## Diann E. Gaalema CURRICULUM VITAE

Position: Associate Professor

Department of Psychiatry

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## **EDUCATION**

Year	Institution	Degree	Area of Degree, Accolades
2010-2012	University of Vermont	Postdoc	Behavioral Pharmacology
2004-2010	Georgia Institute of Technology	PhD	Experimental Psychology
1999-2003	Arizona State University	BA	Psychology

## **LICENSES, CERTIFICATION** - none

## **FACULTY POSITIONS HELD**

Years	Institution	<b>Academic Title</b>	Department
2019-current	University of Vermont	Associate Professor	Psychiatry
2012-2019	University of Vermont	<b>Assistant Professor</b>	Psychiatry
2011 (summer)	Sandia National Labs	Visiting Faculty	Behavioral Neuroscience

# OTHER POSITIONS AND MAJOR ADMINISTRATIVE POSITIONS HELD

Years	Location/Program Name	Role
2013-current	Graduate College, Univeristy of Vermont	Member
2013-current	University of Vermont Department of	Secondary Appointment
	Psychological Science	

#### **HONORS AND AWARDS**

Year	Name of Award
1999	National Merit Scholar
2002	Hughes Program Fellowship Recipient
2008	American Psychological Association dissertation award
2009	Society for the Advancement of Behavior Analysis dissertation award
2009	National Science Foundation EAPSI summer fellowship
2009	Graduate student of the year, Georgia Institute of Technology, School of
	Psychology

2011	NIDA Women & Sex/Gender Junior Investigator travel award
2011	APA travel award
2013	NIDA Early Career Investigator Travel Award
2016	NISBRE Young Investigator travel award
2016	NIDA Women & Sex/Gender Junior Investigator travel award
2016	CVRI-VT travel award
2015-17	NIDA Tobacco Centers of Regulatory Science (TCORS) Developmental Award
2021-22	NIDA Tobacco Centers of Regulatory Science (TCORS) Rapid Response
	Award

#### **KEYWORDS/AREAS OF INTEREST**

Vulnerable populations, cardiac rehabilitation, tobacco, secondary prevention, behavioral economics, incentives, health-related behavior change.

**SUMMARY OF PROFESSIONAL ACTIVITIES- OVERALL** [optional-needed for promotion and reappointment] Principle activity (e.g. teaching, research or clinical) [Focus on activities in last 5 years, but include longer time periods as appropriate. Be concise and limit to 500 words or less.]

I joined UVM as faculty in 2012 and am currently an Associate Professor in the department of Psychiatry in UVM's Larner College of Medicine, with a secondary appointment in UVM's Department of Psychology. My principle activity is research with effort also dedicated to teaching and service.

I have been continuously funded by NIH throughout my time as a UVM faculty member. I began my faculty career supported by R01 grants. I quickly transitioned to collaborating on the submission of two large center grants, which were funded (P20 COBRE Award, P50 TCORS Award). I was also involved in the application for competitive renewal for those center grants, which were also funded (P20, U54). I have also secured independent funding having received an R61/33 (R01-level) grant. I have begun to get requests to serve on other researcher's grants as co-I, consultant, and mentor.

During my academic career, I have published 98 peer-reviewed manuscripts. Of these publications, 86 were published during my time on the UVM faculty, averaging 8.6 publications per year. The impact of these publications is evident in the high-impact journals that have housed them (e.g. Circulation IF 29.7; Journal of the American Medical Association-Psychiatry IF 21.6), and in the fact that they have been cited more than 2500 times.

The standing of my research in this field is further demonstrated by invited presentations and requests for dissemination products. I have been invited to give oral presentations at multiple national conferences (Association for Behavior Analysis International [ABAI], American Association of Cardiovascular and Pulmonary Rehabilitation [AACVPR], National Institutes of Health [NIH]) as well as at regional meetings and seminars. Additionally, I have been requested by multiple entities (Centers for Disease Control, AACVPR, International Council of Cardiovascular Prevention and Rehabilitation (ICCPR) to provide expertise in the areas of

cardiac rehabilitation, behavior change, and tobacco use for use in forming guidelines and providing ready to use change strategies.

I also contribute to the teaching and mentoring mission of the university in formal classroom settings, as well as formal and informal mentoring. I am a member of two training grants (NIDA T32 Training Award, TCORS U54 Award) which support 12-16 postdoctoral and predoctoral fellows. As part of these training programs, I provide ongoing informal mentoring and serve as primary course facilitator for a 16-week graduate seminar offered jointly through our T32 and TCORS postdoctoral/predoctoral training programs each fall and spring semesters covering current topics and foundations in behavioral science, research ethics, and the behavioral pharmacology of addictions. As part of these training programs, I have served as the primary mentor for three postdoctoral fellows and one doctoral-level graduate student. I have also served on five thesis/dissertation committees, twice as chair. I also routinely provide mentoring for undergraduates, graduate students, medical students, and postdoctoral fellows that conduct research in our labs. Additionally, I have developed and twice taught a course in Behavioral Economics, once at the graduate and once at the undergraduate level.

Finally, I participate in numerous service activities. Locally, I serve on the Executive Committee as well as Associate Chair of the Collaboration, Dissemination, and Education Core for the Vermont Center of Behavior and Health COBRE Award. Nationally I serve as chair for the annual meeting of the College on Problems of Drug Dependence (CPDD) Contingency Management Working Group, and serve on standing committees for NIH/FDA, the AACVPR, and CPDD. Recently I have begun serving as an ad-hoc member on study sections for NIH/FDA. Internationally, I serve on the International Council of ICCPR as a member of the steering committee as well as a subject-matter expert on tobacco use. From an editorial standpoint, I have served on the editorial board for two journals and as an ad-hoc reviewer for more than 15 journals. I have also been invited to be a guest editor for an upcoming issue of Journal of Cardiopulmonary Rehabilitation and Prevention.

In summary, I have a national reputation and am building an international reputation with a strong record of achievement in scholarly research, research mentoring, and service at the university, state, national, and international levels.

#### SUMMARY OF ACCOMPLISHMENTS

- Established national and growing international reputation in the fields of vulnerable populations, cardiac rehabilitation, and tobacco use.
- Continuous NIH funding during my tenure at UVM including current independent funding.
- Strong publication record, including 98 peer-reviewed papers cited over 2600 times.
- Dedication to research mentoring as demonstrated by membership on a prestigious T32 training grant, service on thesis/dissertation committees, mentoring of NIH-supported predoctoral and postdoctoral fellows, and classroom teaching.
- Ongoing service to academia and my field as seen by participation on committees
  within the university as well as professional and government national and international
  organizations.

# PROFESSIONAL SERVICE

# **DEPARTMENTAL SERVICE**

Years	Department	Committee	Role
2012-current	Psychiatry	Vermont Center for	Executive Committee member
		Tobacco Regulatory	
		Science	
2012-current	Psychiatry	Vermont Center on	Executive Committee member
		Behavior and Health	Associate chair of Collaboration,
			Dissemination, and Education
			Core

# **COLLEGE SERVICES**

Years	Service Committee	Role
2013-2018	College of Engineering and	Member of Admissions Committee
	Mathematical Sciences IGERT	

# MEDICAL CENTER SERVICE

Years Service Committee F	Role
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**Service Committee** 

# **UNIVERSITY SERVICE**

Years

2015-2017	Neuroscience, Behavior and Health	Member of Steering Committee
GOVERNMENT		
Years	Society	Role
2021	National Institute of Health	Member of Scientific Review Panel ZHL1 CSR-G(F1)
2021	National Institute of Health/Federal Drug Administration	Member of Scientific Review Panel ZRG1 RPHB-P(58)
2021	National Institute of Health	Member of Scientific Review Panel ZHL1 CSR-G(01)
2016-2020	National Institute of Health	Member of Early Career Reviewer Program
2016	National Institute of Health/Federal Drug Administration	Member of the Planning Committee for the annual Tobacco Regulatory Science meeting
2014-2018	National Institute of Health/Federal Drug Administration	Co-chair of the Vulnerable Population Working Group within Tobacco Regulatory Science funded members

Role

2014-2018	National Institute of	Member of the Nicotine Reduction
	Health/Federal Drug	Working Group within Tobacco
	Administration	Regulatory Science funded members

# **SOCIETY MEMBERSHIPS**

Years	Society
2021-current	College on Problems of Drug Dependence, Full Member
2017-current	American Association of Cardiovascular and Pulmonary Rehabilitation,
	Regular Member
2010-2020	College on Problems of Drug Dependence, Associate Member
2008-current	American Psychological Association (Divisions 25 and 28)
2007-current	Association of Behavior Analysts International, Full member

# SERVICE TO PROFESSIONAL ORGANIZATIONS

Years	Service Committee	Role
2015-2016	American Psychological	Early Career Psychologist Representative
	Association Division 28	
2016-current	American Association of	Member of the Behavioral/Nutrition
	Cardiopulmonary Rehabilitation	Committee
2015-2018	College on Problems of Drug	Member of the Publications Committee
	Dependence	
2014-current	Contingency Management	Co-chair and more recently Chair
	Working Group	
2020-current	College on Problems of Drug	Member of the Program Committee
	Dependence	
2021-current	International Council	Member of the Steering Committee and
	of Cardiovascular Prevention and	Subject Matter Expert on Tobacco Use
	Rehabilitation	

## SERVICE TO PROFESSIONAL PUBLICATIONS

Years	Publication
2020-current	Editorial Board, Journal of Cardiopulmonary Rehabilitation and
	Prevention
2022	Guest Editor of Special Issue on Primary Prevention, Journal of
	Cardiopulmonary Rehabilitation and Prevention
2016-2020	Standing Reviewer, Journal of Cardiopulmonary Rehabilitation and
	Prevention
2015-2020	Associate Editor, Tobacco Regulatory Science
2021	Guest reviewer, Mayo Clinic Proceedings
2021	Guest reviewer, Experimental and Clinical Psychopharmacology
2015-2021	Guest reviewer, Preventive Medicine
2017, 2019, 2021	Guest reviewer, Nicotine and Tobacco Research
2018	Guest reviewer, Pediatrics
2017	Guest reviewer, American Journal of Preventive Medicine
2016	Guest reviewer, Psychological Record
2016-2017	Guest reviewer, PLoS

2015, 2018	Guest reviewer, Drug and Alcohol Dependence
2014-2015	Guest reviewer, Addictive Behaviors
2014	Guest reviewer, Journal of Applied Behavior Analysis
2012, 2014	Guest reviewer, Addiction
2013	Guest reviewer, Journal of Neonatal-Perinatal Medicine
2012	Guest reviewer, International Journal of Comparative Psychology
2008	Guest reviewer, Journal of Applied Animal Welfare

## **PUBLIC SERVICE**

Years Service Role

## **SUMMARY OF SERVICE ACTIVITIES**

I participate in numerous service activities across all levels, regionally, up to internationally. Locally, I serve on the Executive Committee as well as Associate Chair of the Collaboration, Dissemination, and Education Core for the Vermont Center of Behavior and Health COBRE Award. I also serve on the Executive Committee for the Vermont Center for Tobacco Regulatory Science and as the Associate Chair of the Education and Outreach Core for the Vermont Center on Rural Addictions.

Nationally I serve as chair for the annual meeting of the College on Problems of Drug Dependence (CPDD) Contingency Management Working Group and currently serve on the Program committee for CPDD's annual conference as well. I have served multiple times on committees in service to NIH/FDA around Tobacco Regulatory Science and am a standing member of the Behavioral and Nutrition Committee of AACVPR. I now also get requests to serve as an ad-hoc member on study sections for NIH/FDA and have served on three such sessions. Internationally, I was requested to serve on the The International Council of Cardiovascular Prevention and Rehabilitation as a member of the Program Certification Steering Committee with a goal of providing a platform for low-resource cardiac rehabilitations programs to demonstrate delivery of evidence-based care. I also serve ICCPR as the subject-matter expert on tobacco use.

From an editorial standpoint, I have served on the editorial board for two journals and as an adhoc reviewer for more than 15 journals. I have also been invited to be a guest editor for an upcoming issue of Journal of Cardiopulmonary Rehabilitation and Prevention.

## **TEACHING**

## FORMAL SCHEDULED CLASSES

Year	Course Title	Cou R	ırse E	Hours	Number of Learners	Learner Level
2008	Introduction to Psychology	Χ		3	~100	U
2009	Experimental Analysis of Behavior	X		4	~25	U/G
2014	Behavioral Economics	X		3	~15	U/G
2016	Behavioral Economics	Х		2	~10	G
2012-current	Trainee Seminar: Research in Behavioral Pharmacology	Х		1	12-16	G

R-required; E-elective; Hours-approx. per semester; G-graduate studies (instruction as per the LCOM Teaching Academy Portfolio)

## **CURRICULUM DEVELOPMENT**

Developed the Behavioral Economics course I taught.

## POSTGRADUATE AND OTHER COURSES

Years	Department	Responsibility
2012-current	Psychiatry	Oversee weekly Behavioral Pharmacology Journal Club
		every Fall and Spring semester for 10-14 graduate students
		and post-docs.

## PREDOCTORAL STUDENTS SUPERVISED OR MENTORED

Dates	Name	Program School	Role	<b>Current Position</b>
2015-2016	Hannah Apfelbaum	Honors thesis - Psychology	Chair	Medical school
2015-2016	Daniel Peipert	Honors thesis - Neuroscience	Chair	Graduate school
2017-2018	Alba Gonzalez	University of Oveido	Summer research	Graduate school
			mentor	

## **DISSERTATION/THESIS COMMITTEE MEMBERSHIP**

Dates	Name	Program	Role	<b>Current Position</b>
		School		
2014-2015	Laura Chivers	PhD - Psychology	Chair	Faculty
2013-2014	Alexa Lopez	PhD - Psychology	Member	Researcher - Government
2015-2017	Sheau-Yan Ho	PhD – Clinical Psychology	Chair	Post-doc - VA
2017	Danielle Davis	Masters - Psychology	Member	Post-doc
2021	William Middleton	Masters - Psychology	Mentor	Grad student
2022	Carolyn Evemy	PhD – Preliminary Project	Member	Grad student

## POSTDOCTORAL FELLOWS AND RESIDENTS DIRECTLY SUPERVISED OR MENTORED

Dates	Name	Fellow	Faculty Role	<b>Current Position</b>
2015-2016	Zachary Morford	Post-doctoral fellow	Research Mentor	Owner- Zuce Technologies
2017-current	Sherrie Khadanga	Medical Fellow	Research Mentor	Assistant Professor
2016-2018	Irene Pericot- Valverde	Post-doctoral fellow	Research Mentor	Faculty - Clemson
2019-2020	Hypatia Bolivar	Post-doctoral fellow	Research Mentor	Instructor – University of Illinois
2021-current	Brian Katz	Post-doctoral fellow	Research Mentor	Post-doctoral fellow

As training faculty on a 30+ year NIDA T32 and a more recently-funded P50/U54, I work closely and continuously with our pre- and post-doctoral fellows to shape their scientific thinking and skills, mastery of the scientific literature, and professional development as young investigators. Accordingly, I put high value on publishing in conjunction with my trainees. Below are several example publications from my prior and current trainees (trainees noted in **bold**):

- 1. Gaalema, DE, Elliott, R, **Morford ZH**, Ades, PA, Higgins, ST. Effect of Socioeconomic Status on Propensity to Change Risk Behaviors Following Myocardial Infarction: Implications for Healthy Lifestyle Medicine. (2017). Progress in Cardiovascular Disease. 10.1016/j.pcad.2017.01.001
- 2. **Pericot-Valverde, I.**, Gaalema, D. E., Priest, J. S., & Higgins, S. T. (2017). E-cigarette awareness, perceived harmfulness, and ever use among US adults. Preventive Medicine, 104, 92-99.
- 3. **Pericot-Valverde, I.**, Elliott, R. J., Miller, M., & Tidey, J., & Gaalema, D.E. (2018). Posttraumatic stress disorder and tobacco use: A systematic review and meta-analysis. Addictive Behaviors, 84, 238-247
- 4. **González-Roz, A.**, Gaalema, D.E., Pericot-Valverde, I., Elliott, R.J., Ades, P.A. A Systematic Review on the Diagnostic Accuracy of Depression Questionnaires for Cardiac Populations: Implications for Cardiac Rehabilitation. (2019). Journal of Cardiopulmonary Rehabilitation and Prevention
- 5. **Pericot-Valverde, I**, Priest, JS, Wagener, TL, Gaalema, DE. (2019). Examination of a Mouthpiece-Based Topography Device for Assessing Relative Reinforcing Effects of E-Cigarettes: A Preliminary Study. Experimental and Clinical Psychopharmacology
- 6. **Pericot-Valverde, I.**, Elliott, RJ, Priest, JS, Barret, T, Yoon, JH, Miller, CC, Okoli, CT, Haliwa, I, Ades, PA, Gaalema, DE. (2019). Patterns of Tobacco Use Prior to Hospitalization for an Acute Cardiac Event: Use of Combusted and Non-Combusted Products. Preventive Medicine
- 7. **Pericot-Valverde, I.**, Yoon, JH., Gaalema, DE. (2020). Single- and Cross-Commodity Delay Discounting of Money and E-cigarette Liquid in Experienced E-Cigarette Users. Drug and Alcohol Dependence, 206
- 8. Gaalema, DE, **Bolívar**, **HA**, Khadanga, S, Priest, JS, Higgins, ST, Ades, PA. Current Smoking as a Marker of a High-Risk Behavioral Profile after Myocardial Infarction. (2020). Preventive Medicine
- 9. **Bolívar, HA**, Elliott, RJ, **Middleton, W**, Yoon, JH, Okoli, CTC, Haliwa, I, Miller, III, CC, Ades, PA, & Gaalema, DE. (2021). Social smoking environment and associations with cardiac rehabilitation attendance. Journal of Cardiopulmonary Rehabilitation and Prevention, 41, 46-51
- 10. **Pericot-Valverde**, I, Heo, M, Litwin, AH, Niu, J, Gaalema, DE. Modeling the Effect of Stress on Vaping Behavior among Young Adults: A Randomized Cross-Over Pilot Study

- (2021). Drug and Alcohol Dependence
- 11. **Melbostad HS**, Savage PD, Mahoney K, Gaalema DE, Ades PA, Shepard DS. (2021). Financial impact of COVID-19 on phase 2 cardiac rehabilitation service delivery. Journal of Cardiopulmonary Rehabilitation and Prevention
- 12. Gaalema, DE, O'Neill, S, Savage, P, **Bolívar, HA**, Denkmann, D, Khadanga, S, Ades, PA. (2021). The Association of Patient Educational Attainment with Cardiac Rehabilitation Adherence and Benefits of Cardiac Rehabilitation. Journal of Cardiopulmonary Rehabilitation and Prevention.
- 13. **Middleton, WA**, Savage, PD, Khadanga, S, Rengo, JL, Ades, PA, Gaalema, DE. (2021). Benchmarking Depressive Symptoms in Cardiac Rehabilitation. Journal of Cardiopulmonary Rehabilitation and Prevention.

#### INFORMAL TEACHING

Year	One Sentence Description of Informal Teaching
2012-present	I regularly provide research and career mentoring to a subset of the T32/TCORS
	predoctoral and postdoctoral fellows in our research group (12-16), even if I do
	not directly supervise them.
2012-present	During the summer I hold weekly writing gatherings for these same fellows
	focusing on manuscripts and grant submissions.
2012-present	I collaborate with and mentor a variety of medical students, residents, and
	graduate students.
2014-present	I sponsor monthly webinars on Tobacco Regulatory Science, providing learning
	opportunities for fellows as well as our research assistants.
2014-present	There are always 2-3 undergraduate RAs/medical students/fellows working in
	my lab who I provide with research and career guidance.
2013-present	Allow dissemination of information from our yearly conference to a large
	audience by livestreaming talks.

#### FACULTY MENTORED

Dates	Name	Position while Mentored	Faculty Role	<b>Current Position</b>
2017- 2020	Allison Kurti	Assistant Professor	Research Mentor	FDA
2020- current	Sherrie Khadanga	Assistant Professor	Research Mentor	Assistant professor

## OTHER VISITING FACULTY SUPERVISED - none

TEACHING AIDS - none

## TEACHING AWARDS AND NOMINATIONS - none

#### **SUMMARY OF TEACHING ACTIVITIES**

I contribute to the teaching and mentoring mission of the university in formal classroom settings, as well as formal and informal mentoring. I am a member of two training grants (NIDA T32 Training Award, TCORS U54 Award) which support 12-16 postdoctoral and predoctoral

fellows. As part of these training programs I provide ongoing informal mentoring and serve as primary course facilitator for a 16-week graduate seminar offered jointly through our T32 and TCORS postdoctoral/predoctoral training programs each fall and spring semesters covering current topics and foundations in behavioral science, research ethics, and the behavioral pharmacology of addictions. As part of these training programs, I have served as the primary mentor for three postdoctoral fellows and one doctoral-level graduate student. I have also served on five thesis/dissertation committees, twice as chair. I also routinely provide mentoring for undergraduates, graduate students, medical students, and postdoctoral fellows that conduct research in our labs. Additionally, I have developed and twice taught a course in Behavioral Economics, once at the graduate and once at the undergraduate level.

In addition to my teaching and mentoring activities, I also strive to improve my practices. I have attended several workshops on mentoring held by the UVM teaching academy as well as completed a two-day workshop on "Mentoring the Mentor." Overall, I consider mentoring to be a vital part of my duties and continue to mentor trainees even after they have left UVM. I find it very rewarding to continue to publish with and serve on grants with my trainees, even after they have changed institutions.

#### RESEARCH AND SCHOLARLY ACTIVITIES

#### RESEARCH AWARDS AND GRANTS

## **Ongoing Research Support**

R33 HL143305 Gaalema (PI)

08/01/19-07/31/23

Improving Participation in Cardiac Rehabilitation among Lower-Socioeconomic Status

Patients: Efficacy of Early Case Management and Financial Incentives

This study investigates the efficacy of case management and financial incentives (alone and in combination) on improving cardiac rehabilitation participation among low-income patients.

Role: PI

Annual Direct Costs \$469,179

P20 GM103644 Higgins (PI)

08/1/18-07/31/23

Vermont Center on Behavior and Health

This center investigates relationships between personal behavior patterns (e.g., substance abuse, sedentary lifestyle, medication non-adherence) and risk for chronic disease and premature death.

Role: Co-I

Annual Direct Costs \$1,499,815

U54 DA036114 Higgins (PI)

09/30/18-08/31/23

Vermont Center on Tobacco Regulatory Science

This center serves as a scientific resource for the Food and Drug Administration (FDA) in carrying out its tobacco regulatory responsibilities by researching tobacco products in vulnerable populations.

Role: Site-PI

Annual Direct Costs \$2,812,652 09/1/19-08/31/24

UD9RH336330100 Sigmon (PI)

Vermont Center on Rural Addictions

This center serves as a scientific resource for HRSA for supporting the treatment of rural population with opioid-use disorder.

Role: Co-I

Annual Direct Costs \$1,333,000

**Completed Research Support** 

R61 HL143305 Gaalema (PI) 08/25/18-07/31/19

Improving Participation in Cardiac Rehabilitation among Lower-Socioeconomic Status

Patients: Efficacy of Early Case Management and Financial Incentives

This study investigates the efficacy of case management and financial incentives (alone and in combination) on improving cardiac rehabilitation participation among low-income patients.

Role: PI

Annual Direct Costs \$469,179

P20 GM103644 Higgins (PI) 09/15/13-07/31/18

Vermont Center on Behavior and Health

This center investigates relationships between personal behavior patterns (e.g., substance abuse, sedentary lifestyle, medication non-adherence) and risk for chronic disease and premature death.

Role: Co-I

P50 DA036114 Higgins (PI) 09/30/13-08/31/18

Vermont Center on Tobacco Regulatory Science

This center served as a scientific resource for the Food and Drug Administration (FDA) in carrying out its tobacco regulatory responsibilities by researching tobacco products in vulnerable populations.

Role: Co-I

R01 DA031928 Heil (PI) 09/15/12-07/31/15

The aim of this project was to test the reliability and discriminant, concurrent, construct, and predictive validity of pupil diameter as a measure of opioid effects in neonates exposed to opioids in utero.

Role: Co-I

DOE WO#M610000767 Marshall (PI) 03/31/11-08/07/11

The aim of this project was to examine energy usage as it relates to smart-grid deployment.

Role: Co-PI

NSF EAPSI-0913094 Gaalema (PI) 06/01/09-09/30/09

The aim of this project was to analyze time allocation of behavior on concurrent variable interval schedules.

Role: PI

**Selected Submitted/Unfunded Grant Submissions** 

R01 NIH/NHLBI Rollman (PI) Submitted: 11/5/21

Telehealth-Enabled and Social Determinant-Informed Collaborative Care to Promote Adherence with a Home-Based Cardiac Rehabilitation Program for Patients Living with Heart Failure

Role: Consultant

K01 NIH/NIDA Pericot-Valverde Submitted 6/21/21 E-cigarettes as an Aid to Smoking Cessation in those with Opioid-use Disorder.

Role: Co-mentor

R01 HL137111 Gaalema (PI) Submitted: 6/20/16 Score 40 (31%) Improving Adherence to Secondary Prevention Guidelines Among Medicaid Cardiac Patients The goal of this project is to assess the efficacy of an incentive-based intervention to increase secondary-prevention in low-socioeconomic status cardiac patients.

Role: PI

R21 Gaalema (PI) Submitted: 02/13/13 Score: n/a

Experimental Examination of the Effects of Smoking on Breastfeeding The goal of this application was to identify the effects of experimentally induced smoking abstinence on breastfeeding in recently postpartum smokers.

Role: PI

## **SCHOLARSHIP**

#### **Peer Reviewed Publications**

## Original Research

- 1. Hamilton, PS, **Gaalema**, **DE**, Laage, SL and Sullivan, BK. (2005). A photographic method for quantifying color characteristics and color patch dimensions in lizards. *Herpetological Review*, *36*(4), 402-406.
- 2. Rutowski, RL, Macedonia, JM, Merry, JW, Morehouse, N, Yturralde, K, Taylor-Taft, L, **Gaalema, DE**, Kemp, DJ, and Papke, RS. (2007). Iridescent ultraviolet signal in the Orange Sulphur butterfly (*Colias eurytheme*): Spatial, temporal, and spectral properties. *Biological Journal of the Linnean Society*, 90, 349–364.
- 3. **Gaalema, DE** and Benboe, D. (2008). Positive reinforcement training of Aldabra tortoises (*Geochelone gigantea*) to facilitate husbandry procedures at Zoo Atlanta. *Herpetological Review*, 39 (3), 331-334.
- 4. Hamilton, PS, **Gaalema**, **DE** and Sullivan, BK. (2008). Short-term changes in dorsal reflectance for background matching in Ornate Tree Lizards (*Urosaurus ornatus*) *Amphibia-Reptilia*, 29, 473-477
- 5. Perdue, BM, **Gaalema**, **DE**, Martin, AL, Dampier, SM and Maple, TL. (2010). Factors affecting aggression in a captive flock of Chilean flamingos (*Phoenicopterus chilensis*). *Zoo Biology*, 29, 1-6. PMID: 20186725

6. **Gaalema, DE**, Perdue, BM, and Kelling, AS. (2011). Food preference, keeper ratings, and reinforcer effectiveness in exotic animals: the value of systematic testing. *Journal of Applied Animal Welfare Science*, 14, 33-41. PMID: 21191846

- 7. **Gaalema, DE**. (2011). Visual discrimination and reversal learning in monitor lizards (*Varanus spp.*). *Journal of Comparative Psychology, 125*(2), 246-249. PMID: 21604857
- 8. Clay, AW, Perdue, BM, **Gaalema**, **DE**, Dolins, FL, and Bloomsmith, MA. (2011). The use of technology to enhance zoological parks. *Zoo Biology*, *30*, 487-497. PMID: 20954253
- 9. Kelling, AS and **Gaalema**, **DE** (2011) Post-occupancy evaluations in zoological settings. *Zoo Biology*, *30*, 597-610. PMID: 21608023
- 10. **Gaalema, DE**, Higgins, ST, Bradstreet, M, Heil, SH, Bernstein, I. (2011) Using NicAlert strips to validate smoking status among pregnant cigarette smokers. *Drug and Alcohol Dependence*, 119, 130-133. PMCID: PMC3205243
- 11. Perdue, BM, Clay, AW, Stoinski, TS, **Gaalema, DE**, and Maple, TL. (2012). Technology at the zoo: the influence of a touchscreen computer on orangutans and zoo visitors. *Zoo Biology*, 31, 27-39. PMID: 21319214
- 12. Kelling, N.J., **Gaalema, D.E**., & Kelling, A.S. (2012). Elephant in the Break Room: The use of modified operational sequence diagrams for the determination of zoo exhibit inefficiencies. Proceedings of the Human Factors and Ergonomics Society 56th Annual Meeting. Boston, MA: Human Factors and Ergonomics Society.
- 13. Heil, S.H., **Gaalema, D.E.**, Johnston, A.M., Sigmon, S.C., Badger, G.J., & Higgins, S.T. (2012). Infant pupillary response to methadone administration during treatment for neonatal abstinence syndrome: A feasibility study. Drug and Alcohol Dependence, 126, 268-271PMCID: PMC3467317
- 14. Ades, PA and **Gaalema**, **DE** (2012). Coronary heart disease as a case study in prevention: Potential role of incentives. *Preventive Medicine*, *55*, S75-79. PMID: 22285317
- 15. **Gaalema, DE**, Scott, TL, Heil, SH, Coyle, MG, Kaltenbach, K, Badger, GJ, Arria, A, Stine, SM, Martin, PR, Jones, HE. (2012). Differences in the profile of neonatal abstinence syndrome signs in methadone- vs. buprenorphine-exposed infants. *Addiction*, 107, S53-62. PMCID: PMC4165073
- 16. Higgins, ST, Washio, Y, Heil, SH, Solomon, LJ, **Gaalema, DE**, Higgins, TM, Bernstein, IM. (2012). Financial incentives for smoking cessation among pregnant and newly postpartum women. *Preventive Medicine*, *55*, S33-40. PMCID: PMC3399924
- 17. Heil, SH, **Gaalema, DE**, Herrmann, E. (2012). Incentives to promote family planning. *Preventive Medicine*, *55*, S106-112. PMCID: PMC3578697
- 18. Gaalema, DE. (2013). Sexual conditioning in the dyeing dart frog. *International Journal*

- of Comparative Psychology, 26, 5-18.
- 19. **Gaalema, DE**, Heil, SH, Badger, GS, Metayer, JS, Johnston, AM. (2013). Time to Initiation of Treatment for Neonatal Abstinence Syndrome in Neonates exposed in utero to Buprenorphine or Methadone. *Drug and Alcohol Dependence*, 133(1), 266-269. PMID: 23845658
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- 98. Nahhas GJ et al. Smokeless tobacco use and prevalence of cardiovascular disease among males in the Population Assessment of Tobacco and Health (PATH) Study, waves 1–4. Accepted. *Preventive Medicine Reports*.

#### In Review

1. Gaalema DE, Yant B, Khadanga S, Savage P, Rengo J, Ades PA. Carbon Monoxide Monitoring to Objectively Measure Smoking Status in Cardiac Rehabilitation. Resubmitted to *Health Psychology* on 12/22/21.

- 2. Ades, PA, Khadanga, S, Savage, PD, Gaalema, DE. Enhancing Participation in Cardiac Rehabilitation: Focus on Underserved Populations. Submitted to *Progress in Cardiovascular Diseases* on 10/25/21.
- 3. Wiley et al., The Impact of the Covid-19 Pandemic on Smoking Among Vulnerable Populations. Submitted to *Nicotine and Tobacco Research*.
- 4. Snell et al., Predictors of Adherence among Vulnerable Populations of Adults Assigned to Smoke Very Low Nicotine Content Cigarettes. Submitted to *Nicotine and Tobacco Research*

## In Preparation

1. Gaalema, et al. Effects of Nicotine Dose in Cigarettes on Use of other Substances. In preparation for *Preventive Medicine*.

#### **Non-Peer Reviewed Publications**

## **Books and Chapters**

- 1. **Gaalema, DE**, Lopez, AA, Higgins, ST. (2013). Incentive-based interventions: Historical context and new directions. In: Social Neuroscience and Public Health: Foundations for the Science of Chronic Disease Prevention (PA Hall, Ed.). Springer.
- 2. Lopez, AA, **Gaalema**, **DE**, Higgins, ST. (2013). Maternal smoking and inadequate breastfeeding. In Dietary and Nutritional Aspects of Human Breastmilk.
- 3. **Gaalema, DE** (2020). Behavior Modification for Risk Factor Reduction. In: Cardiac Rehabilitation and Secondary Prevention Programs, Sixth Edition. Human Kinetics, Inc.

#### Other Scholarly Publications

1. Strain, E. C., & Gaalema, D. (2016). Strain Interview (11/17/15)—Diann Gaalema. *Drug and Alcohol Dependence*, 160, 227.

#### **Abstracts**

**Gaalema, D. E.**, Heil, S. H., Metayer, J., & Johnston, A. (2014). Difference in time to treatment in neonates exposed to buprenorphine or methadone in utero. *Drug & Alcohol Dependence*, 140, e65.

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**Gaalema, D.,** Tidey, J. W., Tyndale, R., & Higgins, S. (2017). Nicotine metabolite ratio and associations with smoking topography in a population with affective disorders. *Drug and Alcohol Dependence*, (171), e67-e68.

Morford, Z. H., **Gaalema, D.,** Elliott, R., Ades, P., & Higgins, S. (2017). Ongoing survey of alternative nicotine and tobacco use among cardiac patients. *Drug & Alcohol Dependence*, *171*, e149.

## Patents Issued or Pending - none

#### Other Creative Activities - none

## **Quality Improvement and Patient Safety Activities**

2021-	Member of the program certification steering committee of ICCPR/ICRR's international cardiac rehabilitation registry
	<ul> <li>Helping to create guidelines and certify programs internationally to provide evidence-based cardiac rehabilitation in low-resource areas</li> </ul>
2021	Contingency Management Provider Training Video
	<ul> <li>Helped create a training video, complete with CME credit</li> </ul>
2018	CDC Cardiac Rehabilitation Quality Initiative
	• Was solicited for and submitted, evidence-based suggestions for improving cardiac rehabilitation attendance for a national level initiative.
2018	AACVPR Guidelines
	• Wrote a solicited chapter on behavior change for the national guidelines book.
2017	AACVPR R2R Submission
	<ul> <li>Created a ready to implement template for use by certified cardiac rehabilitation programs to increase patient attendance through the use of incentives.</li> </ul>

## SUMMARY OF SCHOLARLY ACTIVITIES

The majority of my effort is dedicated to conducting academic research. I have been consistently funded by NIH throughout my tenure as a faculty member at UVM, having served on NIH and DOE grants. I collaborated on the submission of two large center grants, which were funded (P20, P50). I was also involved in the application for renewal for those center grants, which were also funded (P20, U54). I have also pursued independent funding as seen by my multiple NIH grant submissions, and have achieved independent funding, having received an R01-level (R61/33) grant. My development as a researcher has also been reflected in multiple requests to serve as an ad-hoc member of NIH study sections in both the areas of tobacco use and secondary prevention as well as other researchers requesting me to serve on their grant submissions as co-I, consultant, and co-mentor.

Also reflecting my growing reputation is the requests for my expertise on several scholarly works. I have served on three writing groups organized to harness newly collected longitudinal data on tobacco use to clarify the association of use of non-cigarette tobacco (specifically cigars, e-cigarettes, and non-combusted tobacco such as chew/snuff) on cardiovascular outcomes. I was also asked to serve on a systematic review of cardiac rehabilitation guidelines initiated by the World Health Organization with an aim of informing international practices.

Overall, during my academic career, I have maintained a high level of productivity. I have published 98 peer-reviewed manuscripts. Of these publications, 86 have been published during my time as faculty at UVM, averaging 8.6 publications per year. I have been part of three invited review articles, two as first author. Several of these articles have been in journals with high impact factors such as Journal of the American College of Cardiology – Heart Failure (IF 12.0), Journal of the American Medical Association - Psychiatry (IF 21.6), and Circulation (IF 29.7). The impact of my publications is evident in the fact that they have been cited over 2600 times. Currently I have an h-index of 28 and an i10-index of 53.

## **INVITED PRESENTATIONS**

Region	al	
2022	"Behavior Change and Secondary Prevention in Vulnerable	Springfield, MA
	Populations." Institute for Healthcare Delivery and Population Science	
	Research Seminar	
2021	"Secondary Prevention of Heart Disease: A Focus on Socioeconomic	Burlington, VT
	Status & Smoking." Vermont Center on Behavior and Health Lecture	
	Series.	
2018	"Health-Related Behaviors and Behavioral Economics". Symposium on	Burlington, VT
	Complexity in Human Health and Wellness Behavior	
2017	"Cardiac Patients and Tobacco Use: Perceptions, Use, and Change in	Burlington, VT
	Use after a Major Event", Vermont Center on Behavior and Health	
	Conference	
2017	American Heart Association Women's Go Red - Keynote	Burlington, VT
	"Behavior Change after Major Cardiac Events: Struggles and Strategies"	
2016	Vermont Vascular Medicine Conference	Burlington, VT
	"Low-income Patients in Cardiac Rehabilitation: What We've Learned	
	from Increasing Attendance"	
2015	Vermont Public Radio	Burlington, VT
	"In Excess: Why We Do What We Do At The Holidays"	
2012	Renewable Energy Vermont	Burlington, VT
	"Behavioral Economics and Behavior Change"	

#### **National**

2023	ABAI Annual Conference	Denver, CO
	"Use of Contingency Management to Promote Secondary	
	Prevention in Vulnerable Populations"	
2022	AACVPR Educational Series	Virtual
	"Practical Strategies to Engender Behavior Change"	
2021	TAKEheart Education Series	Virtual

2021	"Implementing Effective Care Coordination" AACVPR Annual Conference "Interventions to Improve Health-Related Behaviors in Cardiac	Virtual
2020	Rehabilitation: What's the Evidence?"  AACVPR Annual Conference "Head and Health: How Cognition and Management of Chronic	Virtual
2019	Disease Interact" AACVPR Annual Conference "Hot Topics in Addiction and Cardiovascular Disease: E- cigarettes"	Portland, Oregon
2018	AACVPR Annual Conference	Louisville, KY
2017	"Patient Characteristics and Cardiac Rehabilitation Participation" VCBH Annual Conference	Burlington, VT
2017	"Cardiac Patients and Tobacco Use: Perceptions, Use, and Change	Burningven, v 1
	in Use after a Cardiac Event"	
2016	AACVPR Annual Conference	New Orleans, LA
	"Depression Screeners in Cardiac Rehab: What Do They Tell Us?	
2016	NIH Rehabilitation Conference	Washington, DC
	"Medicaid Patients in Cardiac Rehabilitation: Characteristics and	
	Participation."	
2015	AACVPR Annual Conference	Washington, DC
	"Underserved Populations in Cardiac Rehabilitation	-
2015	Johns Hopkins University	Baltimore, MD
	"Cardiac Rehabilitation: Lessons from Behavioral Pharmacology"	
2011	Sandia Laboratories	Albuquerque, NM
	"Behavioral Economics and Individual Behavior Change"	

# **International** - none