Anthony Chase

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Curriculum Vitae
September 2018

Academic Degrees

Ph.D. Educational Psychology and Research Methodology. College of Education. Department of Educational Studies. Purdue University. West Lafayette, Indiana. 2016. Concentration: Quantitative Psychology.

M.Sci. Chemistry. College of Science. Department of Chemistry. Purdue University. West Lafayette, Indiana. 2014. Concentration: Organic Chemistry/Chemical Education.

B.A. Chemistry. College of Arts and Sciences. Department of Chemistry. University of Nebraska. Lincoln, Nebraska. 2012. Minors: Mathematics/Psychology.

Honors and Awards

2018 Travel award to attend the Biennial Conference on Chemical Education, awarded by the American Chemical Society – ACS Exams Institute

2017 Travel award to attend the American Chemical Society Spring National Meeting, awarded by the American Chemical Society – Division of Chemical Education

2017 Honorary membership to the American Association for the Advancement of Science, awarded by IUPUI

2015 Graduate Entrepreneurial Fellow, Burton D. Morgan Center for Entrepreneurship, Purdue University.

2015 Selected for Independent – Interdisciplinary Graduate Program, The Graduate School, Purdue University.

Research Experience

2017- IUPUI – Stem Education Innovation and Research Institute. Grant writing, management of various qualitative and quantitative educational research projects. Evaluation of funded educational grants. Managing of graduate student research associates.

2017- Assessment Institute of Indianapolis – Chair of STEM Education track.

2015-2016 Purdue University – Purdue Homeland Security Institute. Director of educational assessment. Grant writing, course development, program management and evaluation.

2013-2016 Purdue University - Chemical Education Research: Authentic Science Practice in Undergraduate Chemistry Labs: A Military Academy CASPiE Implementation. Mixed-methods program evaluation. Program implemented in collaboration with academy faculty. Program began in 2013 and is still running as part of the chemistry curriculum.

2013 Purdue University – Science Learning through Engineering Design (SLED). Set up and instructed break-out workshop in professional development summer institute.

2012 Purdue University - Organic Chemistry Research: Mechanistic Methodologies in Organic Synthesis with an Emphasis on Utilization of Boron-Based Reagents. Organic synthesis and characterization with air-sensitive reactions.

Professional Experience

2017 Associate Faculty – School of Science, Department of Chemistry. Indiana University-Purdue University. Indianapolis, Indiana.

2017 School of Science Representative – Program Review and Assessment Committee. Indiana University-Purdue University. Indianapolis, Indiana.

2017 Evaluation Specialist – STEM Education Innovation and Research Institute. Indiana University-Purdue University. Indianapolis, Indiana.

2016 Half-Time Research Assistantship as Director of Educational Assessment. Discovery Park - Purdue Homeland Security Institute. Purdue University. West Lafayette, Indiana.

2013-2014 Half-Time Research Assistantship on the Assessment Team. Discovery Park – Discovery Learning Research Center. Purdue University. West Lafayette, Indiana.

2012 Internship – Research & Development/Quality Control – Sargeant's Pet Care Products. Omaha, Nebraska.

Publications

Chase, A. (2018). Assessment institute insights – a report of the STEM education track of the 2017 assessment institute. *Assessment Update*. 30(3). 6-7

Christopher, L., William, A., Rao, A.S., Dale, A., **Chase, A.**, Joshi, M.P., Krogg, W., Abernathy, B., (2018). Engineering and informatics student multidisciplinary learning using 3D visualization and 3D display of radio frequency (RF) concepts. 2018 *Frontiers in Education Conference*, San Jose, CA.

Hess, J.L., **Chase, A.**, Fore, G., Sorge, B. (2018). Measuring interpersonal self-efficacy and emotion regulation: A validation study. *International Journal of Engineering Education*, *(in press).*

Radloff, J. & **Chase, A.** (2018). Using expansive framing to enhance personal relevancy and engagement in science. *The Hoosier Science Teacher, 41*(1), 29-36. doi:10.14434/thst.v41i123230

Leontyev, A., **Chase, A.**, Pulos, S., & Varma-Nelson, P. (2017) Assessment of the effectiveness of instructional interventions using a comprehensive meta-analysis package. *Computer-Aided Data Analysis in Chemical Education Research (CADACER): Advances and Avenues. 117-132. DOI:10.1021/bk-2017-1260.ch008*

Chase, A., Clancy, H., Lachance, R., Mathison, B., Chiu, M., and Weaver, G. (2017) An interdisciplinary course-based undergraduate research experience at the United States Military Academy: linkages between critical thinking and authenticity. *Chemistry Education Research and Practice* 18, 55-63

Hess, JL, **Chase A**, Minner D, Rizkalla M, Agarwal M. (2017). An evaluation of a research experience for teachers in nanotechnology. *2017 IEEE Frontiers in Education Conference (FIE)*, Indianapolis, IN, USA, 2017, pp. 1-7. doi:10.1109/FIE.2017.8190701

Chase, A., Pakhira, D., and Stains, M. (2013) Implementing process oriented guided inquiry learning for the first time: adaptations and short-term impacts on students' attitude and performance. *Journal of Chemical Education* 90(4), 409-416

Scholarly Presentations

2018 Biennial Conference on Chemical Education (South Bend, IN, July 29 – August 2). Oral Presentation: The long-term professional effects of being a peer leader in a peer-led team learning course: A mixed-methods exploratory study. **Chase, A.**, Rao, A.S., Lakmala, P., Wright, W., Kline, G., Varma-Nelson, P. *Symposium Organizer/Presider

2018 Biennial Conference on Chemical Education (South Bend, IN, July 29 – August 2). Poster Presentation: Transferrable skills gained from experience as a peer-leader in a PLTL program: Development of a quantitative instrument from qualitative data. Wright, W., Kline, G., **Chase, A**, Varma-Nelson, P.

2018 Biennial Conference on Chemical Education (South Bend, IN, July 29 – August 2). Poster Presentation: Peer-led undergraduate research initiative (PLURI) in organic chemistry: Initial findings and future directions. Kelley, A., Matthews, J., Floreancig, J., Singh, K., Walbridge, B., Minto, R., Laulhe, S., **Chase, A.**

2018 American Chemical Society National Meeting (New Orleans, LA, March 18-22). Oral Presentation in George C. Pimental Award Symposium: Transferrable skills acquired from experience as a peer leader in a PLTL program. **Chase, A.,** Rao, A.S., Lakmala, P. & Varma-Nelson, P.

2017 Purdue Discipline-Based Educational Research Group (West Lafayette, IN, December 5). Oral presentation: A career in evaluation and research. **Chase, A.**

2017 Peer-Led Team Learning International Society Conference (Chicago, IL, June 5). Oral presentation: How do you evaluate your PLTL implementation anyway? **Chase, A.** & Fore, G.

2017 American Chemical Society National Meeting (San Francisco, CA, April 1-5). Oral Presentation in New and Noteworthy in Chemical Education Symposium: An interdisciplinary course-based undergraduate research experience at the United States Military Academy: linkages between critical thinking and authenticity. **Chase, A.,** Dietz, J.E., Clancy, H., Mathison, B., Lachance, R., Weaver, G.

2015 Defense Energy Innovation Summit & Showcase (Austin, TX, Nov. 29 – Dec. 1) Poster Presentation: *Purdue SURF: A Summer Research Program for Military Academy Cadets/Midshipmen.* **A. Chase**, J. Pekny, J. Dietz.

2014 Biennial Conference on Chemical Education (Allendale, MI, Aug 3-7). Oral Presentation: *Implementing The CASPiE Course-Based Research Experience at The United States Military Academy: Initial Findings of Critical Thinking Gains and Affective Responses.* A. **Chase**, H. Clancy, G. Weaver.

2014 Course-Based Undergraduate Research Experiences Conference (Cold Springs Harbor National Laboratory, Cold Springs, NY) Poster Presentation: *Implementing the CASPiE Course-Based Research Experience at the United States Military Academy: Research Methodology and Evaluation Procedures.* **A. Chase**, G. Weaver.

2012 American Chemical Society National Meeting (San Diego, CA, March 25–29). Poster Presentation: *Impact of the first-year implementation of process oriented guided inquiry learning in general chemistry and organic chemistry courses.* **A. Chase**, M. Stains.

2011 American Chemical Society Midwest/Great Lakes Regional Meeting (St. Louis, MO, October 14-19). Oral Presentation: *Impact of the first-year implementation of process oriented guided inquiry learning in an organic chemistry course on students' attitudes and learning.* **A. Chase**, M. Stains.

External Funding

REU site: Multidisciplinary research for undergraduates in nanomaterials for energy and biological applications. 03/01/2017 – 02/29/20. $359,848. National Science Foundation (Award #: EEC-1659688). Role: Evaluator

STEM: 3D visualizations of RF signals in electronic warfare. 07/01/2016 – 06/30/2018. $147,496. Office of Naval Research (Award #: N00014-16-2810). Role: Evaluator

Teaching Experience

IUPUI	Organic Chemistry (Lecturer)
Purdue University	Power and Energy (Instructor) Intro to Homeland Security (Guest Lecturer) General Chemistry for Elementary Ed. Majors (Supervisor) General Chemistry for Engineering Majors (Lab and Recitation)
United States Military Academy	Organic Chemistry (Guest Lecturer) Advanced General Chemistry II (Guest Lecturer)
University of Nebraska	General Chemistry I (Lab) General Chemistry II (Lab)

Technical Skills – Software Proficiency

IBM SPSS

IBM SPSS – Amos

Statistical Analysis System (SAS) Statistical Software

Stata: Data Analysis and Statistical Software

QSR International: NVivo Qualitative Data Analysis Program

Technical Skills – Data Analyses

Hypothesis Testing

Regression/Correlation Analyses

Structural Equation Modeling

Multilevel Modeling/Hierarchical Linear Modeling

Survey Sampling Procedures

Test/Survey Item Construction

Confirmatory Factor Analysis

Longitudinal Modeling

Qualitative Interviewing Techniques

Qualitative Phenomenological Coding/Analysis

Memberships

American Chemical Society (ACS) Member

American Association for the Advancement of Science (AAAS) Member