



STEP UP (Supporting Teachers to Encourage the Pursuit of Undergraduate Physics)

doi: [10.5281/zenodo.4976593](https://doi.org/10.5281/zenodo.4976593)

### COMMUNITY OVERVIEW

STEP UP is a collaboration of physics educators, researchers (at Florida International University (FIU) and Texas A&M University-Commerce (TAMUC)) and professional societies (the American Physical Society (APS) and the American Association of Physics Teachers (AAPT)). The collaboration is dedicated to empowering high school physics teachers to inspire young women to consider pursuing undergraduate physics degrees. Started in 2017, the community engages teachers involved in creating and using the STEP UP curriculum, as well as physics researchers. All 26,000 U.S. high school physics teachers are invited to join the community, download free lesson plans and materials, and implement the STEP UP curriculum in the classroom. The project is primarily funded through NSF's DRK12 program.

► Website: [STEPUPphysics.org](https://STEPUPphysics.org)

### KEYWORDS

#### Disciplines / skills

- PHYSICS
- SOCIAL SCIENCE
- ENGINEERING
- EDUCATION

#### Programming and goals

- PROFESSIONAL DEVELOPMENT
- MENTORING
- DIVERSITY, EQUITY, AND INCLUSION

#### Stakeholder relationships

- MULTI-STAKEHOLDER
- STUDENT-MENTOR
- SECONDARY ED / HIGHER ED

### COMMUNITY BASICS



300\* core members  
with a broader reach of 2500\*

\*these numbers are an estimate



Mostly online with some  
in-person events\*

\*all activities were online  
during the COVID-19 pandemic



Mostly USA-based, with  
some international  
participation



Open  
(anyone can join)

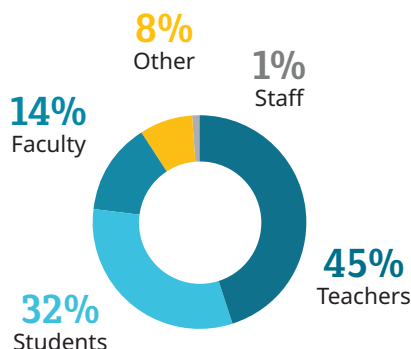
### COMMUNITY STRUCTURE

#### Community Management

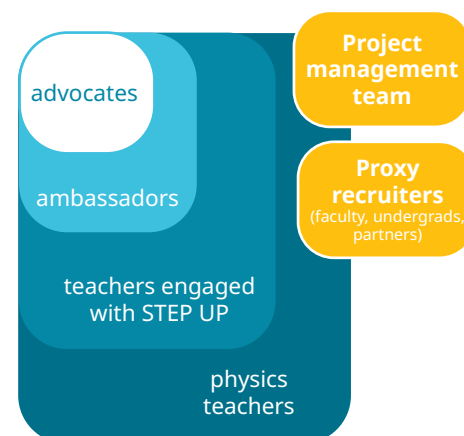
Community management is provided by 1.1 to 1.9 FTEs distributed between 4 positions including the **Ambassador Program Coordinator**, **STEP UP Project Manager**, and a **postdoc** and **coordinator** located at FIU. The team is supported by **staff and faculty** at FIU, TAMUC, APS and AAPT, as well as the **STEP UP Ambassadors**.



#### Members

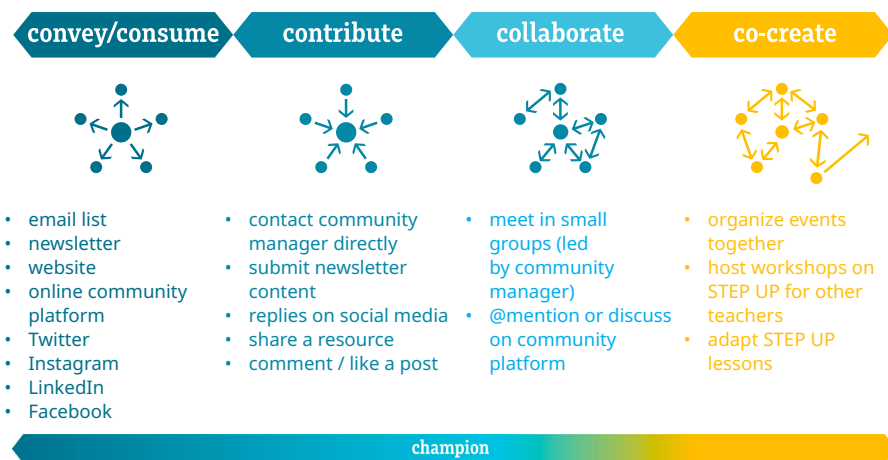


#### Community Configuration



## PROGRAMMING

STEP UP is currently offering online programming that includes a website with resources, two STEP UP lessons, and an everyday action guide; monthly newsletters; an online community forum with events and a library of files; social media; and emails with specialized content. Project staff have a private Slack workspace, a Google Group, and Google Drive, and regularly hold meetings via Zoom. A critical current part of STEP UP's public programming is the third cohort of the Ambassador program, which is focused on STEP UP lesson implementation. It includes 200 recruited teachers called "Advocates" who will join a community of practice and implement the lessons in their classrooms during the 2021-2022 academic year.



## THE COMMUNITY PARTICIPATION MODEL

The CSCCE Community Participation Model describes four modes of member engagement that can occur within a community – CONVEY/CONSUME, CONTRIBUTE, COLLABORATE, and CO-CREATE – and one that can occur both inside and outside of it: CHAMPION. All modes may be present at once, with some members interacting in multiple modes – or a community may have member engagement that falls into only some of the modes described. The model enables the mapping of community member behaviors to programming and other infrastructural support that the community manager, convening organization, or funder may provide to the community.

► For more information, see the [CSCCE community participation model](#).



## COMMUNITY CHAMPIONS

STEP UP Ambassadors are teachers or teacher leaders recruited to support the program by hosting workshops on STEP UP for other teachers and doing targeted implementation of the lessons in their classrooms. Ambassadors are paid a stipend.

**i** CHAMPIONS take on additional activities to support or advance the community. They are sometimes described as emergent leaders.

### MAINTAIN

- act as informal community managers

### GROW

- recruit new members
- train new members
- represent the community at external events

### EVOLVE

- participate in a focus group or other means of in-depth feedback

## COMMUNITY TOOLBOX

### Communications

Email	Zoom
Twitter	Slack
Facebook	LinkedIn
Instagram	Canva

### Productivity

Google Drive	Qualtrics
Google Analytics	Google Site

### Community platform

Higher Logic	Slack
Google Groups	



STEP UP (Supporting Teachers to Encourage the Pursuit of Undergraduate Physics)

doi: [10.5281/zenodo.4976593](https://doi.org/10.5281/zenodo.4976593)

## OUTPUTS & EVALUATION

Success looks like widespread adoption and implementation of the STEP UP lessons in high school physics classrooms ultimately resulting in a shift in the percentage of women interested in majoring in physics and a transformation in the physics community into a diverse, inclusive and welcoming community for everyone.



### Successes over the last year

The community continues to grow with more teachers hearing about STEP UP, using the lessons, and joining the online community. STEP UP launched a Higher Logic-powered community forum in May 2020, and it has grown significantly after a slow start up. We hosted many virtual events since May 2020: 25 socials, a 100-person conference and a 200-person conference.

- **Growth** - added new working groups
- **Growth** - launched new program or project
- **Growth** - added new members
- **Engagement** - increased activity of members
- **Engagement** - more members acted as champions
- **Activities** - an in-person or virtual event
- **Activities** - pivoted to even more online support during COVID



### Evaluation and Reporting

- External evaluator (2017-2021)
- Community member surveys
- Community member interviews
- Reports for leadership



### Opportunities

STEP UP engaged in a goal setting process in early 2021 and is focusing on the Ambassador program, teacher recruitment/engagement, community building, evaluation, project management (including fundraising) and research.

- **Growth** - branch into new domain (engineering)
- **Growth** - add new members
- **Engagement** - increase member activity
- **Engagement** - more members acting as champions
- **Engagement** - assess community and aspirational members
- **Funding** - secure new funding stream
- **Value** - external recognition

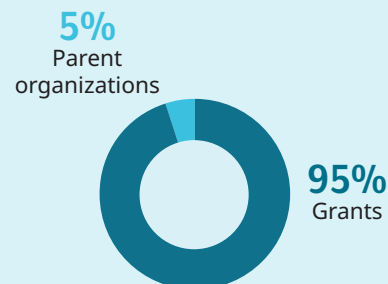


### Challenges

The top challenge in 2021 is to acquire new funding sources and determine the next direction for the project. Teachers are under a lot of stress and pressure, so getting buy-in around STEP UP's model can be difficult. Continuing to engage in our key mission of empowering enough teachers to see an impact on a national level will be enabled by finding ways to reach more, and more diverse, teachers.

- Financial sustainability
- Low activity of community members
- Slow growth of the community
- Time management
- Increasing diversity

## FUNDING



### Funding Streams

- 95% funding from the National Science Foundation, DRK12 program under Grant Numbers 1720810, 1720869, 1720917, and 1721021
- 5% funding from parent organizations

*Ambassadors can apply for stipends to run community events through STEP UP.*

## ABOUT THIS PROFILE

This profile is part of a research project conducted by the Center for Scientific Collaboration and Community Engagement (CSCCE). You can find out more about the project, and view more community profiles, [on our website](#).

Information for this profile was submitted by Anne Kornahrens, Project Manager.

**Last updated:** 22 June 2021

**Cite as:** Center for Scientific Collaboration and Community Engagement (2021) CSCCE Community Profile: STEP UP. Woodley, Pratt, Kobilka, and Kornahrens doi: [10.5281/zenodo.4976593](https://doi.org/10.5281/zenodo.4976593)