

**Environment and Natural Resources Trust Fund
2019 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 131-C

Connecting All Minnesotans with Science and Scientists

Category: C. Environmental Education

Sub-Category:

Total Project Budget: \$ 277,800

Proposed Project Time Period for the Funding Requested: June 30, 2022 (3 yrs)

Summary:

We will connect Minnesotans to science and scientists by bringing MN research to farmer's markets and fairs throughout the state and developing hands-on activities to start lively science conversations.

Name: Ryan Briscoe Runquist

Sponsoring Organization: U of MN

Title: Research Associate

Department: College of Biological Sciences

Address: 1479 Gortner Ave., 140 Gortner Lab
St. Paul MN 55108

Telephone Number: (410) 610-3602

Email rbriscoe@umn.edu

Web Address marketsci.org

Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

In 3 years, we were at 12 locations, reached 11,300 visitors, supported over 90 scientists, and presented over 50 topics. We will continue to expand out-state with new groups.

<input type="checkbox"/>	Funding Priorities	<input type="checkbox"/>	Multiple Benefits	<input type="checkbox"/>	Outcomes	<input type="checkbox"/>	Knowledge Base	
<input type="checkbox"/>	Extent of Impact	<input type="checkbox"/>	Innovation	<input type="checkbox"/>	Scientific/Tech Basis	<input type="checkbox"/>	Urgency	
<input type="checkbox"/>	Capacity Readiness	<input type="checkbox"/>	Leverage	<input type="checkbox"/>		TOTAL	<input type="checkbox"/>	%
<input type="checkbox"/> If under \$200,000, waive presentation?								



**Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template**

PROJECT TITLE: Connecting All Minnesotans with Science and Scientists

I. PROJECT STATEMENT

Opportunity: Much of the public feels disconnected from science and scientists even though a majority of science is publicly funded -- including the ENRTF. People are generally unaware that they often apply methods and products of science in their daily lives. The people of Minnesota will be better served and science itself will advance with broader public interaction. Sharing science throughout the state in public spaces that are not centered on science is the opportunity addressed in this project.

Goals:

- Bring science and scientists to community spaces (e.g. Farmer’s Markets and county fairs) in all regions of the state
- Deliver hands-on science experiments that break down complex science concepts to start conversations between practicing scientists and the public
- Bring ENRTF funded and other scientific projects and ideas to citizens of MN
- Provide training on how to communicate science for participating researchers

Background: Our mission is to start active and lively conversations between working scientists and community members, encourage ongoing interactions, and increase awareness of the role science and technology play in our communities. We present in community spaces that may lack easy access to existing science communication efforts, e.g. those in rural areas and/or highly ethnically and socioeconomically diverse communities. We will target 9 Farmer’s Markets and 8 County Fairs distributed across the state. We will present the ideas and findings from 10 ENRTF-funded projects, promote the ideas and possibilities of science at University of Minnesota and Minnesota State campuses throughout the state, and hold close to 200 events over 3 years. We will also provide the material support and training for scientists on how to communicate their work.

As an outreach organization (Market Science) based at UMN-Twin Cities, we have already successfully worked with ENRTF funded projects including: (1) an MITPPC project on invasive species, (2) ENRTF Healthy Prairies Project, (3) Monarch Lab research, (4) Bee Lab research, and (5) MN Zoo research on prairie butterflies. To date, we have been volunteer-based. In four years we have grown to over 4000 visitors for each of the past two seasons, and in the past year held approximately 50 events per season in diverse neighborhoods of the Twin Cities (Midtown, Nokomis, Richfield, Northeast) and Greater Minnesota (Bemidji, Park Rapids, Itasca, Redwood County, Olmstead County). Our seasons occur during the spring/summer/fall and during the winter we partner with museums and community centers for special events. We are now seeking to expand this successful model to more communities and partner institutions across Minnesota.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: *Share ENRTF and other MN science at urban and rural Farmer’s Markets and County Fairs*

We will connect with researchers to develop hands-on science activities. Visitors will participate in hands-on activities, experience attractive visual displays, and watch interactive demonstrations. We will reach out to researchers at UMN, in the Twin Cities and particularly ENRTF researchers from multiple groups (e.g. MITPPC, MAISRC, USGS, DNR) and develop materials for 10 new interested research groups. We will bring these outreach activities to our existing events and add 6 rural Farmer’s Markets and 8 county fairs across the state.

ENRTF BUDGET: \$109,250.00

Outcome	Completion Date
1. Present ENRTF and other Research at Twin Cities Farmer’s Markets (May-Oct; 50 events/yr)	June 2022
2. Present ENRTF and other Research at Farmer’s Markets around the state (May-Oct; 8 events/yr)	June 2022
3. Present ENRTF and other Research at County Fairs throughout the state (May-Oct; 10 events/yr)	June 2022



**Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template**

Activity 2: Partner with other UMN and MN State University campuses to develop Market Science programs
We have made contacts with other UMN campuses (Morris, Duluth, Crookston, and Rochester) and MN State Universities (Mankato, Moorhead) to develop satellite Market Science groups with graduate and undergraduate groups. We will travel to their campuses to conduct one-day training workshops on Market Science establishment and science outreach and communication.

ENRTF BUDGET: \$87,675.00

Outcome	Completion Date
1. Recruit other campuses to establish new Market Science groups	June 2021
2. Run workshops for Market Science organization and training at University campuses across MN	June 2022

Activity 3: Science communication training for participating scientists
Effective outreach materials are challenging to develop and often a barrier for communication and engagement efforts. We will run annual workshops on science communication for participating scientists on how to design effective hands-on activities that teach learning goals and illustrate important research topics. We will develop training materials to develop an effective outreach experience and make these materials available for all participants in Market Science, Twin Cities and all new groups.

ENRTF BUDGET: \$80,875.00

Outcome	Completion Date
1. Develop training materials for creating science modules	June 2022
2. Run annual training workshops for science communication and science activity design	June 2022

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding

Name	Title	Affiliation	Role
Ryan Briscoe Runquist, Ph.D.	Research Associate	UMN, CBS	Principal Investigator
Mohamed Yakub, Ph.D	Outreach and Education Coordinator	UMN, CFANS	Co-PI
David Moeller, Ph.D	Associate Professor	UMN, CBS	Co-PI
Daniel Stanton, Ph.D	Research Assistant Professor	UMN, CBS	Co-PI

B. Partners NOT receiving ENRTF funding

Name	Title	Affiliation	Role
Peter Tiffin, Ph.D.	Professor	UMN, CBS	Advisor
Michael Winikoff	Director of Communications	UMN, BTI	Advisor

IV. LONG-TERM- IMPLEMENTATION AND FUNDING: The proposed project will promote Minnesotans' science literacy and appreciation for the role of environmental research in protecting Minnesota's natural resources. Direct interaction between scientists and thousands of citizens and students during the project will make lasting impressions on individuals and contribute to informed communities. The project will also develop freely available online science communication resources. This project will provide for the long-term viability of Market Science as a high-impact outreach organization for all Minnesotans.

V. TIME LINE REQUIREMENTS: We are requesting support for 36 months, from July 2019 – June 2022. This support will allow us to make approximately 60 visits to regional farmers markets and 10 visits to county and community fairs per year, will support one 60% time and one 10% time science communication specialist, 5 science communication trainees a year, and multiple University of Minnesota undergraduate students.

2019 Proposal Budget Spreadsheet

Project Title:

IV. TOTAL ENRTF REQUEST BUDGET 3 years

BUDGET ITEM (See "Guidance on Allowable Expenses")	AMOUNT
Personnel:	\$ 220,000
Science Outreach Coordinator and Education Specialist: \$148,000; (75% salary, 25% fringe, FY20, FY21, FY22) 1 person	
Science Outreach Coordinator and Education Specialist: \$25,000 (75% salary, 25% fringe, FY20, FY21, FY22) 1 person	
Science Communication Trainees: \$30,000 (5 trainees/summer; 100 hours/person @ \$20.00/hr; FY20, FY21, FY22) 15 persons total	
Undergraduate Science Communication Interns: 17,000 (3 interns/summer; 150 hours/person @ \$12/hr; FY20, FY21, FY22) 6 persons total	
Professional/Technical/Service Contracts:	NA
Equipment/Tools/Supplies:	\$ 43,500
Community table rental fees at Market's and Fairs	
Supplies for Market Activities (outreach experimental equipment, visual display materials, crafting supplies, t-shirts for volunteers, go-kit boxes with built displays)	
Acquisition (Fee Title or Permanent Easements):	NA
Travel:	\$ 11,300
Travel for out-state Markets and fairs	
Travel for workshops	
Lodging for workshops	
Additional Budget Items:	\$ -
Food and refreshments for out-state workshops (\$250/event; 4 events/year)	\$ 3,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 277,800

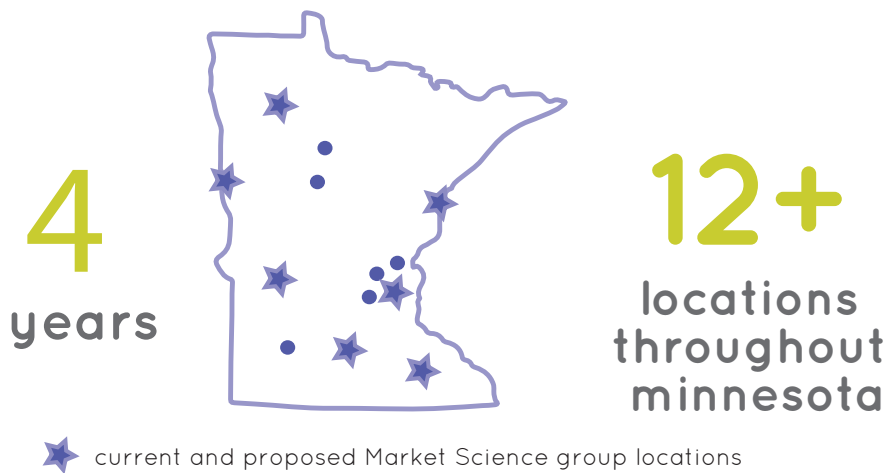
V. OTHER FUNDS (This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:	\$ -	
Other State \$ To Be Applied To Project During Project Period:	\$ -	
In-kind Services To Be Applied To Project During Project Period: Unrecovered indirect costs @ 54% of modified total direct cost base (\$150,012) & Undergraduate Science Communication Intern	\$ 194,936	<i>Secured</i>
Past and Current ENRTF Appropriation:	\$ -	
Other Funding History:	\$ -	

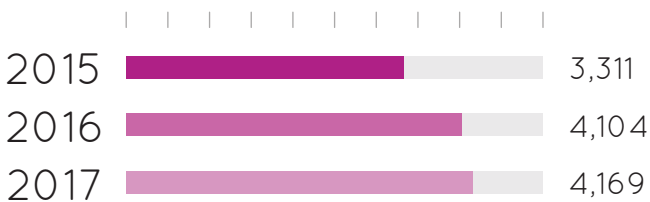
market science

marketsci.org

MISSION: To start active and lively conversations between research scientists and community members, encourage ongoing engagement, and increase awareness of the role science and technology play in our communities. Connecting Minnesotans to environmental research at the farmers market.



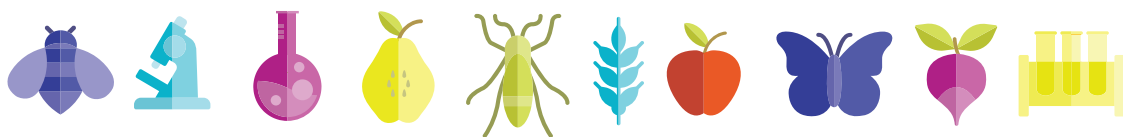
11,500 visitors over the past three seasons



90 Minnesota volunteer scientists sharing their research in 2017



50+ scientific topics to explore for the upcoming season



RYAN D. BRISCOE RUNQUIST

Biographical Sketch

UNIVERSITY OF MINNESOTA

College of Biological Sciences

1479 Gortner Ave, 140 Gortner Lab, St. Paul, MN 55108

Tel/email: (410) 610-3602; rbriscoe@umn.edu

PROFESSIONAL PREPARATION

U. of Virginia	Biology	BS <i>Summa cum laude</i> , 2003
U. of California, Davis	Population Biology	Ph.D., 2011

APPOINTMENTS

U. of Minnesota	Ecological Genetics; MITPPC Invasive Species	Post-doctoral, 2012-present Research Assoc., 2016-present
-----------------	-------------------------------------------------	--------------------------------------------------------------

Bard College	Visiting Assistant Professor, Citizen Science Program	January 2015
--------------	----------------------------------------------------------	--------------

Genetics Society of America	Early Career Scientist Leadership Steering Committee, Co-chair	2018-present
--------------------------------	-------------------------------------------------------------------	--------------

QUALIFICATIONS AND ORGANIZATIONAL DESCRIPTION

Science communication: I am a founding Board Member and Leader of *Market Science* (marketsci.org), a leading science communication and outreach organization at UMN-Twin Cities. Our organization connects scientists with the public and has grown significantly in the past 4 years. I am currently the Director the Working Board where I manage day-to-day operations including supervising working board members and volunteers, organize training opportunities, and manage marketing and strategic development. I have also participated in most roles in Market Science, including: session leader and volunteer coordination, on-site planning and logistics, public engagement and teaching, leading sessions on my research program, social media/website coordination.

Mentorship: I have received mentorship training and was selected to participate as a research mentor in an HHMI program designed to serve students transferring into U. of Minnesota.

Innovations in Teaching & Training: I have training in active-learning and hands-on activity development for STEM classrooms and science communication and outreach events.