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I am an experienced scientist passionate about science communication, multi-disciplinary projects, and online learning and engagement approaches. It is critical that we find new strategies to communicate scientific finding and engage the public. By embracing digital technologies and using online learning and visualization methods, I am exploring visual science communication to support online education and science communication approaches. Although classically trained as a research scientist in pharmacology, I consider myself a science communication designer with skills ranging from project management, pedagogical approaches to online learning, video production, instructional design, and web design. With a foundation as a cross-disciplinary team member, I am interested in developing and utilizing these skills to produce science marketing, communication, and engagement strategies, particularly those at the intersection of art and science.

In 2017, I created a program at Vanderbilt University called **ArtLab** (<https://artlabvanderbilt.com>). ArtLab stemmed from a desire to better understand the seeming inherent resemblances within the arts and sciences. As an artist, I have naturally gravitated to visual approaches to enrich my science and sought to better understand this practice. ArtLab aims to connect artists and scientists within the Vanderbilt University community to ignite dialogue on art-science. ArtLab Fellows gain experience in artistic and scientific processes and contribute to work shown during the final exhibition. As the founder and director of the program, it has grown from an idea, culminating in our first exhibition, to a cross-campus initiative that is pioneering new approaches to visual science communication. We have collected data and published on the impact of these types of science outreach programs, published on student artistic perspectives, and are currently testing science communication approaches. To support this initiative, I have created courses for students (CSET 2410, CSET 1001.01), designed and managed events ranging from \$3,000-\$12,000, and written both art and science grants to support our mission.

I am also passionate to expand online course development in the Basic Sciences, School of Medicine at Vanderbilt University. My experience in education began during my post-doctoral studies with Dr. Billy G. Hudson in association with Aspirnaut™. Aspirnaut™ began with “WiFi” school buses, expanded to “beaming” of weekly STEM labs to elementary and middle schools in rural America, and is currently the flagship summer research internships for high school and undergraduate students at Vanderbilt University Medical Center. Utilizing this background in education, I am currently assisting in the development of a transinstitutional framework to support digital resources development. The primary goal of this effort is to develop online novel programs and courses in drug discovery, a leading discipline at Vanderbilt University. This effort has culminated in the development of **Drug Discovery Online** (<https://www.vanderbilt.edu/drugdiscovery/about/>), a service core to assist Faculty with instructional design, video and audio editing services, website design, and course assessment strategies.

A. Professional Preparation

Loyola University

Chicago, IL, USA

B.S., Biology, Aug 2010

Vanderbilt University

Nashville, TN, USA

Ph.D., Pharmacology, Jun 2016

“Novel implications of lost serotonin transporter function on platelet biology” under the mentorship of Professor Heidi Hamm and Assistant Professor Ana M.D. Carneiro.

Vanderbilt University Medical Center

Nashville, TN, USA

Postdoctoral Fellowship, 2016-2018

“Discovery Science Education” under the mentorship of Professor Billy G. Hudson and VUMC Vice President Dr. Julie Hudson

B. Appointments

Assistant Professor	Apr 2019 - present	Vanderbilt University
Senior Lecturer	Oct 2018 - present	Vanderbilt University
Instructor	Apr 2018 – Apr 2019	Vanderbilt University
Visiting Lecturer	Aug 2017 - present	The Wond’ry, Vanderbilt University
Scientific Program Manager	Aug 2016 – Mar 2018	Aspirnaut™

C. Products

HONORS AND AWARDS

	Location	Date	Amount
Provost Research Studio Award	Nashville, TN, USA	2018	\$4,000
Curb Center Catalyst Creativity Grant (Awarded along with undergraduate mentee)	Nashville, TN, USA	2017	\$2,000
ASPET Travel Award	San Diego, CA, USA	2016	\$1,000
American Heart Association Pre-Doctoral Fellowship (14PRE19640007)	Nashville, TN, USA	2014-2016	\$53,688
SFB35 Student Travel Award- Transporters in Health and Disease	Vienna, Austria	2014	\$250
Vanderbilt Graduate Student Travel Award	Nashville, TN, USA	2013, 2014	\$1000
ATVB Young Investigator Travel Award	Dallas, TX, USA	2013	\$1000
Mechanisms of Vascular Biology Training Grant	Nashville, TN, USA	2013	\$23,844
Clinical Research Grants, VICTR	Nashville, TN, USA	2013	\$2000

PEER-REVIEWED ARTICLES

6. **Kendra H. Oliver**, Eve Moll, and Marylin Murphy. *The woman scientist: Brief reflections of the visual representation on women*. Leonardo, MIT Press. (In press, preparing for print). Oct 2018.
5. Amanda K Darbyshire, **Kendra Helen Oliver**, William D Dupont, Kelli Boyd. Anesthesia and Euthanasia of Brine Shrimp (*Artemia franciscana*). Journal of the American Association for Laboratory Animal Science.

4. Amanda K. Darbyshire, **Kendra H. Oliver**, Tammy L. Mulrooney, Carissa P. Jones and Kelli L. Boyd. *Effects of anesthesia and euthanasia solutions on the histologic quality of brine shrimp (Artemia franciscana)*. Journal of Histotechnology. May 2017.
3. Michael Dohn, Christopher Kooker, Lisa Bastarache, Tammy Jessen, Capria Rinaldi, Seth Varney, Matthew Mazalouskas, Hope Pan, **Kendra Oliver**, Digna Velez Edwards, James Sutcliffe, Joshua Denny, and Ana Carneiro. "The Gain-of-Function Integrin β_3 Pro33 Variant Alters the Serotonin System in the Mouse Brain". Journal of Neuroscience. Aug 2017.
2. **Kendra H. Oliver**, Matthew T. Duvernay, Heidi E. Hamm, and Ana M.D. Carneiro. *Loss of Serotonin Transporter Function Alters ADP-Mediated Integrin $\alpha IIb/\beta_3$ Activation through Dysregulation of the 5-HT_{2A} Receptor*. Journal of Biological Chemistry. Jul 2016.
1. **Kendra H. Oliver**, Tammy Jessen, Emily L Crawford, Chang Y Chung, James S Sutcliffe, and Ana M Carneiro. *Pro32Pro33 Mutations in the Integrin β_3 PSI Domain Results in $\alpha IIb\beta_3$ Priming and Enhanced Adhesion: Reversal of the Hypercoagulability Phenotype by the Src Inhibitor SKI-606*. Mol Pharmacol. Jun 2014.

ARTICLES IN SUBMISSION AND PREPARATION

Max E. Joffe, Chiaki I. Santiago, **Kendra H. Oliver**, Nicholas A. Harris, Julie L. Engers, Craig W. Lindsley, Danny G. Winder, and P. Jeffrey Conn. *mGlu₂ and mGlu₃ negative allosteric modulators divergently potentiate thalamocortical transmission and exert rapid antidepressant-like effects*. In revision for Neuron. Resubmission planned for August 2019.

Kendra H. Oliver, Jonathan Erhman, and Christina Marasco. *Vigilante Innovation (VIX): Case study on the development of student skills through a team-based design process and environment*. Submitted to International Journal of STEM Education. May 29, 2019.

Kendra H. Oliver and Jay Clayton. *Acceptance of lost Genetic Privacy in the 'blade runner' cannon*. Submitted: Public Understanding of Science. May 14, 2019.

Caroline Cencer, Eve Moll and **Kendra H. Oliver**. *ArtLab; bringing together artists and scientists for cross-disciplinary discussion*. In preparation for CBE—Life Sciences Education.

Justin Chediak, Jonathan Algoo, and **Kendra H. Oliver**. *Interactive display as a mechanism to increase student interest in campus research*. In preparation for *The Journal of STEM Outreach*.

Kendra H. Oliver. *Genetic Privacy and Identity in Art*. In preparation for New Genetics and Society.

Stefan Marasligiller, **Kendra H. Oliver**. *Intersection of graffiti art and the opioid crisis; art and science collide*. In preparation for Science as Culture.

CONFERENCES

- | | | Location | Date |
|-----|---|-------------------|-------------|
| 25. | NIGMS Division of Training, Workforce Development, and Diversity Program Directors' Meeting 2019
Online Evidence-based Course Design to Expand Reach of Rigor and Reproducibility Curriculum | Bethesda, DR, USA | Jul 2019 |

24.	International Association of Medical Science Educators- 2019	Roanoke, VA, USA	Jun 2019
23.	ScienceTalk 2019 Poster: ArtLab; Intersection of art and science	Portland, OR, USA	Apr 2019
22.	Poster: Interactive displays to increase student interest about research on campus Mellon Partnership Symposium on Digital Humanities Research	Berea, KY, USA	Mar 2019
21.	American Society of Bioethics Talk: Genetic privacy in the two Blade-Runner films.	Los Angeles, CA, USA	Oct 2018
20.	Online Learning Summit: MIT Media Lab	Boston, MA, USA	Aug 2018
19.	Experimental Biology Poster: ArtLab: Building an art-science science outreach program.	San Diego, CA, USA	Apr 2018
18.	American Society of Cell Biology Poster: Aspirin TM : Maximizing STEM achievement for students from diverse backgrounds by holistic, long-term commitment to scientific development.	San Francisco, CA, USA	Dec 2016
17.	American Society of Nephrology	Chicago, IL, USA	Nov 2016
16.	Experimental Biology Talk: Loss of Serotonin Transporter Function Alters ADP-Mediated Integrin $\alpha\text{IIb}/\beta_3$ Activation through Dysregulation of the 5-HT _{2A} Receptor. Poster: Loss of Serotonin Transporter Function Alters ADP-Mediated Integrin $\alpha\text{IIb}/\beta_3$ Activation through Dysregulation of the 5-HT _{2A} Receptor. Poster: Probing the use of blogs to promote student learning.	San Diego, CA, USA	May 2016
15.	Atherosclerosis, Thrombosis and Vascular Biology Scientific Sessions Talk: Chronic loss of serotonin transporter function alters platelet adhesion and spreading.	San Francisco, CA, USA	May 2015
14.	Transporters in Health and Disease (SFB35) Poster: Bruise-blues with chronic selective serotonin reuptake inhibitor treatment: loss of peripheral serotonin leads to bleeding phenotype.	Vienna, Austria	Sep 2014
13.	Vanderbilt University Pharmacology Department Retreat Talk: Modulation of serotonin homeostasis through chronic citalopram-treatment or loss of the serotonin transporter alters $\alpha\text{IIb}\beta_3$ mediated platelet function. Poster: Bruise-blues with chronic selective serotonin reuptake inhibitor treatment: loss of peripheral serotonin leads to bleeding phenotype.	Nashville, TN, USA	Oct 2014
12.	Atherosclerosis, Thrombosis, and Vascular Biology Conference Poster: Serotonin and selective serotonin reuptake inhibitors (SSRIs) in platelet function and RhoA Activation.	Toronto, Canada	May 2016
11.	American Heart Association Scientific Sessions Poster: Bleeding phenotype of SERT KO mice is due to reduced platelet function by GPIIb/IIIa activation and α -granule exocytosis. Poster: Src Activation is an essential step in the hypercoagulability induced by the integrin β_3 Pro33 polymorphism in the mouse.	Dallas, Texas, USA	Nov 2013
10.	Vanderbilt University Pharmacology Department Retreat Poster: Bleeding phenotype of SERT KO mice is due to reduced platelet function by GPIIb/IIIa activation and α -granule exocytosis.	Nashville, TN, USA	Oct 2013
9.	Mechanisms in Vascular Biology Retreat Talk: Role of Serotonin in Platelet Function. Poster: Characterizing the bleeding phenotype of SERT KO mice by looking at platelet function by GPIIb/IIIa activation.	Nashville, TN, USA	Sep 2013
8.	ScienceOnline2013	Charlotte, North Carolina, USA	Feb 2013
7.	Vanderbilt Vascular Biology Retreat	Nashville, TN, USA	Sep 2013

6. **Poster:** Hypercoagulability of platelets common polymorphism of GPIIb/IIIa. Vanderbilt University Department of Nashville, TN, USA Oct 2013
Pharmacology Retreat
5. **Poster:** Hypercoagulability of platelets in the clinically relevant mouse model for the Pro33 (HPA-1, PIA2) isoform of GPIIb/IIIa. Microscopy and Microanalysis Annual Meeting Nashville, TN, USA Aug 2011
4. Gordon Research Conference - Intermediate Chicago, IL, USA Jun 2010
filaments
3. **Poster:** Absence of vimentin is Protective under hyperoxic conditions by attenuation of the immune response. Chicago Undergraduate Symposium Chicago, IL, USA Jun 2010
2. **Poster:** Vimentin-null mice are protected under hyperoxia. Loyola University Chicago Undergraduate Chicago, IL, USA May 2010
Symposium
1. **Poster:** Vimentin-null mice are protected under hyperoxia. Loyola University Chicago Undergraduate Chicago, IL, USA Dec 2009
Symposium
- Poster:** Vimentin-null mice are protected under hyperoxia due to inhibition of inflammation.

D. Synergistic Activities

ARTICLES, DIGITAL MEDIA AND RESOURCES

URLs

7. Drug Discovery Online <https://www.vanderbilt.edu/drugdiscovery/>
6. Catalogue for ArtLab 2019 Exhibition <https://artlabvanderbilt.com/>
5. Cell Image Shared Resources Website Coming soon
4. ArtLab website and social media accounts <https://artlabvanderbilt.com>
https://twitter.com/ArtLab_Vandy
<https://www.instagram.com/artlab.vanderbilt/>
3. American Society of Civil Engineering Art Show <https://indd.adobe.com/embed/f285b5cb-5362-43f4-9edc-539d81de83a3?startpage=1&allowFullscreen=true>
2. ArtLab; Intersection of Art and Science 2017 catalogue <https://indd.adobe.com/view/51444518-e1cf-449f-8cf7-5b915c91698f>
1. **Kendra H. Oliver** and Richard R. Coble (2016). Teaching with Blogs. Vanderbilt University Center for Teaching. <https://cft.vanderbilt.edu/teaching-with-blogs/>

TEACHING

Course Name	Department	Date	Role	Affiliated Faculty
Day of Discovery: Visual Science communication (6 th -8 th graders)	Center for Science Outreach	May 2019	Instructor	Bryson Reynolds Clayton Coffman

The London Art-Science Scene; Science Communication in the 21 st Century, Maymester (Canceled)	Communication of Science and Technology	May 2019	Instructor	David Wientraub
Mythbusting 101: Rigor and Reproducibility in the Media, iSeminar (Canceled)	Communication of Science and Technology	Spring 2019	Instructor	Bruce Damon, Joey Barnett
Artist in Residence; Visual Communication in Science, iSeminar	Communication of Science and Technology	Spring 2019	Instructor	Garret Kaas
Diversity Seminar Series, Aspirnaut™	VUMC, Nephrology and Hypertension	Summer 2017	Instructor	Aaron Fidler, Billy G. Hudson
Why is Biology So Complex?, Honors Course	Department of Physics	Fall 2015	Teaching Assistant	John Wikswo
Blended Online Learning and Design Program	Center of Teaching and Learning	2015 - 2016	Fellow	Cynthia Brame
College Teaching Certificate Program	Center of Teaching and Learning	2013	Student	Cynthia Brame

PROFESSIONAL MEMBERSHIPS

	Date
International Society of Medical Educators	2019
American Society of Bioethics	2018
American Society of Cell Biology	2016
American Society of Nephrology	2016
American Society for Pharmacology and Experimental Therapeutics	2012-2018
American Heart Association – Atherosclerosis, Thrombosis, and Vascular Biology	2014-2016
American Physiological Society	2015-2016

ASSOCIATED PROGRAMS, VOLUNTEER EXPERIENCE, AND COMMITTEES

	Date	Role
Provost appointed Online Education Committee	2019	Committee Member
ArtLab	2017 – Current	Founder and Director
Day of Discovery: 7 th -8 th grade outreach with ArtLab	2019	Instructor
SyBURRE Searle Undergraduate- Research Program	2016 – 2019	Scientific adviser
Adventure Science Center Volunteer	2016	Outreach Volunteer
Vanderbilt Pharmacology Student-Invited Form Committee	2016	Member
Vanderbilt Pharmacology Graduate Student Association	2015	President
Review Committee for Vanderbilt Pharmacology Journal Club	2014 - 2015	Member