



Education

12.2014 **B.S.**, Psychology—University of California, San Diego
Specialization: Clinical Psychology (Phi Beta Kappa Honor Society)
Marshall College Honors Program, GPA = 3.85/4.0

Awards and Honors

Undergrad - UCSD

12.2014 Thurgood Marshall College Honors
12.2014 Top 15% (graduating class of 06.2014)
09.2014 Phi Beta Kappa Honors Society
09.2012 – 01.2014 Provost Honors (\geq 3.5 GPA for each quarter)

Talks and Conference Presentations

11.2016 Society for Neuroscience (SfN) Conference ♦♦ Poster Talk – I presented on the findings of a report currently under review, in which we demonstrate how the role of a global suppressive mechanism is recruited after error-commissions and during conflict (see *Publications*).

04.2016 Scripps Green Hospital – Educational Neuroscience Seminar ♦♦ I presented on the findings of a study meant to explore the specific timing of recruitment of the stopping network during reactive motor inhibition (i.e., StopMAPPING; see *Projects: Past & Ongoing*).

Publications

Fife, K.H., Guttierrez-Reed, N.A., Zell, V., Bailly, J., **Lewis, C.M.**, Aron, A.R., Hnasko, T.S. (2017). Causal role for the subthalamic nucleus in interrupting behavior. *eLife*, 10.7554/eLife.27689. [[link](#)]

Majid, D. A., **Lewis, C.**, & Aron, A. R. (2015). Training voluntary motor suppression with real-time feedback of motor evoked potentials. *Journal of Neurophysiology*, jn-00992. [[Link](#)]

Wessel, J.R., Myers, M.G., **Lewis, C.**, Aron A.R. (in press). Using motor stopping to reduce smokers' attentional bias towards smoking-related stimuli. (Stage-1 registered report) *Drug and Alcohol Dependence*.

Wessel, J. R., **Lewis, C.**, & Aron, A. R. (under revision). Why errors are distracting: The role of a global suppressive mechanism in interference after errors and during conflict.

Academic Research Positions

Mount Sinai's Icahn School of Medicine, Department of Neurology

08.2016 – present Associate Researcher (for Dr. James Sumowski, Multiple Sclerosis Research) ♦♦ Administering neuropsychological batteries and psychosocial functioning questionnaires (e.g., NIH cognitive, motor/sensory assessments/tasks --BDI, NEO, CDRS, etc.) to patients diagnosed with Multiple Sclerosis and controls, as well as assisting in creation of new examinations (i.e., utilizing MATLAB to create random sequences, n-back tasks) ♦♦ Performing phlebotomy services to acquire lab data ♦♦ Research Coordinator: organizing data acquisition, maintaining database (e.g., REDcap, SPSS, & Excel), human subjects' scheduling maintenance (for fMRI, physician assessment, and neuropsychological exam), and recruitment: patient medical chart navigation and phone screening

UCSD Cognitive Neuroscience Lab, *Aron Lab* (Psychology Department)

- 06.2015 – 08.2016 *Clinical Research Assistant (VA San Diego Healthcare System)* ♦♦ Subject recruiter: phone screening and administering of questionnaires in sensitive populations (e.g., smoking-dependent seniors/veterans) including smoking-related surveys (e.g., FTND & QSU) ♦♦ Monitoring carbon monoxide levels in clinical subjects ♦♦ Administering thorough task instructions and consent form processes required for clinical subjects (HIPAA, VA Bill of Rights) ♦♦ Sole data collector and database creator ♦♦ Co-author of pre-registered report (Wessel, Myers, Lewis, & Aron, in press)
- 08.2014 – 08.2016 *Lab Manager* ♦♦ Lead fiscal manager: in charge of fund requesting, cash disbursements, supply orders, and documentation of all lab transactions ♦♦ Human subjects coordinator: in charge of managing IRB protocol/expiration, writing new IRB protocol submissions, consent form records, and human subject participation (through SONA, email, and flyers) ♦♦ Staff training: in charge of new lab member orientation including lab policy, experimental procedures, and equipment maintenance
- 08.2014 – 08.2016 *Liaison (Scripps Green Hospital)* ♦♦ Representative for Adam Aron at monthly deep brain stimulation (DBS) treatment team meetings for Parkinson patient assessments ♦♦ Primary point-of-contact during planning and discussion meetings, including aiding lab-based decisions on potential research subjects (based on patient DBS eligibility) ♦♦ Facilitator for subject recruitment on future studies
- 04.2014 – 08.2016 *Research Assistant* ♦♦ Data collection: task lead on eight lab projects using diverse methods, including transcranial magnetic stimulation (TMS), electroencephalography (EEG), electromyography (EMG), and behavioral paradigms in humans, as well as optogenetic laser stimulation in rodents ♦♦ Equipment & software supervisor: TMS (Magstim/BiStim) and Signal software configuration ♦♦ Lab communication: formal presentations of project findings at weekly lab meetings

The Scripps Research Institute, *Koob/George Lab* (Drug & Addiction Department)

- 01.2014 – 06.2014 *Lab Intern* ♦♦ Animal surgical assistant: rodent pre-surgery procedures including sterilization, preparation, and surgeon shadowing ♦♦ Data collection: responsible for drug acquisition procedures on (1) stress-induced cocaine escalation in female rats, (2) nicotine CRF-knockout virus influence on nicotine self-administration, and (3) new drug testing in ETOH (alcohol) rats ♦♦ Post-surgery care: medication administration, supply preparation, and catheter assembly

Projects: Past & Ongoing

Mount Sinai's Icahn School of Medicine, Department of Neurology

Human studies:

Currently working on a cognitive reserve study that will encompass ~250 subjects

- ♦ Patients with relapsing-remitting multiple sclerosis (RRMS)
- ♦ Healthy controls
- ♦ 1 year and 3 year follow-up assessments

Data maintenance

- ♦ Upload, navigate, and analyze multi-variable data (using REDcap, MATLAB, SPSS and Excel)
- ♦ In charge of data collection and task instruction for subjects: neuropsychological assessment, scheduling MRI scanning, phlebotomy, physician's assessment, psychosocial and lifestyle questionnaires.
- ♦ Subject recruitment and IRB consent procedures in a clinical setting
- ♦ Senior coordinator for 5-year grant-funded study.

UCSD Cognitive Neuroscience Lab, Aron Lab (Psychology Department)

Human studies:

Collected behavioral data and worked with ~400-500 subjects & patients:

- ◆ Undergraduate student populations
- ◆ Senior & veterans populations with clinical impairments

Lead data collector for 11 projects (sole data collector for 6), with duties involving the following:

- ◆ Subject recruitment and IRB consent procedures
- ◆ Task instruction and experiment execution (using MATLAB PsychToolbox)

Assisted in data analysis with the following tasks and tools:

- ◆ Audio signal processing (using MATLAB)
- ◆ EMG signal cleaning and filtering (using MATLAB & SPSS)
- ◆ MEP signal processing for TMS (using MATLAB)

Acted as expert TMS operator and EMG technician for 5 motor-cortex stimulation projects:

- ◆ Projects investigated the role of global motor suppression in cognitive interference using traditional cognitive neuroscience paradigms (e.g., Stroop task, Simon task, and N-back task).
- ◆ Two of these projects resulted in co-authored manuscripts (see *Publications*)
- ◆ Gained expertise in finding anatomical landmarks for EMG in hand and bicep muscles for electrode placement
- ◆ Responsible for EMG training for other lab members

Rodent studies:

Lead project coordinator for several mouse-model studies, which involved the following duties:

- ◆ Lead protocol designer via *K-Limbic/Med Associates* hardware and software configuration (complex mouse model interface equipment, in which I set up touchscreen technology to implement a visuospatial working memory task)
- ◆ Created rodent task using a t-maze setup (to measure working memory)
- ◆ Helped to create a rodent analog of human working memory task, to eventually translate to work with human subjects

Lead data collector and technician, using the following tools:

- ◆ Responsible for creating visual/graphical representation of daily progress in rodent performance (using Microsoft Excel), in collaboration with Dr. Tom Hnasko's lab in the UCSD Neuroscience department
- ◆ Used optogenetic laser stimulation in subthalamic nucleus (STN) of mice

The Scripps Research Institute, Koob/George Lab (Drug & Addiction Department)

Rodent studies:

Lead project coordinator for several rat-model studies, which involved the following duties:

- ◆ Lead creator of database to track ongoing rodent performance
- ◆ Contributor to data processing, rat health care, catheter assembly, and surgical prep
- ◆ Responsible for properly training coworkers on rodent self-administration procedures

Lead data collector and technician, with the following responsibilities:

- ◆ Responsible for properly training rats on repeated substance intake to induce ETOH-dependence, nicotine dependence, and cocaine dependence
- ◆ Gathered key outcome measures, including initial cocaine intake behavior (i.e., lever pushes to inject cocaine into jugular catheter) and % increase in cocaine intake following stress events (i.e., foot-shock in self-administration cages)

Work Experience and Technical Skills

General Software ♦♦ Website Maintenance through Wordpress ♦♦ Proficiency in Excel, PowerPoint, and Word ♦♦ Windows & Mac OS ♦♦ EndNote & Mendeley

Lab Software and Hardware ♦♦ SONA, MATLAB, Signal (CED), SPSS ♦♦ TMS equipment, amplifier, and Magstim (BiStim) ♦♦ K-Limbic software ♦♦ Med Associates hardware

Certificates: MSFC certified (Multiple Sclerosis Functioning Composite), GCP (CITI program: Good Clinical Practice), MRI equipment training & safety (Mount Sinai TMII training team), EPIC user certified (hospital portal for patient charts), HIPAA

Languages:

English: Native/Fluent

Spanish: Proficient (intermediate-advanced)

Arabic: Beginner (learned for both written and spoken language)

Additional Managerial Roles & Volunteer Work ♦♦ Assistant Manager, Vitamin Department - Sprouts Farmers Market (06.2011 – 05.2015) ♦♦ Survey Proctor: 2015 California Healthy Kids Survey (02.2015 – 04.2015) ♦♦ Volunteer Facilitator Assistant, San Diego Phobia Foundation (01.2010 – 02.2010)

References

James Sumowski: P.I. – Mount Sinai School of Medicine, Department of Neurology: (917) 275-5027;
james.sumowski@mssm.edu

Adam Aron: P.I. – UCSD Psychology Department: (323) 481-4300; adamaron@ucsd.edu

Jan Wessel: Assistant Professor – U.IOWA Department of Psych/Brain Sciences: (619) 623-1769; jan-wessel@uiowa.edu

Tom Hnasko: P.I. – UCSD Department of Neuroscience: (415) 902-1313; thnasko@ucsd.edu

Ami Cohen: Head Researcher (Nicotine Department) – The Scripps Research Institute: cohen@scripps.edu

Scott Freeman: Graduate Student – UCSD Psychology Department, Aron Lab: (818) 825 – 0230; sfree10@gmail.com

Leslie Fadem: Head of the San Diego Phobia Foundation: (760) 944-6334