Casey Ferrara

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EDUCATION

Swarthmore College — Swarthmore, PA
B.A., Double Major in Psychology & Linguistics — 2010 - 2014
GPA in Linguistics: 3.75; Psychology: 3.5

PUBLICATIONS

Mirman, D., Landrigan, J. F., Kokolis, S., Verillo, S., **Ferrara, C.**, & Pustina, D. (2017). Corrections for multiple comparisons in voxel-based lesion-symptom mapping. *Neuropsychologia*.

Leeson, L., Stewart, M., **Ferrara, C.**, Drexel, I., Nilsson, P., & Cooper, M. (2017). "A President for all of the Irish": Performing Irishness in an interpreted Inaugural Presidential Speech. In C. Stone & L. Leeson (Eds), *Interpreting and the politics of recognition. London: Routledge*.

Britt, A. E., **Ferrara, C.**, & Mirman, D. (2016). Distinct effects of lexical and semantic competition during picture naming in younger adults, older adults, and people with aphasia. *Frontiers in psychology*, *7*.

Ferrara, **C**., & Napoli, D. (2017). Manual Movement in Sign Languages: Perceptual factors at play in communicating shapes. (Submitted for initial review)

RESEARCH EXPERIENCE

Senior Research Assistant-II, joint position — 2016 – Present
Moss Rehabilitation Research Institute (MRRI) & University of Pennsylvania

Cognitive Neurophysiology & Neuropsychology Lab, MRRI. PI: Edward Wlotko, Ph.D.

- Developing the lab's battery of over 20 cognitive measures, including initial review of candidate tasks, evaluating their relevance to our dataset, testing them to patients, and scoring.
- Established lab protocols for data collection and management.
- Trained two new RAs in behavioral and EEG data collection.

Thompson-Schill Lab, University of Pennsylvania. PI: Sharon Thompson-Schill, Ph.D.

- Leading an inter-institutional study of conceptual combination and whether distinct types are supported by different neural substrates.
- Performing a literature review and developing an experimental protocol and task materials in a format amenable to patients with aphasia (PWA).
- Identifying, recruiting, testing, and scanning patients to be included in this study.
- Contributing to weekly lab meetings both at MRRI and UPenn, including leading discussions of relevant research articles, presenting on my progress and findings, and providing input on others' projects at all stages of development and execution.

Research Assistant, joint position 2014 – 2016
MRRI & Drexel University

Language & Aphasia Lab, MRRI. PI: Myrna Schwartz, Ph.D.

- Administered and scored a broad array of clinical measures of language impairment in PWA.
- Identified and traced lesions in post-stroke MRI scans to reliability with UPenn neurologist.
- Performed multiple voxel-based lesion symptom mapping (VLSM) analyses for projects in both labs to examine neural correlates of impairment.
- Collected, coded, and performed preliminary statistical evaluations of the data for an analysis of a picture-based Stroop task for PWA (Schwartz, Brown & Ferrara, 2015).

Language and Cognitive Dynamics Lab, Drexel University. PI: Daniel Mirman, Ph.D.

- Collected patient eye-tracking data for a study investigating how phonological and semantic information interact to influence the time course of spoken word recognition.
- Collected and analyzed data for a study exploring a distinction between lexical and semantic competition in picture naming in patients versus controls (Britt, Ferrara, & Mirman, 2016).
- Ran statistical analyses evaluating permutation-based correction methods for multiple comparisons in VLSM (Mirman, Landrigan, Kokolis, Verillo, Ferrara, & Pustina, 2017).

Undergraduate Research Assistant
Swarthmore College

Psycholinguistics Lab. PI: Daniel Grodner, Ph.D. 2013 – 2014

- Designed and implemented thesis experiment on scalar implicature processing.
- Compiled, analyzed, and presented these data in poster session and thesis paper.
- Recruited and tested subjects for related experiments investigating perspective-taking.

EEG Cognitive-Neuroscience Lab. PI: Daniel Grodner, Ph.D. 2013 – 2014

- Collected EEG data for tasks exploring neural correlates of implicature-related ambiguity and conversational perspective-taking.

Cognitive Psychology Lab. PI: Frank Durgin, Ph.D. 2011

- Collected eye-tracking data for an experiment investigating written metaphor processing.
- Collected data for virtual reality experiment exploring angle perception.

POSTERS & PRESENTATIONS

Schwartz, M., Brown, D., **Ferrara, C.** (2015*) The "Verbal Stroop Task": A New Paradigm for Assessing Executive Control in Word Retrieval*. Presented at The 45th Clinical Aphasiology Conference 2015; Monterey Bay, CA. (Presenting co-author: Brown, D.)

Leeson, L., Stewart, M., **Ferrara, C.**, et. al (2014). "*A President for all of the Irish": Performing Irishness in an interpreted Inaugural Presidential Speech.* Presented at The European Forum of Sign Language Interpreters (EFSLI) 2014; Antwerp, Belgium. (Presenting co-author: **Ferrara, C.**) *

*Also presented at The Association of Visual Interpreters of Canada (AVLIC) 2014; Winnipeg, Canada & The Irish Association for Applied Linguistics 40th Anniversary Conference 2015; Dublin, Ireland.

TEACHING EXPERIENCE

Teaching Assistant, Swarthmore College, *The Structure of ASL* Spring 2014

- Held a three-hour weekly clinic to provide guidance and feedback on students' assignments.

Tutor, Swarthmore College, *American Sign Language 1 & 2* 2013 – 2014

- Met with students to review coursework and field questions and attended all meetings of the ASL I and ASL II classes to keep abreast of course content.

Grader, Swarthmore College, *Semantics* Fall 2012

- Scored and provided in-depth written feedback on ~15 student assignments each week.

ACADEMIC ACHIEVEMENTS

College Career Panelist, Swarthmore College 2015

One of four alumni panelists detailing various career paths since graduation.

Thesis, "Only Some Unicorns are Ugly: How People Understand Different Types of Meaning" 2014

Senior thesis detailing results of a research project on scalar implicature.

E-Book Co-creator, R.I.S.E. series 2014

Co-created the bimodal/bilingual e-book versions of "Rocky the Cat who Barks" in ASL and Fiji Sign Language for the "Reading Involved Shared Experience" (RISE) series, designed to promote shared reading between adults and deaf children regardless of sign or spoken language fluency.

Swarthmore Summer Research Fellowship 2013

Funding for a study investigating scalar implicature processing, later expanded into a thesis.

Howard Hughes Medical Institute Summer Funding 2011

Funding for a study investigating metaphor processing and embodiment via haptic feedback.

TECHNICAL & LABORATORY SKILLS

Skills:

- Recruitment and testing of patients with right and left hemisphere post-stroke brain damage.
- Administration and scoring of >30 clinical measures of cognitive impairment
- Identification of functional tissue damage & lesion-tracing in structural MRIs
- Transcription of fluent and non-fluent speech samples in IPA
- Eye-tracking data collection using head-mounted/table-mounted eye-tracker
- EEG data collection via 64-channel geodesic sensor net and 32-channel electrode array and cap

TECHNICAL & LABORATORY SKILLS (continued)

Software:

Expert skills:

- *MRICron*: lesion tracing
- *Qualtrics & Mechanical Turk*: creating surveys for remote data-collection
- *REDCap*: creating diverse and comprehensive data collection instruments
- *MS Excel*: using formulas & logic functions, pivot tables, and visualizing data
- *Voxbo*: VLSM and computing damage to brain areas of interest

Intermediate skills:

- *Praat* & *Audacity*: building scripts and analyzing waveforms & spectrograms
- *ELAN*: video data annotation & coding
- *Mix* & *Match*: pseudo-randomization of linguistic stimuli
- *EEGLab* & *ERPLab for MATLAB*: artifact detection, plotting ERP waveforms, filtering EEG and ERPs, measuring amplitudes and latencies, etc.

Basic skills:

- *E-Prime & PsychoPy*: building experimental tasks
- *R & SPSS*: data visualization and statistical analyses