 2004, 1-25.
 60. Kerne, A., Sundaram, V.*, A Recombinant Information Space, *Proc Computational Semiotics in Games and New Media (CoSIGN) 2003*, 48-57 [25%].
 61. Kerne, A., Concept-Context-Design: A Creative Model for the Development of Interactivity, *Proc ACM Creativity and Cognition 2002*, 192-199 [48%].
 62. Kerne, A., Interface Ecosystem, the Fundamental Unit of Information Age Ecology, *Proc ACM SIGGRAPH 2002 Art and Animation*, 142-145 [19%].
 63. Karadkar, U.P., Kerne, A., Furuta, R., Francisco-Revilla, L., Shipman, F., Wang, J.*, Connecting Interface Metaphors to Support Creation of Hypermedia Collections, *Proc Euro Conf Digital Libraries 2003*, 338-349 [29%].

PUBLICATIONS – BOOK CHAPTER

64. Webb, A.M. *, Kerne, A., Linder, R. *, Lupfer, N. *, Qu, Y. *, Keith, K. *, Carrasco, M. *, Chen, Y. *, A Free-form Medium for Curating the Digital, in *Curating the Digital Space for Art and Interaction*, England, D., Schiphorst, T., Bryan-Kinns, N. (Eds.), Springer, 2016, 73-87.
65. Smith, S.M., Kerne, A., Koh, E.*, Shah, J., The Development and Evaluation of Tools for Creativity, in Markman, A. (Ed.), *Tools for Innovation*, Oxford University Press, 2009.
66. Kerne, A., Koh, E.*, Choi, H., Webb, A.M.*, Dworaczyk, B.*, Smith, S.M., Hill, R., Albea, J., Supporting Creative Learning Experiences: combinFormation and the Future of Knowledge Creation, in Coste, T., Keller-Mathers, S. (Eds.), *Creativity at Work*, Austin, TX: ACA Press, 2007.

PUBLICATIONS - CONFERENCE – SHORT + ARCHIVED

67. Britain, G. *, Jain, A. *, Lupfer, N. *, Kerne, A., Perrine, A. *, Seo, J., Sungkajun, A. Design is (A)live: An

- Environment Integrating Ideation and Assessment, *Proc. ACM CHI 2020 Extended* [41.8%].
68. Linder, R. *, Stacey, A.M. *, Lupfer, N. *, Kerne, A., Ragan E. D. Pop the Feed Filter Bubble: Making Reddit Social Media a VR Cityscape, *Proc. IEEE VR 2018*.
 69. Dalsgaard, P., Halskov, K., Frich, J., Biskjaer, M.M., Kerne, A., Lupfer, N. *, Designing interactive systems to support and augment creativity - a roadmap for research and design, *Proc ACM DIS 2018 Companion*, 403-406 [55%].
 70. Hamilton, W.A.* , Kerne, A., Lupfer, N.* , LiveDissent: A Media Platform for Remote Participation in Activist Demonstrations, *Proc ACM Group 2018*, 257-266.
 71. Linder, R. *, Stacey, A.M. *, Lupfer, N. *, Kerne, A., Ragan E.D., Pop the Feed Filter Bubble: Making Reddit Social Media a VR Cityscape, *Proc. IEEE VR 2018*.
 72. England, D., Candy, L., Latulipe, C., Schiphorst, T., Edmonds, E., Kim, Y., Clark, S., Kerne, A., Art.CHI, *Proc ACM CHI EA 2015*, 2329-2332 [59%].
 73. Lupfer, N.* , Hamilton, W.* , Webb, A.M.* , Linder, R.* , Edmonds, E., Kerne, A., The Art.CHI Gallery: An Embodied Iterative Curation Experience, *Proc ACM CHI EA 2015*, 391-394 [58%].
 74. Fei, S. *, Webb, A.M. *, Kerne, A., Qu, Y. *, Jain, A. *, Peripheral Array of Tangible NFC Tags: Positioning Portals for Embodied Trans-Surface Interaction, *Proc. ACM Interactive Tabletops and Surfaces 2013*, 33-36 [29%].
 75. Kerne, A., Webb, A.M.* , Latulipe, C., Carroll, E., Drucker, S.M., Candy, L., Höök, Evaluation methods for creativity support environments, *Proc ACM CHI EA 2013*, 3295-3298 [38%].
 76. Hamilton, W. *, Kerne, A., Moeller, J. *, Pen-in-Hand Command: NUI for a Real-Time Strategy Game, *Proc ACM CHI EA 2012 (Video)*.
 77. Damaraju, S.* , Kerne, A., Comparing Multi-Touch Interaction Techniques for Manipulation of an Abstract Parameter Space, *Proc. ACM Multimodal Interfaces (ICMI) 2011*, 221-224 [39%].
 78. Qu, Y.* , Kerne, A., Webb, A.M.* , Herstein, A. *, Interoperable Metadata Semantics with Meta-Metadata: A Use Case Integrating Search Engines, *Proc ACM DocEng 2011*, 171-174 [53%].
 79. Moeller, J.* , Kerne, A., ZeroTouch: A Zero-Thickness Optical Multi-Touch Force Field, *Proc ACM CHI 2011 Extended (Interactivity)*, 1165-1170 [46%].
 80. Moeller, J.* , Lupfer, N.* , Hamilton, W.* , Lin, H.* , Kerne, A., intangibleCanvas: Free-Air Finger Painting on a Projected Canvas, *Proc CHI 2011 Extended*, 1615-1620 [43%].
 81. Kerne, A., Nack, F., Farulli, L., Interactive Multimedia Computing for Creativity and Expression, *Proc ACM Multimedia 2010*, 1457-1458.
 82. Moeller, J.* , Kerne, A., Scanning FTIR: Unobtrusive Multi-Touch Sensing through Waveguide Transmissivity Imaging, *Proc ACM Tangible, Embedded, and Embodied Interaction (TEI) 2010*, 73-76 [34%].
 83. Koh, E.* , Kerne, A., Berry, S.* , Test Collection Management and Labeling System. *Proc ACM DocEng 2009*, 39-42 [29.6%].
 84. Hamilton, W.* , Kerne, A., Toups, Z.* , Qualitative Data Discovery in Group User Studies from Synchronized Communication and Views, *Proc ACM CHI EA 2009*, 4573-4578.
 85. Koh, E.* , Kerne, A., Moeller, J., Toward Automatic Generation of Image-Text Document Surrogates To Optimize Cognition. *Proc ACM/IEEE Joint Conference on Digital Libraries (JCDL) 2009*, 417-418.
 86. Kerne, A., Wakkary, R., Nack, F., del Bimbo, A., Candan, S., Jaimes, A., Steggell, A., Dulic, A., Jennings, P., Connecting Artists and Scientists in Multimedia Research, *Proc ACM Multimedia 2008*, 1113-1114.
 87. Kerne, A., Toups, Z.* , Dworaczyk, B.* , Khandelwal, M.* , A Concise XML Binding Framework Facilitates Practical Object-Oriented Document Engineering, *Proc ACM Document Engineering 2008*, 62-65 [43%].
 88. Koh, E.* , Kerne, A., Hill, R., Creativity Support: Information Discovery and Exploratory Search, *Proc ACM SIGIR 2007*, 895-896.

89. Kerne, A., Koh, E.*, Creativity Support: The Mixed-Initiative Composition Space, *Proc ACM/IEEE Joint Conference on Digital Libraries (JCDL) 2007*, 509.
90. Graeber, R.*, Kerne, A., ZooMICSS: A Zoomable Map Image Collection Sensemaking System (The Katrina Rita Context), *Proc ACM Multimedia 2006*, 795-796 [37%].
91. Stenner, J.*, Kerne, A., Williams, Y., Playas: Homeland Mirage, *Proc. ACM Multimedia 2005*, 1057-1058 [28%].
92. Kerne, A., Smith, S.M., Choi, H., Graeber, R.*, Caruso, D.*, Evaluating Navigational Surrogate Formats with Divergent Browsing Tasks, *Proc ACM CHI EA 2005 Extended*, 1537-1540.
93. Mandic, M.*, Kerne, A., Using Intimacy, Chronology and Zooming to Visualize Rhythms in Email Experience, *Proc ACM CHI EA*, 1617-1620.
94. Kerne, A., Smith, S.M., The Information Discovery Framework, *Proc ACM Designing Interactive Systems 2004*, 357-360 [25%].
95. Khandelwal, M.*, Kerne, A., Mistrot, J.M.*, Manipulating History in Generative Hypermedia, *Proc ACM Hypertext 2004*, 139-140 [31%].
96. Azeez, B.*, Kerne, A., Southern, J.*, Summerfield, B.*, Aholu, I.*, Sharmin, E.*, Sharing Culture Shock through a Collection of Experiences, *Proc ACM/IEEE Joint Conference on Digital Libraries 2004*.
97. Kerne, A., Sundaram, V.*, Wang, J.*, Khandelwal, M.*, Mistrot, J.M.*, Human + Agent: Creating Recombinant Information, *Proc ACM Multimedia 2003*, 454-455.
98. Kerne, A., CollageMachine: Interest-Driven Browsing Through Streaming Collage, *Proc Cast01, Living in Mixed Reality (Bonn)*, 2001, 241-244 [7%].
99. Kerne, A., Khandelwal, M.*, Sundaram, V.*, Publishing Evolving Metadocuments on the Web, *Proc ACM Hypertext 2003*, 104-105 [33%].
100. Kerne, A., Jeremijenko, N., Mateas, M., Schiphorst, T., Wright, W. Extending Interface Practice: An Ecosystems Approach, *Proc ACM SIGGRAPH 2002: Abstracts & Applications*, 90-92 [19%].
101. Kerne, A., Open Processes Create Open Products: Interface Ecology As A Metadisciplinary Base For CollageMachine, *Proc ACM SIGGRAPH 2001: Abstracts and Applications*, p. 239 [22%].
102. Kerne, A. Interface Ecology as a Pedagogical Framework for HCI, *Proc HCI97/INTERACT*, Nov 1997 [33%].
103. Kerne, A. CollageMachine: Temporality and Indeterminacy in Media Browsing via Interface Ecology, *Proc ACM CHI 1997 Extended*, 238-239 [24%].

PUBLICATIONS - CONFERENCE – OTHER

104. Toups, Z., Hamilton, W.*, Kerne, A., Zero-fidelity simulation: Engaging team coordination without physical, functional, or psychological re-creation, *Proc ModSim World 2011*, 451–459.
105. Smith, S. M., Linsey, J., Kerne, A. Using evolved analogies to overcome creative design fixation. *Proc International Conference on Design Creativity (ICDC) 2010*, 35-40 [33%].
106. Kerne, A., Damaraju, S.*, Kumar, B.*, Webb, A.M.*, Meta-Metadata: A Semantic Architecture for Multimedia Metadata Definition, Extraction and Presentation, *Poster & Demo Proc. Intl. Conf Semantic and Digital Media Technologies 2008*.
107. Damaraju, S.*, Kerne, A. Multitouch Gesture Learning and Recognition System, *Extended Abstracts of IEEE Workshop on Tabletops and Interactive Surfaces 2008*.
108. Toups, Z.*, Kerne, A., Caruso, D.*, Devoy, E.*, Graeber, R.*, Overby, K.*, Rogue Signals: A location aware game for studying the social effects of information bottlenecks, *Proc Ubicomp 2005 Extended*.
109. Mandic, M.*, Kerne, A., faMailiar - Intimacy-based Email Visualization, *Proc IEEE InfoVis (Information Visualization) 2004* [23%].

110.Kerne, A., Object Oriented Multimedia Programming in Java, *Proc ICS Intranet 1996*.

PAPERS - WORKSHOP

- 111.Linder, R.* Kerne, A., Composing Everyday Plans on Pinterest: 5 Minute Projects and Gathered Ideas, *CHI 2016 Workshop: Productivity Decomposed: Getting Big Things Done with Little Microtasks*.
- 112.Webb, A.M.*, Kerne, A., Embodying Diagramming through Pen + Touch Gestures, *CHI 2014 Gesture Interaction Design: Communication and Cognition Workshop*.
- 113.Webb, A.M., Kerne, A., Linder, R., Lupfer, N., Qu, Y., Keith, K., Carrasco, M., Multi-Scale Information Composition: a New Medium for Freeform Art Curation in the Cloud, *CHI 2014 Workshop: Curating the Digital: Spaces for Art and Interaction*.
- 114.Linder, R.*, Webb, A.M.*, Kerne, A., Searching to Measure the Novelty of Collected Ideas, *CHI 2013 Evaluation Methods for Creativity Support Environments Workshop* [36%].
- 115.Webb, A.M.*, Kerne, A., Creative Visual Thinking through Information Composition +Diagramming, *CHI 2012 Workshop: Visual Thinking*.
- 116.Linder, R.*, Kerne, A., Using Information Composition to Represent Connections Among Events Across Time and Place, *CHI 2012 Workshop: Heritage Matters: Design for Current and Future Values Through Digital & Social Tech*.
- 117.Toups, Z., Hamilton, W.*, Kerne, A., Mixed Reality Affords Zero-Fidelity Simulation of Team Coordination, *CSCW 2012 Mixed Reality Games Workshop*.
- 118.Toups, Z.*, Kerne, A., Hamilton, W.*, Motivating Play through Score, *Proc. ACM CHI 2009 Engagement by Design Workshop*.
- 119.Toups, Z.*, Kerne, A., Crafting Experience in a Non-Mimetic Simulation Game for Team Coordination: An Iterative Design Chronicle, *NSF Workshop on Media, Arts, Sciences, and Technology 2009*.
- 120.Webb, A.M.*, Kerne, A., In-Context Visualization and Authoring of Metadata for Information Collections, *NSF Workshop on Media, Arts, Sciences, and Technology 2009*.
- 121.Damaraju, S.*, Kerne, A., A Gesture Learning and Recognition System for Multitouch Interaction Design, *NSF Workshop on Media, Arts, Sciences, and Technology 2009*.
- 122.Koh, E.*, Kerne, A., combinFormation: Exploring Multiple Searches Together through the Mixed-Initiative Composition Space, *Proc ACM Computer Human Interaction 2007 Workshop on Exploratory Search and HCI*, San Jose, April 2007 [24%].
- 123.Toups, Z.O.*, Kerne, A., Location-Aware Augmented Reality Gaming for Emergency Response Education: Concepts and Development, *Proc ACM Computer Human Interaction 2007 Workshop on Mobile Spatial Interaction*.
- 124.Kerne, A., Compositional Hypermedia, *ACM Hypertext 2004, Spatial Hypertext Workshop*.
- 125.Kerne, A., combinFormation: Generative Visual Visceral Spatial Hypertext Collections, Shipman, F., Rosenberg, J., *ACM Hypertext 2003, Spatial Hypertext Workshop*.
- 126.Schiphorst, T., Kerne, A., Kozel, S., Whisper: Wearable Handheld Intimate System for Personal Environmental Response, *ACM CHI 2002, Physiological Computing Workshop*.
- 127.Kerne, A., The Interface Ecology Research Agenda for HCI, *ACM CHI 1999, Development of an HCI Research Agenda Workshop*.
- 128.Kerne, A., Emergent Collage Browsing, Interactive Systems for Supporting the Emergence of Concepts & Ideas, *ACM CHI 1997 Emergence Workshop*.

PUBLICATIONS – OTHER

129.Kerne, A. Lang, M., Djembe Drumming, *Program for the World Music Institute African Troubadours Festival*, 1995.

PRIZES AND AWARDS

2008-2016	NSF CAREER Award.
2015	ACM Creativity and Cognition 2015, Best Paper Honorable Mention (top 2% of papers), Evaluating TweetBubble with Ideation Metrics of Exploratory Browsing.
2012	ACM CHI 2012, Best Paper Honorable Mention (top 5% of accepted papers), ZeroTouch: An Optical Multi-Touch and Free-Air Interaction Architecture.
2000 - 2001	NYU History of the Production of Knowledge Dissertation Fellowship.
1999	Milia 2000 new media talent competition, Cannes, France: <i>CollageMachine</i> .
1996	Prix Ars Electronica, Linz, Austria – honorary mention: <i>Coded Messages: CHAINS</i>
1995 - 2000	National Science Foundation Fellowship for PhD research in multimedia at NYU
1991 - 1993	Full tuition scholarship + stipend for M.A. in music at Wesleyan University

EXHIBITIONS AND INSTALLATIONS

April 2015	Lupfer, N.*, Hamilton, W.*, Webb, A.M.*, Linder, R.*, Edmonds, E., Kerne, A., <i>The Art.CHI Gallery: An Embodied Iterative Curation Experience</i> (large scale), ACM CHI Interactivity, Seoul, South Korea.
May 2012	Moeller, J.*, Kerne, A., Hamilton, W.*, Webb, A.M.*, Lupfer, N.* <i>ZeroTouch: An Optical Multi-Touch and Free-Air Interaction Architecture</i> (large scale), ACM CHI Interactivity, Austin, TX.
May 2011	Moeller, J.*, Kerne, A., <i>ZeroTouch: A Zero-Thickness Optical Multi-Touch Force Field</i> (large scale), ACM CHI Interactivity, Vancouver, Canada.
August 2006	Stenner, J., Kerne, A., Williams, Y., <i>Playas: Homeland Mirage</i> , ISEA / ZeroOne juried by Steve Dietz, et al.
June 2006	Toups, Z., Overby, K., Kerne, A., Graeber, R., Cooper, T., Aley, E., <i>Censor Chair</i> , ACM SIGCHI Intl. Conf on Advances in Computer Entertainment Technology. Juried by Victoria Vesna, et al.
November 2005	Stenner, J., Kerne, A., Williams, Y., <i>Playas: Homeland Mirage</i> , ACM Multimedia Conference Art Exhibition. Juried by Alejandro. Jaimes, Jeffrey Shaw, et al.
May 2005	Kerne, A., and Interface Ecology Lab, <i>combinFormation</i> , International Festival of Electronic Arts, Maribor, Slovenia (invited). Juried by Peter Weibel, et al.
February 2003	Schiphorst, T., Kozel, S., Andersen, K., Mah, S., Jaffe, N., Kerne, A., Lovell, R., <i>Whisper</i> , Dutch Electronic Arts Festival, Rotterdam, The Netherlands.
August 2001	Kerne, A., <i>CollageMachine</i> , ACM SIGGRAPH 2001, Los Angeles Gallery/N-Space.
June 2001	Kerne, A., <i>CollageMachine</i> , in <i>Brave New Word, Works and Process</i> , Guggenheim Museum, New York.
May 2001	Kerne, A., <i>CollageMachine</i> , Electronic Literature Organization Awards, New York.

April - May 2001	Kerne, A., and students of Tufts Comp-150, <i>JumboScope</i> (with <i>CollageMachine</i>), Boston Cyberarts Festival.
April 2001	Kerne, A., <i>CollageMachine</i> , Digital Arts and Culture, Providence.
2000 - 2001	Kerne, A., <i>CollageMachine</i> , New York Digital Salon (NYC, Spain, London, Beijing).
1997	Kerne, A., Lang, M., Kofi, F., <i>Coded Messages: CHAINS</i> , New York Digital Salon.
1995	Perlin, K. et al, Kerne, A. <i>Improvisational Animation</i> , ACM SIGGRAPH Electronic Theater.
1995	Kerne, A., Lang, M., Kofi, F., <i>Coded Messages: CHAINS</i> , Springtij Festival, Amsterdam.

RESIDENCIES

Spring 2013	University of Nottingham The Mixed Reality Lab, Department of Computer Science Horizon Digital Economy Research Institute <i>Sabbatical Fellow</i>
June 2008	Dagstuhl Seminar on Contextual and Social Media, Germany
June - July 2002	V2 Lab, Schouwburg Theatre, Rotterdam, The Netherlands
February 2002	Weblab Crossover, Jacksonville, Florida, USA

PRESS

Lesley Henton, Some College Students Aren't Waiting Until Graduation to Start a Business, *Texas Monthly*, 2/11/2013, <http://www.texasmonthly.com/story/sponsor-content-start-a-business-before-graduation>.

Slashdot, ZeroTouch Sensor: Ready For Large Televisions and Gaming, 5/15/2012.

New Media Consortium, Horizon Project Short List 2012 Higher Education Edition, <http://horizon.wiki.nmc.org/file/view/2012-Horizon.HE-Shortlist.pdf>.

ZeroTouch invention, graduate student Jon Moeller, and Texas A&M University were featured in the national BestBuy Future Innovators advertising campaign [http://vimeo.com/62286063]. The ad was featured amidst prominent TV shows, such as Mad Men, 60 Minutes, and the NBA Finals. The provost told me, “You can’t buy promotion like that!” Summer/Fall 2012.

Amber Jaura, Futuristic touch: ZeroTouch technology offers surface-free sensing, *The Batt*, 4/19/2012.

Shane McAuliffe, A&M Students Create ZeroTouch Technology, *KBTX TV*, 1/30/2012.

Tony Okonski, ZeroTouch: A New Multifinger Sensing Technology, *Texas A&M Engineer*, Fall 2011, COVER STORY.

Graeme McMillan, ZeroTouch Lets You Paint Pictures in the Air, *Time*, 5/11/2011, <http://techland.time.com/2011/05/11/zerotouch-lets-you-paint-pictures-in-the-air/>.

Alyssa Danigelis, Technology turns air into a multi-touch screen, *MSNBC*, 5/13/2011, http://www.msnbc.msn.com/id/43028337/ns/technology_and_science-science/#.T2sr6WJAawk.

Alyssa Danigelis, Technology turns air into a multi-touch screen, *Discovery News*, 5/13/2011, <http://news.discovery.com/tech/touch-screen-technology-zerotouch-110513.html>.

Clay Dillow, New ZeroTouch Interface is a Touchscreen Without the Screen, *PopSci*, 5/12/2011, <http://www.popsci.com/technology/article/2011-05/video-new-zero-touch-interface-touchscreen-without-screen>.

Nick Barber, Invisible Touch Interface Creates Multitouch 'Force Field', *PCWorld*, 5/10/2011, <http://www.pcworld.com/article/227509/invisible-touch-interface-creates-multitouch-force-field.html>.

Jim Giles, ZeroTouch makes any screen touchable, *NewScientist*, 5/11/2011, <http://www.newscientist.com/blogs/onepercent/2011/05/jim-gile-contributor-vancouver.html>.

angry tapir, Creating a "Force Field" Invisible Touch Interface, *Slashdot*, 5/10/2011, <http://hardware.slashdot.org/story/11/05/11/009245/Creating-a-Force-Field-Invisible-Touch-Interface>.

Christopher Trout, ZeroTouch 'optical multi-touch force field' makes a touchscreen out of just about anything, *Engadget*, 5/12/2011, <http://www.engadget.com/2011/05/12/zerotouch-optical-multi-touch-force-field-makes-a-touchscreen/>.

Kat Hannaford, The Touchscreen With No Screen, *Gizmodo*, 5/12/2011, <http://gizmodo.com/5801196/the-touchscreen-with-no-screen>.

Nicole, With this system, any screen can be a touchscreen, *InRumor.com*, 5/13/2011, <http://www.inrumor.com/in/technology/with-this-system-any-screen-can-be-a-touchscreen-video/>.

Des collages virtuels, logiques ou surréalistes, et qui doivent rester éphémères, *L'Espresso*, 3/2/2000.

PRESENTATIONS	
February 2020	Department of Computer Science, New Mexico State University. <i>Combining New Media Building Blocks to Support Creativity + Cooperation.</i>
February 2020	AI-NSF Workshop. ICT Cyber Infrastructure Architect Team. New Mexico State University. <i>NSF Overview: Organization and Programs.</i>
February 2020	AI-NSF Workshop. ICT Cyber Infrastructure Architect Team. New Mexico State University. <i>NSF Proposal Writing: An Unofficial Perspective.</i>
February 2020	Department of Computer Science and Engineering, Texas A&M University. <i>Combining New Media Building Blocks to Support Creativity + Cooperation.</i>
December 2019	School of Arts. University of Aalto, Helsinki, Finland. <i>Combining New Media Building Blocks to Support Creativity + Cooperation.</i>
August 2018	National Science Foundation, Alexandria, Virginia. <i>Computing for Participation, Creativity and Diversity.</i>
March 2016	Google, Mountain View, California. <i>Investigating Ideation: Media, Modalities and Methodology.</i>
March 2016	Berkeley Institute of Design, University of California, Berkeley. <i>Investigating Ideation: Media, Modalities and Methodology.</i>
December 2015	Adobe Research, San Jose, California. <i>Investigating Ideation: Media, Modalities and Methodology.</i>
June 2015	School of Computer Science. University of St. Andrews, St. Andrews, Scotland, U.K. <i>The Future of Human Expression: Ideation—Curation—Body-based.</i>

February 2015	Distinguished College of Arts and Sciences Colloquium Lecture. New Mexico State University, Las Cruces, New Mexico. <i>The Future of Human Expression: Curation, Games, and Body-based Interaction.</i>
July 2014	Microsoft Research, Redmond, Washington. <i>Embodying Ideation + Play.</i>
November 2012	Distinguished Lecture. Mixed Reality Lab, Department of Computer Science, University of Nottingham, U.K. <i>Embodied Computing: Sensing + Games + Information.</i>
August 2012	School of Computing, Georgia Tech, Atlanta. <i>Embodied Interaction: Sensing + Games + Information.</i>
June 2012	Department of Computer Science, University of Houston. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
February 2012	Department of Computer Science and Engineering, University of Washington, Seattle. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
February 2012	Department of Computer Science and Engineering + School of Library and Information Sciences, University of North Texas, Denton. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
December 2011	MIT Media Lab, Cambridge, Massachusetts. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
November 2011	Yahoo! Research, Barcelona, Spain. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
November 2011	Universitat Pompeu Fabra, Barcelona, Spain. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
October 2011	Stanford University, Palo Alto, California. <i>Human-Centered Computing for Creativity, Expression, and Participation.</i>
Aug 2010	University of Colorado, Boulder <i>Computing for Creativity and Cooperation.</i>
March 2010	Rutgers University, New York <i>Computing for Creativity and Cooperation.</i>
March 2010	Columbia University, New York <i>Computing for Creativity and Cooperation.</i>
March 2010	NYU Media Research Lab, New York <i>Computing for Creativity and Cooperation.</i>
November 2008	Electronic Arts, Vancouver, Canada <i>Iterative Design of a Creativity Support Tool: combinFormation.</i>
June 2008	ACM Multimedia Program Committee Workshop: Hot Topics in Multimedia Research, Technische Universität Darmstadt - Multimedia Communications Lab , Germany <i>A Mixed-Initiative Information Composition Platform for Supporting Discovery</i>
June 2008	University of Amsterdam, The Netherlands <i>Creative and Expressive Systems.</i>
June 2008	Dagstuhl Seminar on Contextual and Social Media, Germany <i>A Mixed-Initiatives Philosophy for Human Centered Contextual Media Systems</i>

June 2008	University of Florence, Italy <i>Creative and Expressive Systems.</i>
April 2008	University of Illinois Urbana-Champaign (UIUC) <i>Creative and Expressive Systems.</i>
March 2007	Invited Conference Plenary Address: Intersection: A Conversation Between Art and Science on Information Visualization SUNY Oswego, New York, <i>Creative and Expressive Systems.</i>
March 2007	University of Maryland Human Computer Interaction Lab <i>Creative and Expressive Systems.</i>
March 2007	NYU Media Research Lab, New York <i>Creative and Expressive Systems.</i>
December 2006	NSF PIs Meeting: Research and Evaluation on Education in Science and Engineering, <i>Facilitating Information Discovery in Invention Education: Collecting Prior Work through Mixed-Initiative Composition of Image and Text Surrogates</i> (poster).
August 2006	IBM Almaden Research Center, <i>A Mixed-Initiative System for Representing Collections as Compositions of Image and Text Surrogates</i>
May 2005	University of Ljubljana, Slovenia, <i>combinFormation: Mixed-Initiative Composition of Image and Text Surrogates</i>
September 2004	IBM Research Labs, Austin, Texas, <i>Expressive and Personal Interface Ecosystems</i>
March 2004	Texas A&M Cognoscenti (Cognitive Psychology Colloquium), <i>Information as a Stimulus for the Discovery of Remote Associations</i>
April 2002	SUNY (Oswego), USA, <i>Emergent Collage Browsing</i>
April 2002	University of Waikato, New Zealand, <i>Emergent Collage Browsing</i>
March 2002	Interactive Institute, Stockholm, Piteau, Sweden, <i>Conceptual Space of Collage</i>
October 2001	Simon Fraser University (Surrey Campus), Canada, <i>Emergent Collage Browsing</i>
August 2001	Banff Centre New Media Institute (senior artist) Unforgiving Memory and Human Generosity summits: <i>Representations of Relation, Emergent Collage Browsing</i>
August 2001	ACM SIGGRAPH, Los Angeles: <i>Streaming Representations / Emerging Meanings</i> in the “Moving Images” Panel. <i>Dynamic Collage Layout</i> in The Studio.
January 2001	Xerox PARC, Palo Alto, California, <i>CollageMachine</i>
December 2000	ISEA 2000, Paris, France: <i>CollageMachine</i>
April 1997	Performance and Technology Conference (performance studies), Atlanta: <ul style="list-style-type: none"> • <i>Ecologies of the Interface</i> • <i>Providing Content: Ecologies of Creativity and Efficiency</i> Panel
1996	Inroads/Africa Conference, Arts International, <i>Digital Representation: Access to Communications Technology</i> , Panel Facilitator
1994	Pan-African Composers Forum. International Centre for African Music and Dance, University of Ghana: <i>Screaming with Machines: Dead Animals, Live Circuits, Human Voice</i>

Service

EDITOR

2014 Pipek, V., Liu, S., Kerne, A., Editors, *JCSCW*, Special Issue on Crisis Informatics and Collaboration. 23(4), August 2014.

STEERING

2016- ACM Creativity and Cognition Steering Committee.

CHAIR

2017-19 Program Chair. Kerne, A., Latulipe, C.
ACM Creativity and Cognition 2019, San Diego, CA.

2018 Workshop Co-Chair. Dalsgaard, P., Halskov, K., Frich, J., Biskjaer, M.M., Kerne, A., Lupfer, N. *
Designing interactive systems to support and augment creativity - a roadmap for research and design, ACM DIS 2018.

2017-18 Art Chair. Schiphorst, T., Andersen, K., Kerne, A., Courchesne, L.
ACM CHI 2018, Denver, Colorado.

2016-17 Art Chair. Kerne, A., Schiphorst, T., Oh, H., Harriman, J.
ACM CHI 2017, Denver, Colorado.

2014-15 Papers Chair. Kerne, A., Shamma, D.A.
ACM Creativity and Cognition 2015, Glasgow, Scotland.

2015 Workshop Co-Chair. England, D., Candy, L., Latulipe, C., Schiphorst, T., Edmonds, E., Kim, S. Clark, S., Kerne, A., *Art.CHI*, ACM CHI 2015, Seoul, S. Korea.

2013 Workshop Co-Chair. Kerne, A., Webb, A.M.*, Latulipe, C., Carroll, E., Drucker, S.M., Candy, L. Höök, *Evaluation Methods for Creativity Support Tools*, ACM CHI 2013, Paris, <http://ecologylab.net/workshops/creativity>.

2012 Workshop Co-Chair. Kerne, A., Latulipe, C., Carroll, E., Webb, A.M.*, *Evaluation Methods for Creativity Support Tools*, Design Computing and Cognition 2012, College Station, TX.

2010 Program and General Co-Chair. Kerne, A., Toups, Z.*, Elam, T.
Texas Games and Virtual Environments Symposium 2010, College Station, TX.

2010 Workshop Co-Chair. Kerne, A., Nack, F.
Interactive Multimedia Computing for Creativity and Expression, ACM Multimedia 2010, Florence, Italy.

2010 Program Co-Chair and Exhibition Curator.
ACM Multimedia Interactive Art Program, Florence, Italy.

2009 Program Co-Chair and Exhibition Curator.
ACM Multimedia Interactive Art Program, Beijing, China.

2008 Program Co-Chair and Exhibition Curator.
ACM Multimedia Interactive Art Program, Vancouver, Canada.

2004 Workshop Chair. *Recombinant Information*,
Conference on Computational Semiotics in Games and New Media (CoSIGN) 2004.

PROGRAM COMMITTEE / AWARD PANEL

NSF Grant Award Panel	2019 2018 2017 2016 2015 2013 2012 2011 2010 2009 2009 2008 2007 2005 2005 2004
ACM CHI Associate Chair	2016 2013 2012 2011 2009 2007
ACM CHI Best Papers Committee	2016
ACM CHI Art Awards Committee	2016
ACM Interactive Surfaces and Spaces Best Demo Panel	2016
ACM Creativity and Cognition Graduate Symposium Panel	2015
ACM Interactive Tabletops and Surfaces PC	2012
ACM TEI PC	2012 2011
ACM/IEEE Joint Conference on Digital Libraries (JCDL) PC	2012 2011 2010 2009 2008
ACM Creativity & Cognition PC	2011 2009 2007
ACM Multimedia TPC	2012 2011 2008 2007
Sketch-Based Interfaces and Modeling (SBIM) PC	2011
ACM DocEng PC	2010 2009
ACM IUI PC	2010
Intl. WWW Conference PC	2009
NSF Media, Arts, Sciences & Tech Workshop PC	2009
ACM Intl. Multimedia Modeling PC	2009 2008
ACM SIGGRAPH Sketches and Posters PC	2007

REVIEWING

UK Engineering and Physical Sciences Research Council (EPSRC)	2018
Journal of the Association for Information (JASIST)	2018 2017
ACM Creativity and Cognition	2017
JCSCW	2015
ACM UIST	2016 2014 2012 2011 2007 2002
ACM Computing Surveys	2012
ACM Transactions on Computer Human Interaction	2016 2011
J Visual Com & Image Rep	2010
ACM Tabletop	2010
IEEE Transactions on Multimedia	2008
ACM Transactions on the Web	2008
New Review of Hypermedia and Multimedia	2008 2009
Applied Ontology Journal	2008

ACM CHI	2017 2008 2006 2005 2004
IEEE Computing	2007
ACM Multimedia	2006 2005 2004
ACM CSCW	2006
ACM SIGGRAPH, Art Gallery	2006
International Journal of Digital Libraries	2005
ACM DIS	2004
Computational Semiotics in Games and New Media	2004

DEPARTMENT COMMITTEES

Tenure/Track Faculty Search Committee Lead search for human-computer interaction faculty.	2018-19
Colloquium Committee	2017-18 2014-15 2013-14 2010-11 (chair) 2009-10 (chair) 2008-09 (chair) 2002-03
Research Computing Services Committee	2016-17
Promotion and Tenure Committee	2015
Graduate Advisory Committee	2013-14
Undergraduate Curriculum Committee	2011-12
Joint Computer Science / Visualization Committee	2010-11 2009-10
Visualization Dept. Search Committee: Games and Interactive Media	2010-11
Web Advisory Committee	2010-11 (chair) 2008-09 2004-05 (chair) 2003-04
Undergraduate Recruiting Committee	2009-10 (chair) 2008-09
Computing Infrastructure Committee	2006-07
Library Committee	2002-03

WORKSHOPS + COURSES + PI MEETINGS: PARTICIPATE

AAAS SEA Change Building Gender Equity Course	2021 Spring
NSF CISE Education and Workforce PI and Community Meeting	2021 March
Microsoft Includes Workshop	2021 March
NSF FW-HTF PI Meeting	2020 December
Google People + AI Research Symposium	2020 November
NSF Smart and Connected Health PI Workshop	2020 January
NSF CIRCL Cyberlearning: Exploring Contradictions in Achieving Equitable Futures	2019 October
NSF SaTC PI Meeting	2019 October

**CREATIVITY SUPPORT ENVIRONMENT [FREE-FORM WEB CURATION]
USE IN COURSES ON ASSIGNMENTS – PROVIDE PEDAGOGY & SUPPORT**

<i>year</i>	<i>semester</i>	<i>university</i>	<i>course #</i>	<i>course name</i>	<i>professor</i>	<i>creativity support environment</i>	<i>students</i>
16	years			75 course offerings	21 professors		9233
2020	fall	Georgia Tech	MECH 6102	Designing Open Engineering Systems	Julie Linsey	LiveMâché	38
2020	fall	Texas A&M	CSCE 315	Programming Studio	Shawna Thomas	LiveMâché	172
2020	fall	Texas A&M	CSCE 315	Programming Studio	Robert Lightfoot	LiveMâché	89
2020	fall	Texas A&M	VIST 357	Interaction Design	Jinsil Seo	LiveMâché	10
2020	summer	Shanghai Tech	CDXX 9999	The Science of Human Innovation: From Mind to Market	Tiantian Wang	LiveMâché	14
2020	summer	Georgia Tech	MECH 6102	Designing Open Engineering Systems	Julie Linsey	LiveMâché	3
2020	spring	Texas A&M	CSCE 315	Programming Studio	Robert Lightfoot	LiveMâché	151
2020	spring	Texas A&M	CSCE 315	Programming Studio	McGuire	LiveMâché	40
2020	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Stephen Caffey	LiveMâché	20
2020	spring	Georgia Tech	MECH 1770	Mechanical Engineering Design	Julie Linsey	LiveMâché	23
2020	spring	Texas A&M	VIST 357	Interaction Design	Jinsil Seo	LiveMâché	8
2020	spring	Illinois State	ART 202	Digital Media Design	Annie Sungkajun	LiveMâché	16
2020	spring	Illinois State	ATK 380	UI/UX for Games	Annie Sungkajun	LiveMâché	20
2019	fall	Texas A&M	ENGL 321	Literature: Romantic Era	Laura Mandell	LiveMâché	44
2019	fall	Illinois State	ATK 380	Interaction Design for Digital and Mobile Interfaces	Annie Sungkajun	LiveMâché	16
2019	fall	KAIST	ID430	Special Topics in Design V (Body Interface)	Jinsil Seo	LiveMâché	16
2019	spring	Georgia Tech	MECH 1770	Mechanical Engineering Design	Julie Linsey	LiveMâché	38
2019	spring	Texas A&M	CSCE 655	Human-Centered Computing	Andruid Kerne	LiveMâché	19
2019	spring	Texas A&M	VIST 206, 305, 405	Interactive Design Studio	Jinsil Seo	LiveMâché	30
2019	spring	Texas A&M	VIST 357	Interaction Design	Jinsil Seo	LiveMâché	12
2019	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Stephen Caffey	LiveMâché	331
2018	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Stephen Caffey	LiveMâché	150
2018	fall	Texas A&M	CSCE 315	Programming Studio	Andruid Kerne	LiveMâché	54
2018	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	LiveMâché	365
2017	fall	Texas A&M	MEEN 601	Advanced Product Design	Dan McAdams	LiveMâché	44

2017	fall	Texas A&M	ENGL 207	Human Thinking and Digital Culture	Laura Mandell	LiveMâché	35
2017	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	LiveMâché	194
2017	summer	Texas A&M	LAND 489	Landscape Architecture History	Jeremy Merrill	LiveMâché	4
2017	spring	Texas A&M	CSCE 667	Seminar: Live Media Places	Andruid Kerne	LiveMâché	12
2017	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Andrew Billingsley	IdeaMâché	144
2016	fall	Texas A&M	CSCE 655	Human-Centered Computing	Andruid Kerne	IdeaMâché	31
2016	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Andrew Billingsley	IdeaMâché	165
2016	fall	Texas A&M	CSCE 315	Programming Studio	Andruid Kerne	IdeaMâché	101
2016	fall	Texas A&M	COMM 460	Collaborations in Feminism and Technology	Cara Wallis	IdeaMâché	20
2016	spring	Texas A&M	CSCE 315	Programming Studio	Andruid Kerne	IdeaMâché	91
2016	spring	Texas A&M	CSCE 655	Human-Centered Computing	Andruid Kerne	IdeaMâché	12
2016	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	333
2015	fall	Texas A&M	LAND 240	History of Landscape Architecture I	Galen Newman	IdeaMâché	32
2015	fall	Texas A&M	CSCE 444	Structures of Interactive Information	Andruid Kerne	IdeaMâché	50
2015	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	220
2015	spring	Texas A&M	LAND 321	Landscape Design IV	Jun-Hyun Kim	Body-based and web IdeaMâché	22
2015	spring	Texas A&M	LAND 240	History of Landscape Architecture I	Galen Newman	IdeaMâché	159
2015	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	350
2014	fall	Texas A&M	COMM 452	Cultural Studies of Communication Technology	Cara Wallis	IdeaMâché	22
2014	fall	Texas A&M	CSCE 667	Adv. Seminar in Human-Centered Computing & Info	Andruid Kerne	IdeaMâché	15
2014	fall	Texas A&M	ARCH 329	Landscape Construction I	Jun-Hyun Kim	Body-based IdeaMâché	28
2014	Fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	370
2014	spring	Prairie View A&M	COMM 1003	Fundamentals of Speech	Toneisha Taylor	IdeaMâché	20
2014	fall	Texas A&M	CSCE 655	Human-Centered Computing	Andruid Kerne	IdeaMâché	21
2014	spring	Texas A&M	LAND 321	Landscape Design IV	Jun-Hyun Kim	Body-based IdeaMâché	20
2014	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	366
2013	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	404

2013	spring	Texas A&M	ARCH 689	Visual Thinking: Theories and Methods of Diagramming	Weiling He	Body-based IdeaMâché	15
2013	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	IdeaMâché	245
2012	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	InfoComposer	225
2012	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	InfoComposer	220
2011	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	InfoComposer	253
2011	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	252
2010	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	219
2010	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	201
2009	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	235
2009	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	238
2009	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	168
2008	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	246
2008	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	180
2008	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	229
2008	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	142
2007	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	144
2007	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	202
2007	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Jorge Vanegas	combinFormation	168
2007	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	154
2006	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	165
2006	spring	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	169
2005	fall	Texas A&M	ENDS 101	Design Process: Creativity & Entrepreneurship	Rodney Hill	combinFormation	182

Teaching

2002 - Department of Computer Science and Engineering
Texas A&M University. College Station, TX

- Supervise research for 7 completed PhDs, 10 completed M.S. students with thesis, 36 total REUs. Currently supervising 2 PhDs + 3 REUs.
- Develop new courses. Carry a 1 + 2 teaching load.
- Invoke project-based learning.
- Connect theory with practice through extensive course websites [<http://ecologylab.cse.tamu.edu/courses/>]. Since 2011, my courses website has received 134,286 pageviews.
- Utilize Piazza to facilitate communication among and with students between classes.

CSCE 655 Human-Centered Computing

[2019, 2016f, 2016s, 2014, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004]

I developed a new introductory graduate core methods course. I took initiative, first by suggesting the need for an introductory HCC methods prerequisite, then by developing consensus on its curriculum.

I continuously update this curriculum to keep abreast of new developments in the field, and the evolution of my own understanding of the field through my engagement in the research community.

The curriculum synthesizes iterative design and evaluation methods, graphical and social interaction, graphics and animation, visual principles, game design, object-oriented software engineering, and topics in information and media semantics research. I develop readings—mostly research papers—and assignments.

In the course's first half, students engage in individual programming, design, and user study projects. In a 9-week final project sequence, students work in teams, providing opportunity to develop a project through an intensive real-world design cycle. Stages include 2 iterations of a proposal, an ethnography, storyboards and lightweight prototypes, 2 cycles of user evaluation, a functional prototype, and a conference style research paper. Some projects carry over into ongoing research and result in peer-reviewed publications. Final projects have addressed web apps, interactive games, curation, exploratory search, artistic installation, and information visualization.

CSCE 315 Programming Studio [2018, 2016f, 2016s, 2014] ~100 students

I call this intensive, integrative course, at junior year's start, *half capstone*. Half capstone initiates students' transition, from skills transmission courses, to project-based learning. I overhauled the curriculum. I teach this as an interdisciplinary design course: integrating software design, interaction design, visual design, and experience design, with qualitative methods and agile task analysis.

One project requires each student team to design and build an engaging, playable multi-player game—using JavaScript, Node.js, MongoDB, WebSockets, CSS, and HTML—so it runs in a web browser. Student response is motivated and creative.

In the process of teaching Programming Studio, my most profound experience (so far) as a teacher emerged. I observed how much trouble the students have working in teams. Teamwork is new to them. Teamwork is inherently difficult. I found, disproportionately, female students ended up in my office with bad team experiences. I was upset! I am determined to make my courses serve as places where underrepresented people become inspired, not discouraged, as computer scientists. In reflection, on the phenomena, I attributed the problems to bias, both implicit and intentional. I sensed that underlying issues of sexism and racism contribute. I am ethically compelled to work to transform social relationships through teamwork.

I am iteratively creating and facilitating a participatory diversity workshop: *Teamwork: Gender + Race*. Student response is inspiring. In the first instance, a young woman reported that many guys don't want to date her when they find out she is an engineer! In the second, expanded, iteration, we draw on anti-racism work by Jones and Okun to transform student team dynamics, helping them identify problems—such as defensiveness and perfectionism—and work toward antidotes—such as creative vulnerability and space to experiment.

CSCE 482 Senior Capstone Design in Computer Science [Fall 2011, Fall 2010, Spring 2010]

In concert with my graduate and undergraduate advisees, I developed the curriculum for our department’s new CSCE 482 Senior Capstone Design in Computer Science course. We engage students in research projects, involving areas such as multi-surface interaction, games, and information. Students begin by writing an NSF-style proposal introduction, with a research plan, as a bid for a topic and a set of resources. They develop software, take IRB training, run user studies, produce a polished video, and write a research paper. They learn about how to articulate intellectual merit and broad impact.

The course embodies my ongoing affirmation of the synergetic sweet spot, in which research situates innovative methods and technologies in education, and education brings the freshness of youth energy into research.

The course develops an innovative graduate student as mentor program. Students are organized into project teams of 4-5 students. PI and grad student mentors develop project areas, each associated with funded research. Student mentors benefit because they are required to develop mini-course curricular components, and work with the undergraduate students through a learning cycle. They get to see what the undergraduate students will do with their ideas, how they will manifest and grow. The undergraduates benefit from a more personalized education experience and by exposure to the most contemporary ideas and technologies. Research benefits from energetic development through the course.

An extensive course website [<http://ecologylab.cse.tamu.edu/courses/capstone>] provides students with background resources about each project area, as well as a well-structured set of deliverables for developing research projects. The PI works with his department head and computer services group to obtain state-of-the-art resources for each project area. The students become excited about the opportunities to work with this gear, and to create innovative projects.

After initial presentations to the students about each project area in the first 2 meetings, students form project teams. Each team is immediately required to develop a project proposal for two research areas. These proposals are positioned as competitive bids. The team with the best proposal in an area would be “funded” with the resources to develop the project. Students are motivated by this format.

Subsequent deliverables constitute an iterative design process. A lightweight prototype is followed by a Wizard-of-Oz user study. Then, the students developed detailed project plans. These, in turn, are followed by cycles of prototyping, revision, and evaluation. A mini-course teaches video editing. Final deliverables include an edited video about the project, with demo footage, as well as a conference paper. Students will thus learn to articulate their ideas using design, software, multimedia, and written English. Final project presentations will be made to members of industry, as well as to faculty.

Educational Outcomes Assessed by Industry Panel: Fall 2011 (1-5; 5 highest)

Ability to apply knowledge of mathematics, science, and computing	4.5
Ability to design and conduct experiments and to analyze and interpret data	4.2
Ability to design a system, component, or process to meet desired needs	4.2
Ability to function on a multi-disciplinary teams	4.5
Ability to identify, formulate and solve computer-related problems	4.7
Understanding of professional and ethical responsibility	3
Ability to communicate effectively – both orally and in writing	4.7
Ability to use the techniques, skills, and modern computing tools necessary for computer science practice	4.8

CSCE 667 Advanced Seminar in Human-Centered Computing and Information

(before 2011, **CSCE 689 Special Topics**)

I like to regularly engage advanced students with cutting-edge materials on emerging research topics. The topics are highly interdisciplinary, coinciding with the research interests of The Interface Ecology Lab. My advanced seminars provoke all of us to master new fields, to grow intellectually. The goal is for us to learn and integrate fundamental science, art, and cultural methods that underlie our work, as well as significant prior work in associated fields. I have offered 8 such courses over 13.5 years as a tenure-track and tenured professor.

Because this is so important to me, I worked with affiliated faculty to develop a new advanced seminar course umbrella. Courses offered under this umbrella combine readings of important research papers with intensive projects. It can be taught with any conceptual focus as long as it addresses state-of-the-art research topics. Students can repeat it for credit.

My incarnations adopt a studio / laboratory format. The courses emphasize participation and collaboration. Motivated students benefit from working in a supportive environment that is intellectually, technologically, and scientifically challenging. They learn to conduct all phases of a research project in this field, including conceptualization, problems statement formulation, prior work investigation, algorithm development, interaction design, software engineering, evaluation, and research paper writing. Less experienced students, including undergraduates, work in collaborative teams with more experienced students. Research leading to publications and theses is produced.

Live Media Places [Spring 2017]

Live media, including but not limited to video, audio, and text media that is broadcast and/or shared in real-time, is an emerging form of social media. Live media platforms such as Twitch, Periscope, Meerkat, and Facebook Live are serving as new media places for people to come together, participate in shared experiences, and form communities. In this course, we will explore how live media helps people communicate, work, play, share, and learn.

We will consider how live media can be contextualized in education. As such, we will study cyberlearning and learning sciences. We will explore methodologies and issues involving the performance of ethical studies in educational contexts. We will address foundations of computer supported collaborative work (CSCW). We will work to understand existing live media practice, explore emerging live media contexts such as online education, and investigate new directions for designing collaborative live experiences.

Students will build innovative projects intended to develop new research contributions. The hallmark of the course is an extended final project sequence typically performed by teams. Bring your passionate interests!

Curation and Ideation Meet Social Media [Fall 2014]

Curation, the process of caring for, assembling, and exhibiting objects, grows into an extremely popular Internet activity. Ideation, the process of generating and developing new ideas, takes form through curation, on scales from personal to social to societal.

This course contextualizes investigation of contemporary curation and ideation practices in and around social media with relevant art practices, and empirical theories of creative cognition and graphical presentation. We invoke framings such as Duchamp's found objects, assemblage, social capital, and information visualization. We examine the role of social media in the ideation processes that impact emergent political movements, including Ferguson and Arab Spring, and other societal events.

Students across disciplines are encouraged to take this course. Each student will focus on strengths from their background, such as arts, humanities, social sciences, computer science, or engineering.

Our mission: to understand how curation serves human needs for engagement in ideation, considering social media's involvement. We will imagine and investigate new future personal and social forms of curation and ideation, and roles for people and computing. Projects will involve curation, design, systems, information visualization, studies, and writing. **#curation#ideation**

Students went beyond my hopes in incorporating information composition of rich clippings into this course's discourse. They adopted the cloud-based IdeaMâché for presentations on readings and research. The non-linear format provoked discussion and associational ideation across readings and fields. The students developed provocative and compelling new forms of expression, particularly on the Analysis / Synthesis

assignment. This assignment involved writing about connections between readings, followed by curating found objects in visual and semantic form, followed by more writing.

Sensory Interfaces [Spring 2012]

The focus of this research-oriented course is to build engaging human experiences based on sensing and recognizing embodied forms of expression. Basic electronics are synthesized with theory and research in strategic HCI areas including multi-surface, ubiquitous, and proxemics. The centerpiece is the Cypress PSoC (Programmable System on a Chip), a uniquely flexible and powerful approach to integrating analog and digital signal acquisition and processing, with support from Cypress. Sensing modalities include IR, NFC, and gyro.

Fluid Information [Spring 2011]

The more information that is presented to a user, and the more capabilities for operating on it, the more difficult the presentation of an interface that communicates underlying meaning and possibilities for interaction. The limitations are rooted in human cognition: in the working memory, perceptual, and motor systems. *Fluid approaches to interaction use visual and temporal techniques to maximize communication and operational power, while minimizing motor effort and cognitive disruption.*

Location, Location, Location [Spring 2008]

Power consumption, size, and costs of high performance computers and sensors are dropping. Multi-modal computing goes mobile. Senses of place in physical and virtual worlds are connected in mixed reality systems. We investigate technologies, examine research, and consider social practices and culture. Students engage in building, documenting, and evaluating location-aware interactive systems.

Creative and Expressive Systems [Spring 2007]

investigates the development and evaluation of interactive and mixed-initiative systems that support and promote human creativity and expression. Evaluation methods are developed, including creative ideation, information discovery, protocol analysis, and flow. The role of cognition in visualization and visual search is studied. Game logics, and their relationships to play and culture, are considered. Social media and interaction. Audio and video production skills for human computer interaction documentation are developed. Students develop and evaluate systems through solo and team projects.

Physical Interfaces [Spring 2006]

engages students in development of physical interfaces that integrate computing with human environments. To do this, they must begin with the acquisition and processing of physical signals for multimodal human computer interaction. They develop distributed wireless sensor networks for responsive environments and wearable computers. The characteristics of physiological signals such as electrodermal, respiration, electromyography, and pulse are studied. Computer vision techniques are investigated. Conceptual frameworks include embodied cognition, embodied interaction, ethnography, body-based performance, and psychophysiology. These perspectives enable the design of physical and social spaces that respond to human expression. Advanced students apply pattern recognition principles while developing experiential mappings from physical sensations through sensory signals to visualization and sonification. The process of experience is emphasized.

Recombinant Media Ecosystems [Fall 2005, Spring 2002]

investigates a theory of *recombinant information*—in which collections are considered and represented not just as set of individual elements, but as composed assemblages that intentionally develop connections among elements. The information age transforms the surrogate of library science into the found object of conceptual art, bringing the representation of meanings into focus. This course develops the medium of digital collections. Students investigate scientific approaches, such as media semantics, meta-documents, and spatial hypertext. They integrate artistic practices for sampling and combining text, image, audio, and video (collage, montage, remix). They also consider and develop methods for evaluating interactive systems for creative experience. Projects develop applications from digital libraries to games to public installations. The course grounds the synthesis of methodologies with the meta-theory of interface ecosystems. This is a lab/studio in which students develop creative experiences as research. Students use the Max/MSP real time signal processing and integration environment.

Perceptive Sensory Systems Lab [2005-08]

I directed this teaching laboratory, and was the PI for \$100,000 of funding from the College of Engineering and Computer Science Department. The mission was to create a space for students to work in courses on ubiquitous and mobile computing projects, combining fields such as human-centered computing, sensors, pattern recognition, information visualization, and multimedia. Two other faculty members participated.

CPSC 444 Structures of Interactive Information [Spring 2003, 2004; Fall 2004, 2005, 2006, 2015]

is probably the only studio art course offered in the TAMU College of Engineering. Students use computing, though the medium of the web browser, to develop a creative voice and communicate. This involves conceptualization, design, writing, and information visualization, as well as coding. Student practice and so learn problem formation, in addition to problem solution, through project-based learning.

Students experience the studio process of sharing work; giving and receiving constructive critique. A permanent gallery, *Must See!*, enables students to learn from each other across years.

Two major projects, the *essaysketch* midterm and the *web semantics visualization* final, focus students' creative development. In the holistic essaysketch design project, they must interpret, explain, illustrate, demonstrate, and connect ideas across disciplines. Exceptional projects have addressed memes, processes of teaching and learning, the Barcelona subway, and diverse games.

The final project involves information visualization of meaningful quantitative data. Exceptional projects have addressed health care costs, Flickr social media photography, computer science literature, and Black Lives Matter.

CPSC 610 Hypertext [Fall 2003]

2000-2001

Visiting Assistant Professor

Department of Electrical Engineering and Computer Science. Tufts University. MA.

- Carry a 2 - 2 teaching load.
- Develop 1 new course; overhaul 2 other courses from the ground up.

Comp 150-PWI | 150-CM Public Web Installation [Fall 2000, Spring 2001]

In this course, the students collaborated with me to produce *JumboScope*, a single research project / site-specific art installation, which was exhibited in the Boston Cyberarts Festival. The course was run in a highly participatory fashion. Some students took turns facilitating the entire class. Working groups were self-organizing, and responsible to each other. Scientific, technological, and artistic methodologies were integrated. The conception and flow of site-specific intervention in public spaces. The design of space and interaction. Theory and practice of advanced, distributed, multi-tier web architectures. Political issues of community representation and institutional standards in media curating. The composition of events in time and space. High performance multimedia databases. Server-side programming with Java and Oracle. Browser programming with CSS, HTML and Java/Script. Streaming video. Intelligent agents. Usability evaluation and testing. The marketing of ideas and technology. Consensus process and group decision-making.

Comp 106 Programming for Graphical User Interfaces [Spring 2001]

Overhauled a course that had been previously based on X-11 Motif, with a final project based on office automation, and completely revamped it. I developed a new curriculum, using Java, object-oriented techniques, computer graphics, and multimedia. The students created projects that were games. This related both to current industry developments, and to their interests. Much excitement was generated.

Comp 171 Human Computer Interaction [Fall 2001]

is a graduate / upper division undergraduate introductory course. I revamped the course to use primary research source materials, such as Norman's *Everyday Things*, Suchman's *Situated Actions*, and Geertz's *Interpretation of Culture*, in addition to standard HCI texts.

1997 **Lecturer**
 Parsons School of Design
 New School University. New York, NY

Interactive Java Programming Developed an innovative curriculum for teaching students in the MFA Program in Digital Design to program. Developed a curriculum for “Interactive Java Programming”. Supported students with widely varying levels of programming experience and a priori knowledge. Developed course web site.

1999 **Teaching Assistant**
 Department of Computer Science / Media Research Lab
 NYU. New York, NY

Multimedia Brought interdisciplinary concepts, such as design and culture, into the curriculum of an undergraduate multimedia class in the computer science department. Motivated students to elevate work. Developed a “Grader’s corner” segment of class in which the best student work was displayed and critiqued.

1994 **Research Associate**
 International Centre for African Music and Dance. University of Ghana. Legon, Ghana

Macintosh for Everyone Developed a curriculum for teaching basic computer skills to West African researchers, working in fields such as traditional music and dance practice and ethnography / ethnomusicology.

Advisees

PhD Advisees

1. Jack Stenner, 8/07 PhD, Architecture / Visualization (co-advisor with Carol Lafayette),
Playas: Homeland Mirage - A Case Study in the Understanding of Critical Reflection in a Digital Media Artwork,
Current position: Associate Professor of Art + Technology, University of Florida.
2. Eunyee Koh, PhD, Computer Science, 8/08,
Representing Combined Searches with Image+Text Surrogates extracted from Web Pages.
Current position: Senior Research Scientist / Manager, Adobe Research Laboratories, San Jose.
3. Z. O. Toups, PhD, Computer Science, 8/10,
Team Cognition: A Location-Aware Augmented Reality Game Teaches Implicit Coordination Skills to Emergency Responders.
ACM Computer Supported Cooperative Work (CSCW) Doctoral Consortium 2008.
Summer 2009: Intern, Yahoo! Research, Santa Clara (Elizabeth Churchill).
Current position: Associate Professor, Games and HCI, Department of Computer Science, New Mexico State University.
4. Andrew Webb, PhD, Computer Science, 5/17.
Phrasing Bimanual Interaction for Visual Design.
Summer 2012 Internship, Yahoo! Research, Barcelona, Spain (Alejandro Jaimes).
Summer 2014 Internship, CWI, The Netherlands (Pablo Cesar).
Summer 2015 Internship, Microsoft Research (Michel Pahud, Ken Hinckley, Bill Buxton).
ACM Creativity and Cognition Graduate Symposium 2015.
Texas A&M Dissertation Fellowship, 2015-16.
Current position: Assistant Professor of Computer Science and Engineering, LSU.
5. William Hamilton, PhD, Computer Science, 8/18.
Supporting Participation through Live Media.
Summer 2013 Internship, Motorola Research (Frank Bentley).
Summer 2014 Internship, Microsoft Research (Kori Inkpen).
Summer 2015 Internship, Microsoft Research (Kori Inkpen).
ACM Computer-Human Interaction (CHI) Doctoral Consortium 2016.
2018 TAMU Computer Science and Engineering Graduate Research Excellence Award.
2018 TAMU Distinguished Graduate Student Award for Excellence in Research.
Current position: Assistant Professor, Department of Computer Science, New Mexico State University.
6. Rhema Linder, PhD, Computer Science, 5/19.
Analyzing Creative Processes: Qualitative Methods Meets Visual Analytics
Summer 2014 Internship, Adobe Research (Eunyee Koh).
Summer 2015 Internship, Microsoft Research (Jaime Teevan)
Summer 2016 Internship, Microsoft Research (Jaime Teevan).
IEEE InfoVis Doctoral Consortium 2016.
Current position: Postdoctoral Research, Agents, InteRactions and Systems, University of Tennessee.
7. Yin Qu, PhD, Computer Science, 8/19.
Integrating Visual and Semantic Exploration with Curation to Support Information-Based Ideation.
Summer 2012 Internship, Google.
Summer 2013 Internship, Google.
ACM SIGIR Conf on Human Information Interaction and Retrieval (CHIIR) Doctoral Consortium 2016.
Current position: Software Engineer, Google.
8. Nic Lupfer, PhD, 12/20.
Collaborative Multiscale Design Curation: Supporting Creativity in Project-Based Learning.
Summer 2018 Internship, Microsoft Research (Gina Venolia).
2017 TAMU Computer Science and Engineering Graduate Mentoring Excellence Award.
Current position: Senior Full Stack Engineer, Mapware.
9. Ajit Jain, PhD (abd), 5/21.

How to Support Situated Design Education through AI-Based Analytics
 Summer 2016 Internship, Google.
 Summer 2017 Internship, Adobe Research (Eunye Koh).
 ACM Creativity and Cognition Graduate Symposium 2017.
 Summer 2018 Internship, CWI, The Netherlands (Pablo Cesar).
 Current position: Software Engineer, Data Systems, Amobee, Inc.

Masters Advisees

1. Madhur Khandelwal, M.S. Computer Science, 5/04, *Semantics of Time Travel in a Generative Information Space*.
 Current position: Engineering Lead, Facebook.
2. Mirko Mandic, M.S. Computer Science, 12/04, *Visualizing Rhythms of Intimacy in Email Communication*.
 Current position: Design Leadership, Business Messaging, Facebook.
 Previous: Microsoft Digital Life + Work, Senior UX Designer. Microsoft.
 Head of Digital UX (Sr. Manager), Amazon Go.
3. Andrew Webb, M.S., 8/07, *A Transitory Interface Component for In-Context Visualization and Adjustment of a Value*.
 → PhD (see above).
4. Abhinav Mathur, M.S., 12/09, *Meta-Metadata: An Information Semantic Language and Software Architecture for Collection Visualization Applications*.
 Current position: Sr. Software Engineer, Walmart eCommerce.
5. Nabeel Shahzad, M.S., 12/11, *S.IM.PL Serialization: Type System Scopes Encapsulate Cross-Language, Multi-Format Information Binding*. Current position: Senior Software Engineer, Microsoft.
6. Jon Moeller, M.S., 2010-12.
 → Masters (see above).
7. Ross Graeber, 2004-7
 Current position: Senior Software Engineer, Schlumberger.
8. Nic Lupfer, M.S., 12/14, *Beyond the Feed and Board: Holistic Principles for Expressive Web Curation*.
 → PhD (see above).
9. Shenfeng Fei, M.S., 12/14, *Co-located Collaborative Information-based Ideation through Embodied Cross-Surface Curation*.
 Current position: Senior Software Engineer, Google.
10. Ajit Jain, M.S., 12/14, *TweetBubble: A Twitter Extension Stimulates Exploratory Browsing*.
 → PhD (see above).
11. Feiyu Yu, M.S., 8/17,
Presentation in Free-Form Space: Managing Ambiguity with Hypermedia Pathways while Supporting Ideation.
 Summer 2015 Internship, Google.
 Current position: Senior Software Engineer, LinkedIn.
12. Matthew Carrasco, M.S., 12/17, *Queering Online Places: LGBT+ Performances Motivate Social Media Design*.
 Current position: Computer Science Research and Development: Member Level, Sandia National Laboratories.

Research Experiences for Undergraduates

1. Alex Grau, 2004-07, combinFormation text processing and interaction logging.
 Current position: Software Engineer, Moog Music.
2. William Hamilton, 2008-10, Team Coordination (TeC) Game design and data analysis.
 2009 TAMU Computer Science and Engineering Undergraduate Researcher of the year Award (as a junior),
 2010 TAMU Computer Science and Engineering Undergraduate Researcher of the year Award (as a senior).
 2010 Honorary Mention CRA Outstanding Undergraduate Researcher Award.
 PhD, 2018, Texas A&M, Computer Science.
 Publications from undergrad: [40][41][84][118].

- Current position: Assistant Professor, Department of Computer Science, New Mexico State University.
3. Jon Moeller, 2008-10, scanning FTIR multi-touch sensor, ZeroTouch, combinFormation video, IR model, term dictionary, bug fixes, web launch.
Publications from undergrad: [82][85].
→ Masters (see above).
 4. Nic Lupfer, 2009-10, combinFormation.
M.S., 2014, Texas A&M, Computer Science.
Publications from undergrad: [39].
→ Masters (see above).
 5. Sarah Berry Cranston, 2006-7, Using Image and Text Surrogates to Promote Creativity in the Design Process.
Publications from undergrad: [53][83].
Current position: UI Developer, Duck Creek.
 6. Megan Schneider, 2007, A Preference Editor Generator through Semantic Translation. M.S. Computational Linguistics, University of Washington.
Current position: Principal Machine Learning Engineer, Textio.
 7. Jason Jho, 2000-1, CollageMachine / JumboScope installation.
Current position: CTO, Anvyl.
 8. David Sturdivant, 2007, combinFormation Procedurally Forming Combined Image-Text Surrogates.
Publications from undergrad: [47].
Current position: Senior Software Architect, Tyler Technologies, Plano, Texas.
 9. David Lyons, 2010-, combinFormation video.
Current position: 3D Artist, WebVR Software Engineer, Within (Virtual Reality).
 10. Brett Hlavinka, 2010, Trans-surface Rummy.
Current position: Owner, Technology Consultant, Solve Right Consulting.
 11. Julio Montero-Rexach, 2011-13, ZeroTouch electronics and firmware.
 12. Thomas Robbins, 2011-12, Pen-in-hand Command.
Publications from undergrad: [35].
Current position: Student, SMU.
 13. Bryant Poffenberg, 2011-13, InfoComposer, IdeaMâché.
Publications from undergrad: [32].
Current position: Software Engineer II, Elastic.
 14. Oliver Garretson, 2013-14, game streaming ethnography.
Publications from undergrad: [30].
 15. Clair Snodgrass, 2013-14, digital curation ethnography.
Publications from undergrad: [29].
Current position: Environmental Compliance Coordinator, Dominion Energy.
 16. Yvonne Chen, 2013. NSF Graduate Fellowship.
Publications from undergrad: [64].
Current position: Senior Software Engineer, ExtraHop Networks..
 17. Katherine Chan, 2014.
Current position: Software Engineer, Houzz.
 18. Matthew Carrasco, 2014-15, Exploratory Search Interface.
M.S., 2017, Texas A&M, Computer Science.
Publications from undergrad: [20][26][64][113].
→ Masters (see above).
 19. Elizabeth Kellogg O'Donnell, 2014-15, Supporting Creative Visual Design with Pen and Multi-touch Gestures.
Publications from undergrad: [22][26].

- Current position: Senior Software Engineer, National Instruments.
20. Kade Keith, 2014-16, Monadic Visualization of Metadata Networks to Support Exploratory Browsing.
Publications from undergrad: [20][26][64][113].
Current position: Software Engineer III, Hatched Labs.
 21. Cameron Hill, 2014-15, free-form web curation, web semantics, embodied pen+touch interaction.
Publications from undergrad: [26].
Current position: Senior Software Development Engineer II, Amazon.
 22. Zachary Brown, 2014-16, web semantics, embodied pen+touch interaction.
Publications from undergrad: [22].
Current position: Software Engineer, Odyssey Space Research.
 23. John Goen, 2015, Body-based IdeaMâché.
 24. Mark Poscablo, 2015, Body-based IdeaMâché.
Prior position: IT Developer/Engineer at Hewlett Packard Enterprise.
Current position: Software Engineer, Varian Medical Systems.
 25. Alyssa Valdez Musil, 2015-17, free-form web curation, collaborative pen+touch interaction.
Publications from undergrad: [15][17][20].
Current position: Web Developer, Flocknote.
 26. Nicolas Botello, 2016, collaborative live media curation.
Publications from undergrad: [14][18].
Current position: Software Engineer, Zume.
 27. Matt Kiihne, 2016, free-form web curation.
 28. Hannah Fowler, 2016-19, qualitative data analysis in design, ideation, pen+touch interaction and live media.
2019 Honorary Mention CRA Outstanding Undergraduate Researcher Award.
Publications from undergrad: [15][16][17].
Current position: Program Manager II, Microsoft.
 29. Tyler Tesch, 2016-17, web semantics.
Publications from undergrad: [18].
Current position: Software Engineer, Google.
 30. Alexandra Stacy, 2016-17, presence interfaces for collaborative live media curation.
Publications from undergrad: [18][70].
Current position: Software Development Internet, Persistent Systems.
 31. Ryan Garmeson, 2017-18, pen+touch interface design.
 32. Aaron Perrine, 2018-19, LiveMâché image pyramids + folio subsystem.
Publications from undergrad: [14][67].
Current position: Software Developer, Microsoft.
 33. Gabriel Britain, 2019-20, design education dashboard.
Publications from undergrad: [14][67].
Current position: Human-Computer Interaction MS, Georgia Tech University.
 34. Michaela Matocha, 2019, changing representations to support design creativity.
 35. Rebecca McFadden, 2019, embodied pen+touch design curation.

External Dissertation Roles

36. Jürgen Scheible. 3/2010. Doctoral Dissertation External Evaluator:
Empowering Mobile Art Practice : A Recontextualization of Mobile and Ubiquitous Computing.
School of Arts. University of Aalto, Helsinki, Finland.

37. Karen Tanenbaum. 11/2012. Doctoral Dissertation External Evaluator:
User Perceptions of Adaptivity in Ubiquitous Systems: A Critical Exploration.
School of Interactive Arts & Technology (SIAT), Simon Fraser University, Surrey, British Columbia, Canada.
38. Khalil Klouche. 12/2019. Doctoral Dissertation Opponent:
Explorable Information Spaces: Designing Entity Affordances for Fluid Information Exploration.
School of Arts. University of Aalto, Helsinki, Finland.