



# STEAM

innovation in education

full report 2018 - 2019





# STEAM

innovation in education

Organizers



Support



Major Sponsor





The U.S. Mission to Brazil could not be more pleased with the results of working with the University of São Paulo (USP) on the design and implementation of the STEAM TechCamp, an initiative that brings together secondary public school Science, Technology, Engineering, Arts and Mathematics (STEAM) educators from across Brazil for a week-long immersion in innovative teaching methodologies, digital tools, and the development of measurable action plans that address key high school STEAM deficit areas and provide better workforce readiness for Brazilian youth.

Over the course of these two years, this program directly impacted 120 educators from all 26 Brazilian states and the Federal District through their participation in this week-long immersion program hosted by USP. Upon return to their respective school districts, these amazing educators have developed training opportunities that add up to benefitting over 17,000 teachers and 80,000 students.

So far, the results show that the STEAM TechCamp is positively reaching its purpose of stimulating a significant change in the culture of Brazilian secondary STEAM education, with a network of teachers and curriculum coordinators expanding and improving STEAM education engagement opportunities in every state and the Federal District of Brazil.

Science, technology, innovation, and education are priority areas for the U.S. Mission's engagement with Brazil. Therefore, we look forward to many more years of positive initiatives in this area with prestigious Brazilian organizations such as the University of São Paulo.

**Mrs. Joëlle Uzarski,**  
*Cultural Attaché at the U.S. Embassy in Brazil*



The University of São Paulo, through the Polytechnic School, is thankful for the partnership with the United States Diplomatic Mission in Brazil in order to implement the successful STEAM TechCamp Brasil Program.

The program started in 2018, as an initiative of the U.S. Embassy in Brazil in partnership with the Technological Integrated Systems Laboratory (LSI-TEC), support and scientific coordination of the Polytechnic School of the University of São Paulo (POLI-USP) and, at each edition, collaboration of other entities. Since 2020, the program is known as STEAM TechCamp Brasil, adding the letter “A” that stands for Arts in its widest dimension.

The STEAM TechCamp Brasil program conducts training and disseminates planning strategies to incorporate innovative methodologies and practices into education, in which Science, Technology, Engineering, Arts and Mathematics disciplines are worked in an integrated and active way through interdisciplinary approaches, exploring issues and problems from the real world with the support of digital tools.

The set of participants in both editions constitutes a network of managers and innovative teachers from all Units of the Brazilian Federation, who are able to articulate and improve existing actions, as well as design and implement new actions aimed at STEAM learning in the public education network of Brazil.

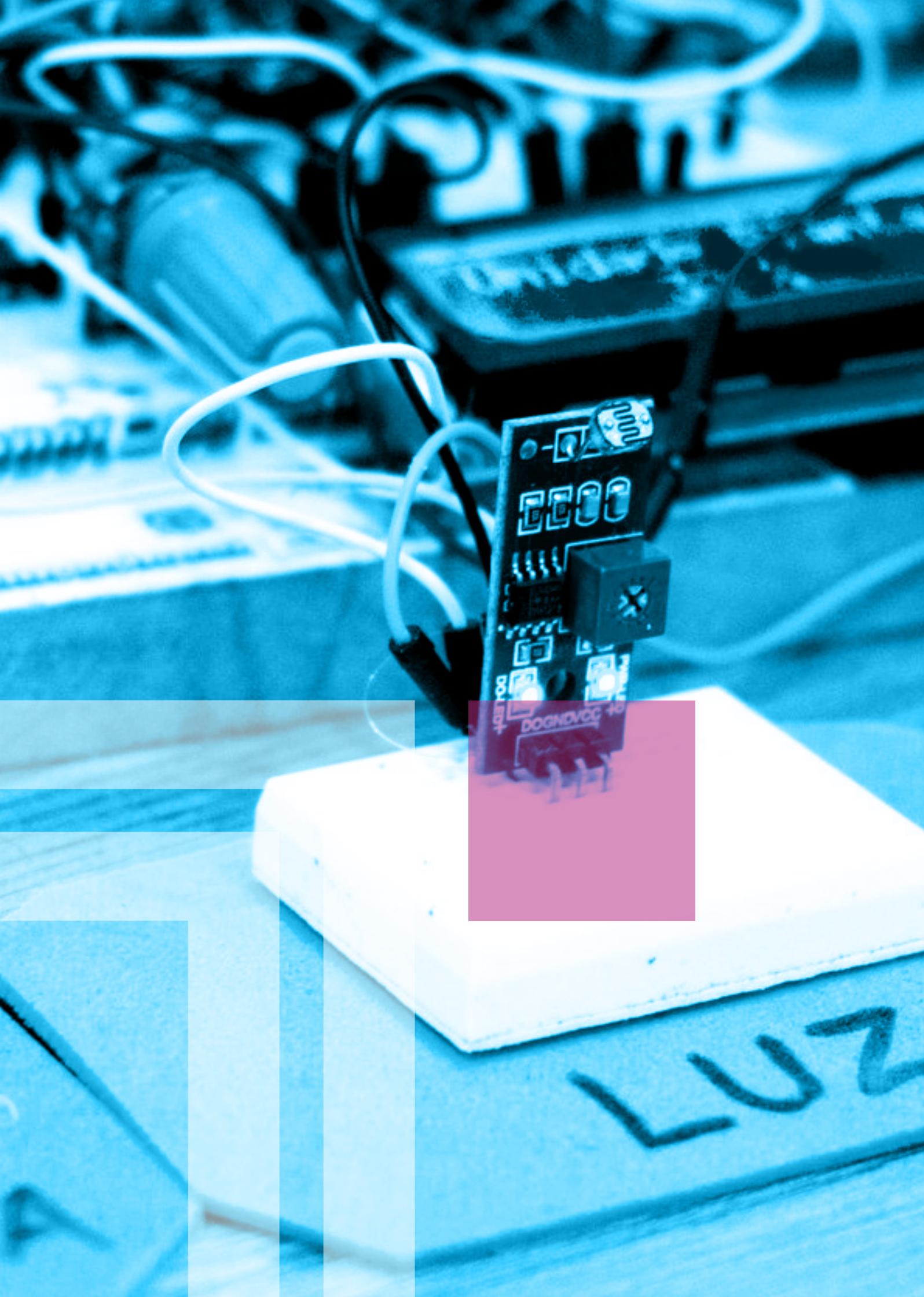
The huge and complex challenges of the contemporary world make this kind of initiative even more relevant in Brazil and worldwide. We need citizens who are prepared and able to make decisions based on scientific evidence, who think and act dynamically, with creativity and the ability to find solutions, considering and respecting the many areas of knowledge. Thus, it is up to us to strengthen and expand the STEAM TechCamp Brasil network with actions to raise awareness and provide a continuous training, associated with the promotion and monitoring of pilot projects so that the positive impacts of this program are able to rapidly reach schools from all over the country.

**Roseli de Deus Lopes**

*Scientific Coordinator of the STEAM TechCamp Brasil Program*

*Associate Professor III at the Polytechnic School of the  
University of São Paulo*





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# introduction



The acronym STEAM stands for Science, Technology, Engineering, Arts and Mathematics. Through the integration of knowledge in these five fields of study, STEAM can be employed as a teaching and learning methodology that empowers students with the ability to overcome everyday problems and future challenges.

The emergence of STEAM as an educational approach is a direct result of increased Internet access and emerging technologies. Indeed, our world has changed a lot over the past couple of decades, and we must begin to think outside of the box and not in a narrow isolated way. We must also be aware that society, in general, is dynamic and complex, and it changes and grows every day. In many ways, the problems, paths and solutions that our society faces are interconnected, and technology keeps providing us with new tools, means and patterns that are

constantly being created and changed.

Thanks to technology and knowledge, we now find ourselves at a point where it is not only possible but necessary, that we make every effort to create learning environments that are integrated, fluid, dynamic and relevant, ones that provide all of the necessary tools to train our teachers and teach our students to be active participants in research and innovation

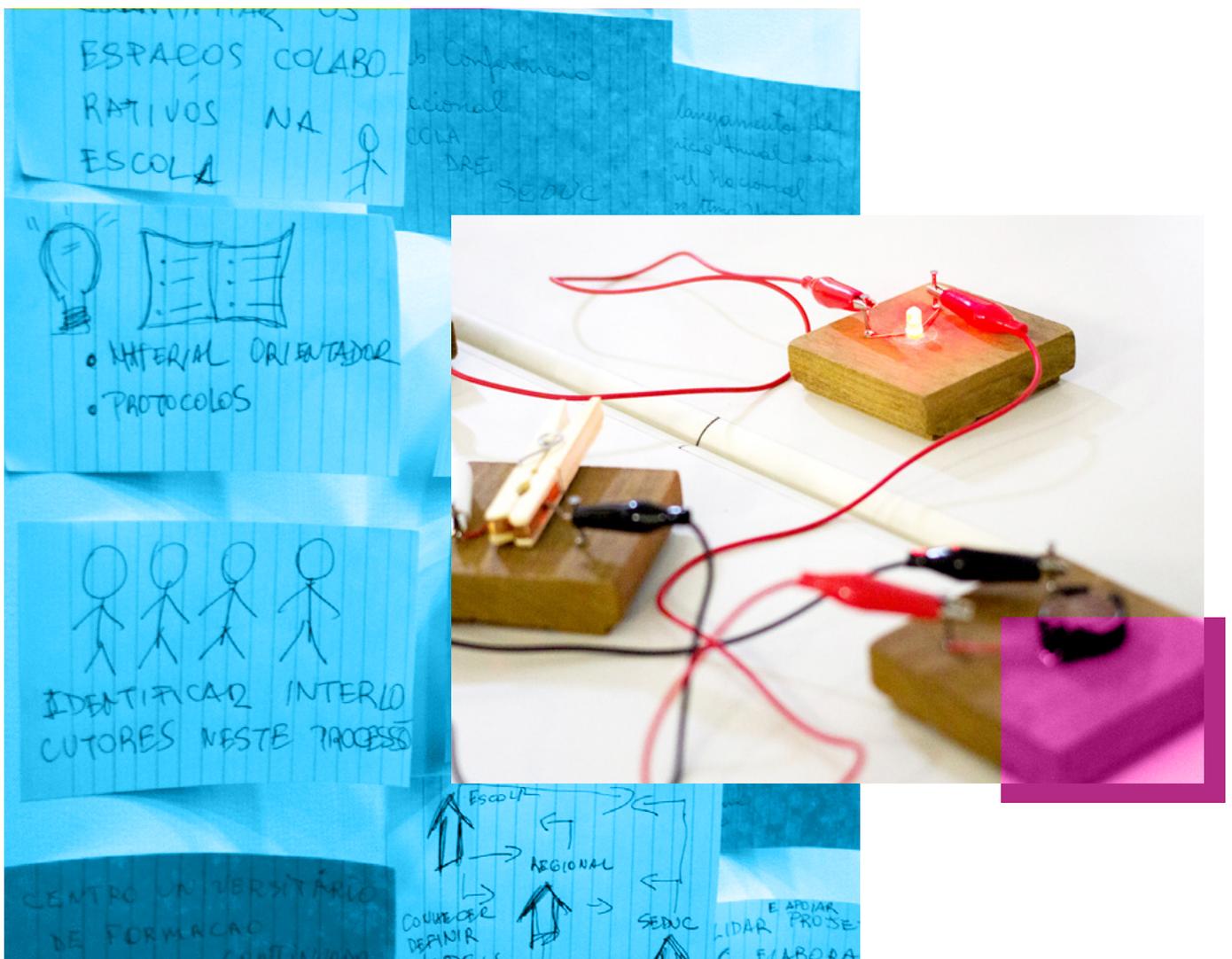
According to Roseli de Deus Lopes, professor at the Polytechnic School at the University of São Paulo and scientific coordinator of the STEAM TechCamp Brasil, we must encourage initiatives that allow “teachers and managers from the Brazilian education network to share their experiences on how to integrate Science, Technology, Engineering, Arts and Mathematics into the schools, using activities that are linked to the real world, so that we can achieve a better

engagement from students based on their various interests". Every day young people are inserted into real-life situations that involve all fields of study and, most of the time, they do not even notice it. Consequently, they must begin to understand that there is a reason for everything they experience.

Currently there is an urgent need for citizens with a different mindset, people who think and act dynamically and identify creative solutions through the integration of various fields of study. This necessity becomes more urgent each day, and we must stimulate these thought processes

and behaviors in schools all around the world and we need to start by training the teachers about how to choose and use the right tools for attaining this goal with their students.

The STEAM teaching methodology is exciting, fun and provocative and we believe that using STEAM encourages both teachers and students to take risks responsibly, to participate in teaching and learning without borders and to embrace problem-solving approaches with a sense of collaboration, integration and creativity. These are the learners, educators, citizens and leaders we want for the 21st century!



# what is it?

“STEM is our connection with the future of Brazil.

Michael McKinley, Ambassador of the United States of America, 2018, STEAM TechCamp 2018



TechCamp is a program hosted by the U.S. Department of State. It connects experts in technology with journalists, educators and representatives of NGOs and public organizations and encourages them to explore innovative technological solutions to problems (<https://techcamp.america.gov>). The program was created in 2010 and since then has already trained more than two thousand participants from more than 110 countries.

In 2018, the U.S. Embassy in Brazil brought TechCamp to Brazil with the mission of conducting an immersion program in the area of STEM with Brazilian educators.

The STEM TechCamp Brasil, now known as STEAM TechCamp Brasil due to the addition of Arts, is an initiative of the U.S. Embassy in Brazil in partnership with the Technological Integrated Systems Laboratory (LSI-TEC) and support from the Polytechnic School of the University of São Paulo (POLI-USP).

The Public Affairs Counselor of the U.S. Embassy,

Erik Holm-Olsen, has stated that the program is “one way that we are engaging educators from all of Brazil, trying to inspire them and provide them with a network to share best practices and information to take to their classroom, particularly as Brazil is engaging in reforms in its public school system that is really allowing greater innovation and creativity in these areas”.

The main goal of the program is to put technology and education experts from all over the world in direct contact with managers from the State Secretariats of Education and K-12 teachers in Brazil and to share and expand the knowledge about the different teaching tools, practices and strategies that can help them overcome the challenges they face in their teaching duties. Thus, we believe that it is possible to create a network of multipliers with potential and leadership that can not only articulate and improve existing action plans but also develop and implement new ones that employ the active learning approach of STEAM in the public education network of Brazil.



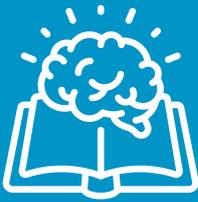
## MAIN GOALS



**Connect** STEAM experts with Brazilian education professionals.



Structure a network of multipliers of the **STEAM methodology**.



Implement actions for the **active learning of STEAM** in Brazilian K-12 education.



Overcome the **challenges** of educating.



Train citizens to think in an **integrated and innovative** manner.



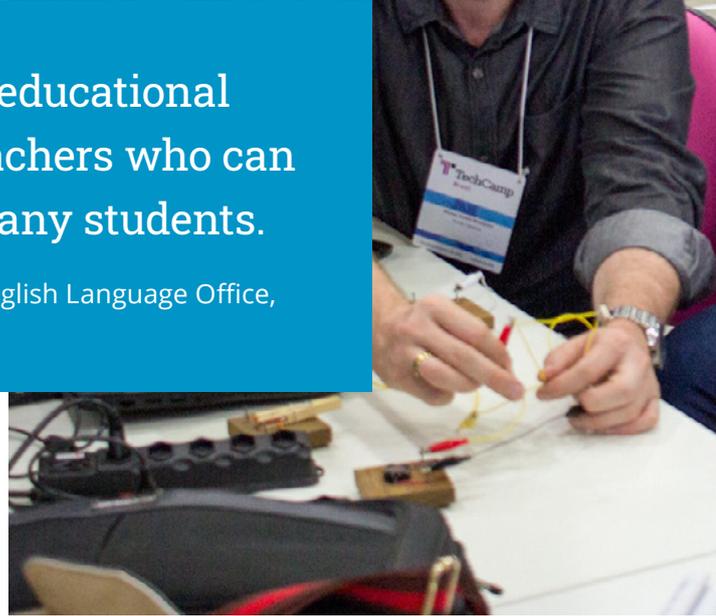
The first and second editions of the STEAM TechCamp Brasil took place from January to December 2018 and 2019 and were a success. Each edition involved the participation from more than 30 experts and researchers, 120 teachers and education managers and included 72 hours of activities to train the professionals using both online and face-to-face modalities. Examples included activities with the TechCamp team from Washington D.C. (U.S.A.), lectures with educational and entrepreneurship leaders, group discussions, collective and dynamic constructions using Design Thinking techniques, development of the first version of the strategic planning proposals for implementing in school communities and more.

# participants



The key to improving the educational system is to work with teachers who can multiply knowledge for many students.

Jennifer Uhler, Director at the Regional English Language Office, STEAM TechCamp 2019 speaker



To participate in the program, K-12 education professionals from all over Brazil registered and submitted letters highlighting their previous active learning STEAM experiences in the teaching and/or management of academic programs.

Among the many great submissions in 2018 and 2019, the STEAM TechCamp Brasil Selection Committee, composed of professors and researchers from USP, professionals from LSI-TEC and the U.S. Embassy in Brazil, worked hard to select the best candidates. The committee sought to choose individuals who were excited and interested throughout the entire process, were capable of integrating and participating in all of the activities and brought an enriching cultural and educational background.

Participants in 2018 and 2019 editions of the STEAM TechCamp Brasil were entitled to:

- Participate in all online and face-to-face activities offered by the STEAM TechCamp Brasil Program.
- Participate, with all airfare and accommodation costs covered by the Program, in the STEM TechCamp Brasil Workshop Week at USP, in São Paulo.
- Receive a certificate of participation at the end of the Workshop Week.
- Receive, during Workshop Week, a Code IoT kit with electronic materials to be used with secondary level students in their regions and to encourage basic electronic practices.
- Participants from 2018, could compete to participate, as a special guest, with all airfare and accommodation costs covered by the Program, in the Outstanding Teacher Award Panel at FEBRACE – Feira Brasileira de Ciências e Engenharia (Brazilian Science and Engineering Fair) 2019, at USP, in São Paulo.
- Compete to be part of the official Brazilian party that attends the International Science and Engineering (ISEF), with all registration, airfare, accommodation and training activity costs covered by the Program.
- Participate, as an Alumni member, in all of the upcoming editions of the STEAM TechCamp Brasil network.



## 2018 AND 2019 WORKSHOP WEEK PARTICIPANTS

### SUBMISSIONS



**653**

**submissions in  
2018 and 2019**

being **534 teachers**

**119 managers from  
Secretariats of Education**

### SELECTED



**121**

**Secretariats of  
Education managers  
and teachers**



**121**  
**EDUCATORS  
SELECTED**

### GENDER

**64%** men

**36%** women

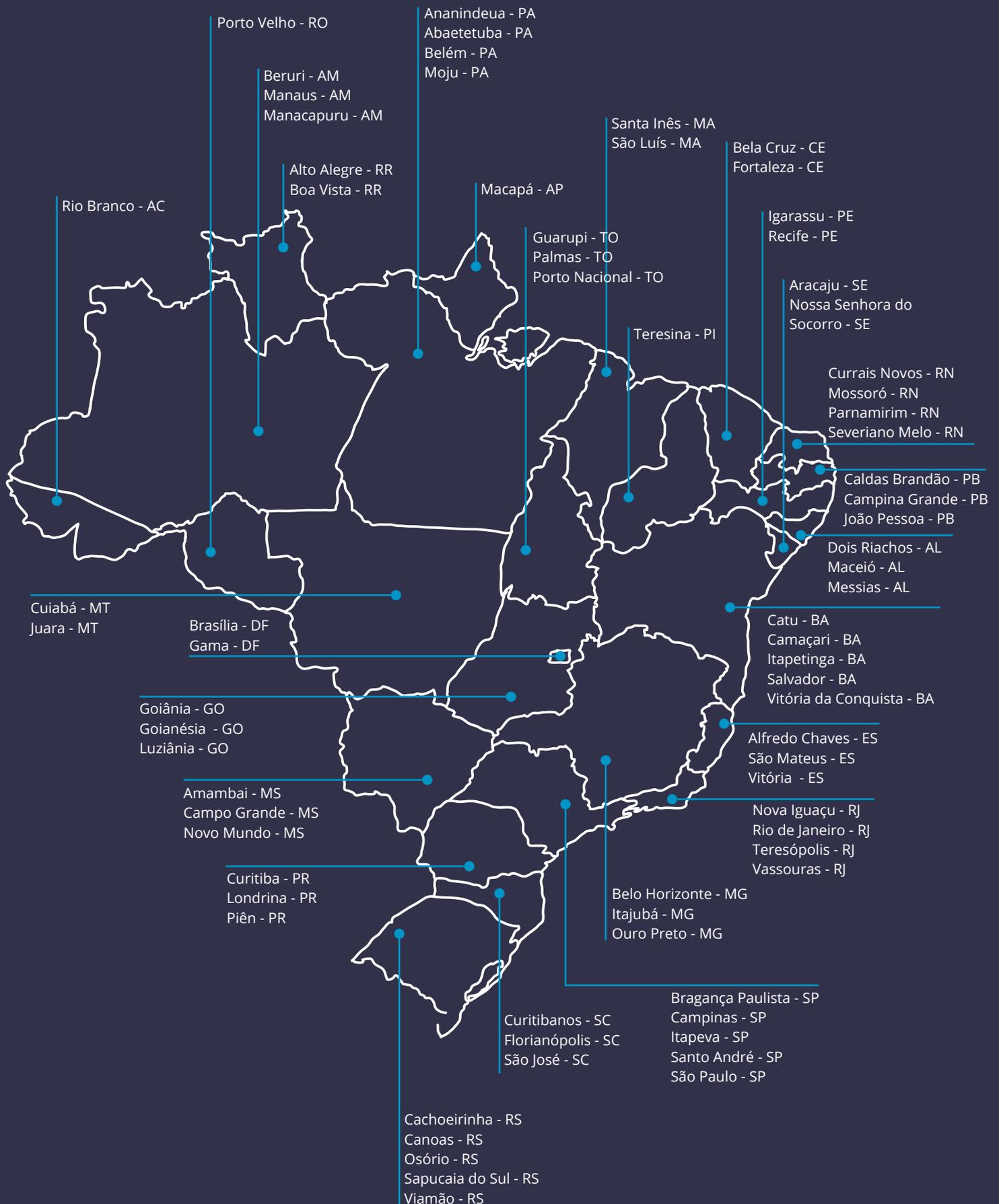
### CATEGORY

**44%** teachers from state schools

**45%** managers from Secretariats of Education

**11%** teachers from federal institutes

# PARTICIPANTS FROM 27 FEDERATION UNITS AND 75 CITIES



## 2018 PARTICIPANTS

### MANAGERS FROM SECRETARIATS OF EDUCATION

Cleide Helena Prudêncio da Silva	Rio Branco - AC
Ricardo Lisboa Martins	Maceió - AL
Greyce Caroline da Silva Dias Pantoja	Macapá - AP
Dayson José Jardim Lima	Manaus - AM
Shirley Conceição Silva da Costa	Salvador - BA
Daniel Vasconcelos Rocha	Fortaleza - CE
Ariomar da Luz Nogueira Filho	Brasília - DF
João Batista Peres Júnior	Goiânia - GO
Akemi Damasceno Wada	São Luís - MA
Beine José da Silva	Cuiabá - MT
Alessandra Ferreira Beker Daher	Campo Grande - MS
Haline Cristina Ferreira Santos	Belo Horizonte - MG
Wamilton Gomes Ferreira	Moju - PA
Eziquiel Menta	Curitiba - PR
Robson Rubenilson dos Santos Ferreira	João Pessoa - PB
José Valério Gomes da Silva	Recife - PE
Maria Jose da Costa Sales	Teresina - PI
Eduardo Vasconcellos	Nova Iguaçu - RJ
Vera Lucia Gonçalves Reis	Parnamirim - RN
Suziane Almeida Toffoli	Viamão - RS
Ederson Rodinei Dantas Rodrigues	Porto Velho - RO
Diego Araújo de Almeida	Boa Vista - RR
Daniel André Noebauer	São José - SC
Ana Joaquina Sallares	São Paulo - SP
Carolina Batista Murauskas	São Paulo - SP
Ana Cristina Dantas da Silva	Aracaju - SE
Wellington Rodrigues Fraga	Palmas - TO

## SECONDARY LEVEL TEACHERS FROM STATE PUBLIC SCHOOLS

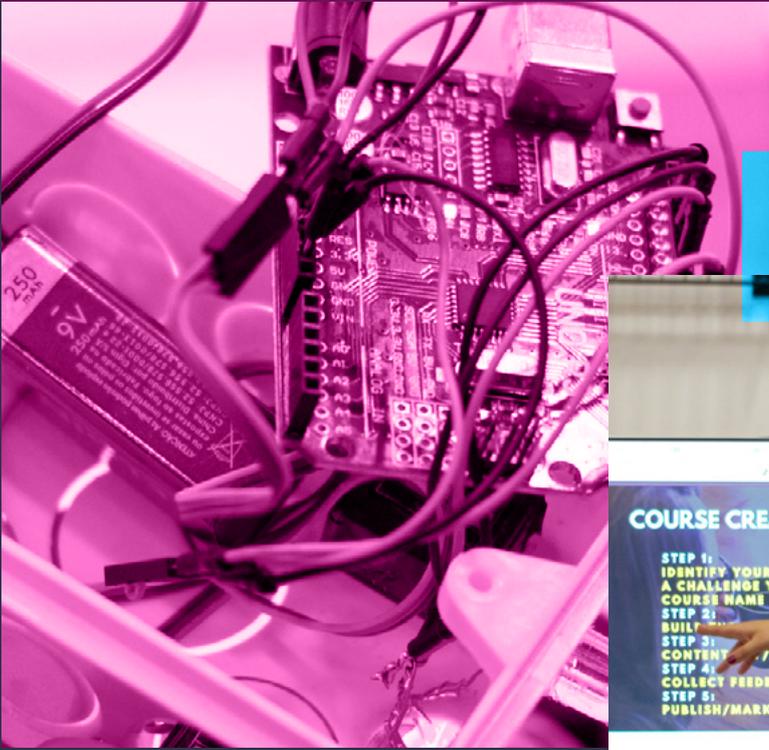
Jones Ribeiro Soares Coordenação de Educação, Ciências, Tecnologia e Inovação - CECTI	Rio Branco - AC
André Pereira de Souza Escola Estadual Cônego José Bulhões	Dois Riachos - AL
Robério Monteiro Castelo Escola Estadual Prof. <sup>a</sup> Risalva de Freitas do Amaral	Macapá - AP
Galileu da Silva Pires Escola Estadual Nossa Senhora de Nazaré	Manacapuru - AM
Delmaci Ribeiro de Jesus Colégio Estadual Maria Isabel de Melo Góes	Catu - BA
Fernando Nunes de Vasconcelos Escola Estadual de Educação Profissional Júlio França	Bela Cruz - CE
Sebastião Ivaldo Carneiro Portela Centro de Ensino Médio Integrado a Educação Profissional do Gama - DF	Gama - DF
Duciclía Amorim Soares Colégio Estadual Jalles Machado	Goianésia - GO
Carlos Augusto Veras Lima Junior Centro de Ensino Integral Poeta Antônio José	Santa Inês - MA
Thomas Eduardo Schiffino de Oliveira Escola Estadual Professor Nilo Povoas	Cuiabá - MT
Juliana Jorge Escola Estadual Amélio de Carvalho Baís	Campo Grande - MS
Pedro Luiz Teixeira de Camargo Escola Estadual Professora Maria do Carmo Almeida	Ouro Preto - MG
Sarita Maria Pieroli Colégio Estadual Marcelino Champagnat	Londrina - PR
Ricardo José da Silva Escola Estadual de Ensino Fundamental e Médio Manoel Avelino de Paiva	Caldas Brandão - PB
Rafael da Luz Herdy Escola Estadual Dom Alberto Gladêncio Ramos	Ananindeua - PA
Walberto José Barbosa da Silva Escola de Referência em Ensino Médio João Pessoa Guerra	Igarassu - PE
Leandro de Oliveira Costa Colégio Estadual Edmundo Bittencourt	Teresópolis - RJ
Ivanês Oliveira Alexandrino Escola Estadual do Ensino Médio em Tempo Integral Tristão de Barros	Currais Novos - RN

Juliano Severo Bastianello Escola Estadual Ensino Médio Guimarães Rosa	Cachoeirinha - RS
Deise Silva Lima E.E.E.M. Major Guapindáia	Porto Velho - RO
Ezequias Souza Queiroz Escola Estadual Professor Geraldo da Silva Pinto	Alto Alegre - RR
Edson Pedro Schiehl Colégio Estadual Frederico Guilherme Giese	Piên - PR
Flávio Gilberto Bento da Silva Araújo Colégio Estadual Secretário Francisco Rosa Santos	Aracaju - SE
Lia Flávia Araujo Santos Escola Estadual Educador Pedro Cia	Santo André - SP
Cibele Aparecida Martins de Toledo Escola Estadual Beira Rio	Porto Nacional - TO

### SECONDARY LEVEL TEACHERS FROM FEDERAL INSTITUTES

Alexandra Souza de Carvalho IFBA Catu - BA	Camaçari - BA
Thiago Rafalski Maduro IFES São Mateus - ES	São Mateus - ES
Pedro Paulo Santos da Silva IFPA Abaetetuba - PA	Belém - PA
Francisco Marcelino Almeida de Araújo IFPI Teresina - PI	Teresina - PI
Izonaldo Monteiro Dias IFPI Pio IX - PI	João Pessoa - PI
Flávia Santos Twardowski Pinto IFRS Osório - RS	Osório - RS
José Augusto Andrade Filho IFS Aracaju - SE	Aracaju - SE
Edson Anício Duarte IFSP Campinas - SP	Campinas - SP





## 2019 PARTICIPANTS

### MANAGERS FROM SECRETARIATS OF EDUCATION

Aires Pergentino da Silva	Rio Branco - AC
Ednaldo Firmino da Silva	Maceió - AL
Maria Erenice de Carvalho Fontoura	Macapá - AP
Manoel Feitosa Jeffreys	Manaus - AM
Iuri Oliveira Rubim	Salvador - BA
Fernando Wirthmann Ferreira	Brasília - DF
Débora Resende Maranhão	Vitória - ES
Marcelo Jerônimo Araújo	Goiânia - GO
Berenice Marinho	Santa Inês - MA
Beine José da Silva	Cuiabá - MT
Dayse Mara Alves	Campo Grande - MS
Júnias Belmont Alves	Novo Mundo - MS
Bruno de Castro Rozenberg	Belo Horizonte - MG
Carlos Alberto de Miranda Pinheiro	Belém - PA
Rayssa Ferreira Alencar	Campina Grande - PB
Carina Skura Ribeiro	Curitiba - PR
Suzana Maria de Castro Lins	Recife - PE
Carlos Alberto Pereira da Silva	Teresina - PI
Gregson Barros da Silva	Vassouras - RJ
Eliane Soares da Silva	Sapucaia do Sul - RS
Vânia Sales da Silva	Porto Velho - RO
Dayane Rodrigues Youssef	Boa Vista - RR
Marcos Ribeiro Chaves	Curitibanos - SC
David Fachim Martignago	Bragança Paulista - SP
Ilana Brawerman	São Paulo - SP
Karinne Mendes Oliveira	Aracaju - SE
Adelson Pereira Bezerra	Gurupi - TO

### SECONDARY LEVEL TEACHERS FROM STATE PUBLIC SCHOOLS

Alcides Loureiro Santos	Rio Branco - AC
Instituto de Matemática, Ciências e Filosofia	
Marbyo José da Silva	Messias - AL
Escola Estadual Professora Judith Nascimento da Silva	

Thaís Marluce Marques Abad	Macapá - AP
Centro de Atividades de Altas Habilidades/Superdotação	
Fabio Gomes da Silva	Beruri - AM
Escola Estadual Euclides Correa Vieira	
Elmara Pereira de Souza	Vitória da Conquista - BA
Centro Juvenil de Ciência e Cultura de Vitória da Conquista	
André Cardoso Albuquerque	Fortaleza - CE
E.E.F.M. Dom Helder Câmara	
Maria Zilma Conceição de Araújo	Gama - DF
Centro de Ensino Médio Integrado à Educação Profissional do Gama	
Kleber Luiz Volponi	Alfredo Chaves - ES
Centro Estadual de Educação em Tempo Integral Anchieta	
Clebes André da Silva	Goiânia - GO
Colégio Estadual José Lobo	
Cleriston Araujo Da Silva	São Luís - MA
Instituto Estadual de Educação, Ciência e Tecnologia do Maranhão – IEMA	
Rosalia de Aguiar Araújo	Juara - MT
Escola Oscar Soares	
Denise Farias Boeira	Amambaí - MS
Escola Estadual Dom Aquino Corrêa	
Gabriela Belini Gontijo	Itajubá - MG
Escola Estadual Carneiro Júnior	
Fábio Júnior da Silva Castro	Belém - PA
Escola Estadual de Ensino Fundamental e Médio Jarbas Passarinho (Sousa)	
Kym Kanatto Gomes Melo	João Pessoa - PB
Escola Técnica Estadual do Vale do Mamanguape	
Ana Paula Gutmann	Londrina - PR
Instituto de Educação Estadual de Londrina	
José Antônio Bezerra de Oliveira	Igarassu - PE
Escola de Referência em Ensino Médio Professora Eurídice Cadaval	
Ranildo Lopes de Sousa Penha	Teresina - PI
C.E.E.P. Gov. João Clímaco D'almeida	
André Gonçalves de Oliveira	Rio de Janeiro - RJ
Colégio Estadual Erich Walter Heine	
Darlan Dantas Alves de Araújo	Mossoró - RN
Escola Estadual Professor José Nogueira	

Maíra Cíntia Lucena Melo Escola Estadual Severiano Melo Ensino Fundamental e Médio	Severiano Melo - RN
Alberto Ricardo Graciotto Escola Estadual de Ensino Médio Cônego José Leão Hartmann	Canoas - RS
Chirleide Nobre Belo dos Santos Escola Estadual de Ensino Fundamental e Médio Dr. Araujo Lima	Aracaju - SE
Éber Rodrigues dos Santos Escola Estadual Ana Libória	Porto Velho - RO
Rafaella de Paula Tavares Harbe Escola Básica Henrique Veras	Boa Vista - RR
Dorival Pinheiro Garcia Escola Estadual de Tempo Integral Prof. José Vasques Ferrari	Florianópolis - SC
Manoel Messias Pereira Valido Filho Centro de Excelência Professora Maria Ivanda de Carvalho Nascimento	Itapeva - SP
Michael Monteiro Matos Escola Estadual Frederico José Pedreira Neto Pa	Nossa Senhora do Socorro - SE

## SECONDARY LEVEL TEACHERS FROM FEDERAL INSTITUTES

Jacson de Jesus dos Santos IFBA Catu - BA	Catu - BA
Mara Eugênia Ruggiero de Guzzi IFBA Itapetinga - BA	Ilhéus - BA
André Luiz de Brito Alves IFB Brasília - DF	Gama - DF
Wendell Bento Geraldés IFG Luziânia - GO	Luziânia - GO
Francisco das Chagas Batista Santos IFPI Teresina - PI	Teresina - PI
Cláudius Jardel Soares IFRS Osório - RS	Canoas - RS

# workshop week

“

I have learned a lot from the teachers during the workshop week, because they brought very original ideas from their states and added a lot to the event. This has been a very enlightening week for all the participants and trainers as well.

Gustavo Pugliese, PhD student at the School of Education of USP, TechCamp 2019 instructor



In 2018 and 2019, the STEAM TechCamp Brasil workshop weeks were held at the Polytechnic School at the University of São Paulo (POLI-USP), in São Paulo. All the airfare, accommodation and training activity costs were covered by the program for participants from all the states of Brazil.

The events that took place during the workshop week, for the education managers and participating teachers, were led by experts from Brazil and abroad. Using investigative and interdisciplinary approaches, such as the initiation of scientific and technological research and entrepreneurship, various dynamic activities, lectures and discussions were designed to stimulate and develop the STEAM approach, as well as the necessary creative culture and active learning environment.



**30** experts and researchers worked in training



**72** hours of training

# STEAM TechCamp Brasil Workshop Week

# 2018

**FEBRUARY 19-23**

**60** Secretariats of Education managers and teachers

**16** Researchers and Experts

**36** hours of training



# 2019

**FEBRUARY 11-15, 2019**

**61** Secretariats of Education managers and teachers

**17** Researchers and Experts

**36** hours of training

# SCHEDULE

## Activities with the TechCamp team from Washington D.C. (USA)

### **Sam Gordon**

TechCamp Program Manager at the U.S. Department of State

### **Jessica McCue**

TechCamp Program Manager at the U.S. Department of State

## Workshops with educational and entrepreneurial leaders and collective and dynamic constructions

### **Aigerim Khafizova**

Co-founder and CEO at LichPin Effect

### **Jan Krutzinna**

CTO at EduSim

### **Bruno Arcaty**

Entrepreneur and Founder - Colab.re

### **Renata Duarte**

Design Researcher and Brand Strategist at IDEO

### **Eduardo Zancul**

Professor at Polytechnic School of the University of São Paulo (USP)

### **Leandro Biazon**

Research & Design Software Engineer at LSI-TEC

### **Joshua Kvale**

Office of Naval Research Global

### **Natalia Mazotte**

Executive Director at Open Knowledge Brazil

### **Ana Schwendler**

Data Scientist - Operação Serenata de Amor

### **Cassia Fernandez**

Researcher at USP and Stanford FabLearn Fellow

### **Marcelo Lima**

Systems Engineer - Palo Alto Networks

### **Mariana Ochs**

Google Certified Innovator and EdTech Coordinator - Eliezer Max School

### **Ulrich Norbirath**

Independent Consultor and Inventor - ulno.net

### **Mariana Santos**

Founder and CEO - Chicas Poderosas

### **Gustavo Pugliese**

Pedagogical Consultant at Foreducation EdTech

### **Soraya Lacerda**

Coordinator at Casa Thomas Jefferson - Makerspace

### **Daniela Lyra**

Educational and Instructional Technology Specialist - Casa Thomas Jefferson

### **Reuben Brenner-Adams**

Interactive Developer at Smithsonian Institution

**Construction of action plans using Design Thinking techniques to be implemented in their school communities**

**Roseli de Deus Lopes**

STEAM TechCamp Brasil Scientific Coordinator

**Sarah H. Borenstein**

Director of the "American Spaces" Program in Brazil

**Irene Ficheman**

Education Technology Manager at LSI-TEC

**Elena Saggio**

Communication Manager at LSI-TEC

**Sam Gordon**

TechCamp Program Manager at the U.S. Department of State

**Marcia Mizuno**

Senior Educational and Cultural Affairs Specialist at the U.S. Embassy in Brasília

**Marcos Hirata**

Cultural Affairs Specialist - Education & Exchange at the U.S. Embassy and Consulates in São Paulo

**Renata Duarte**

Design Researcher and Brand Strategist at IDEO

**Talks and group discussions**

**Roseli de Deus Lopes**

STEAM TechCamp Brasil Scientific Coordinator

**Jennifer Uhler**

Regional English Language Officer at U.S. Department of State

**Barbara Noel**

North American Specialist in English Language

**Marcelo Gandur**

Electronics & Energy Business Group Technical Manager at 3M do Brasil

**Paulo Gandolfi**

R&D Operations Leader at 3M do Brasil

**Cristina Sleiman**

Partner at PeckSleiman EDU



# communication

To promote the STEAM TechCamp Brasil, we developed content that was integrated with the communication language of the TechCamp program from the U.S. Department of State.

All of the promotional materials used to promote the 2018 and 2019 editions of the STEAM TechCamp included the TechCamp logo in the artwork, which was customized for Brazil by incorporating the word Brasil at the bottom of the logo. As a complement, the theme of the event was added, as well as the catchphrase *Inovação em Educação* (Innovation in Education).

In the general language of the event's visual communication, an image of the cable-stayed bridge Ponte Estaiada, in São Paulo, was included in the background to represent the host city.



## FACEBOOK CLOSED GROUP

To facilitate communication among all STEAM TechCamp Brasil participants, a closed Facebook group was created for the exchange of information and discussions about STEAM education initiatives and practices.

Facebook was the platform of choice because all of the participants have easy access to it — Brazil is third in the world for the number of active accounts — and because Facebook allows users to easily share texts, videos, photos and documents. Currently, the group has 195 publications, 162 comments and 2,340 reactions from initiatives started by its members.

Participation in this group is restricted and those who are interested must send an authorization request to the group manager. The group currently has 199 members, most of which are the experts who attended the workshop week and members of the organizing and supporting institutions.





Banner



Stamp



Name tag



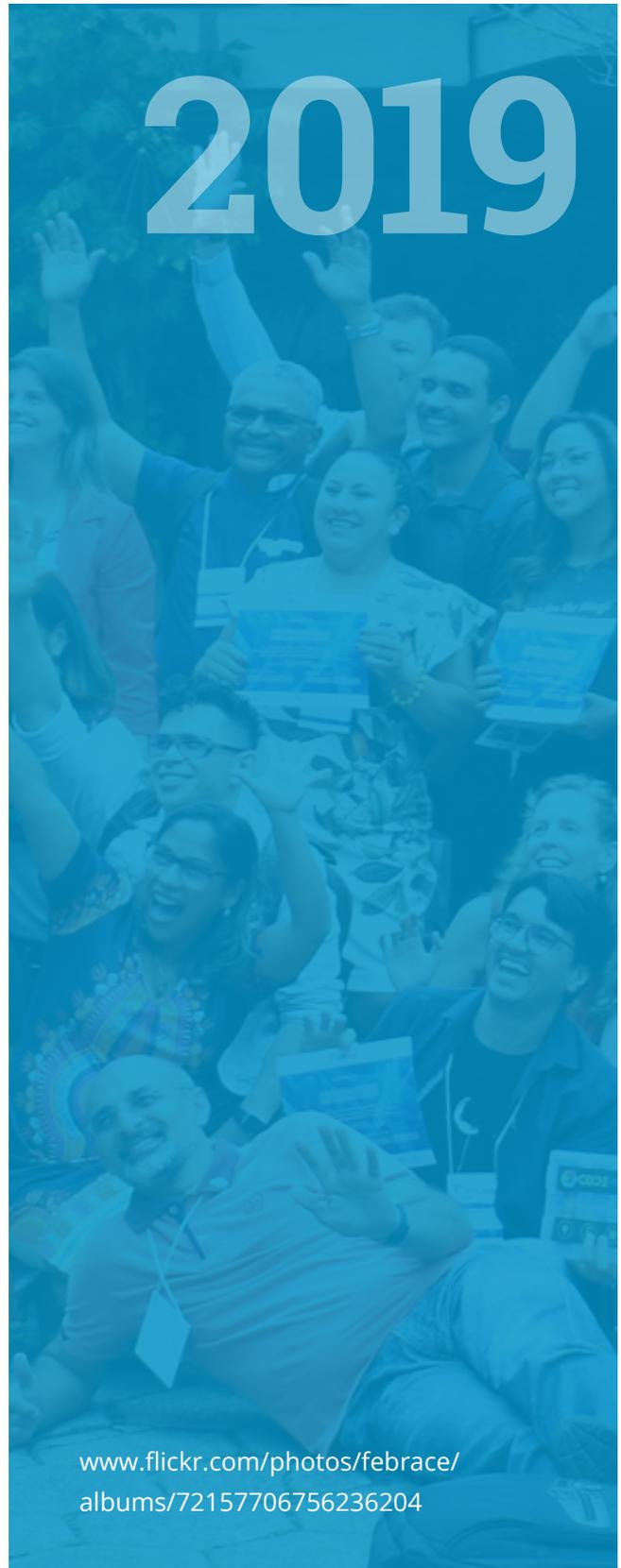
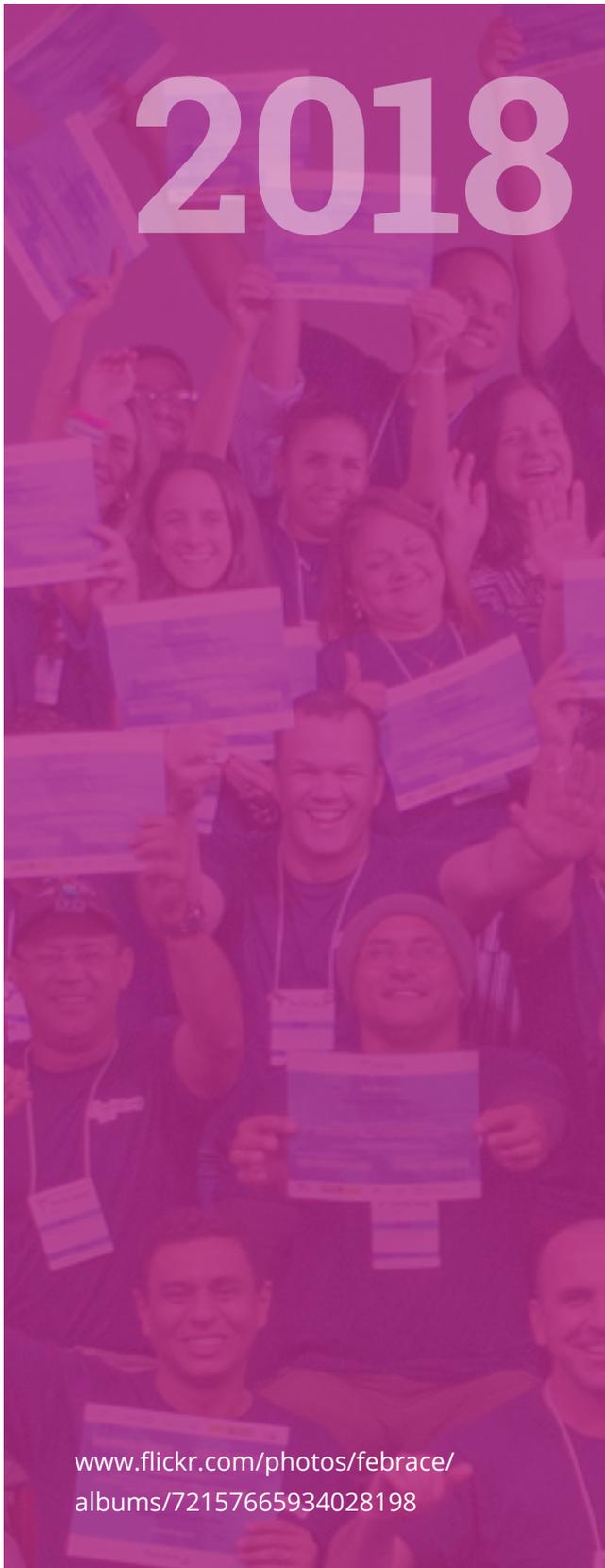
Certificate



Pen, notepad and tote bag.

## PHOTO AND VIDEO RECORD

STEAM TechCamp Brasil workshop weeks in 2018 and 2019 were both photographed. Check out the full coverage in the links below:



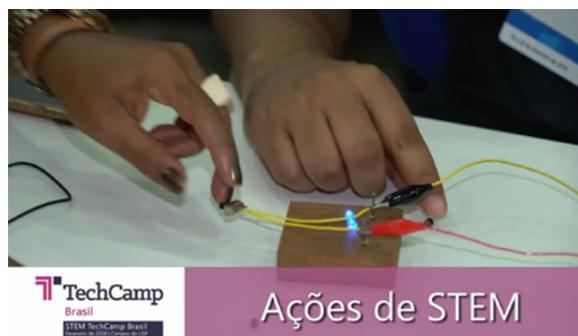
The workshop week activities were also filmed, showing reports, best moments and included interviews with participants, experts and representatives of the organizing institutions. Click on the links to watch them:

# 2018



## What is TechCamp?

<https://youtu.be/oE4pFIYq-GY>



## STEM actions

<https://youtu.be/J71EvQL2kd0>



## Opinions about the TechCamp

<https://youtu.be/OqDs8HtAj00>



## U.S. ambassador welcomes TechCamp participants

<https://youtu.be/Cs9IBs18B34>



## TechCampers at ISEF 2018 - Part 1

<https://youtu.be/6PyQCmt4spk>



## TechCampers at ISEF 2018 - Part 2

<https://youtu.be/EGi76SktErQ>

# 2019



## Department of State and USP

<https://youtu.be/MRtgOVDOhIU>



## Participants

<https://youtu.be/8b9tll7Sly0>



## Trainers

<https://youtu.be/DjqxlScFH4E>



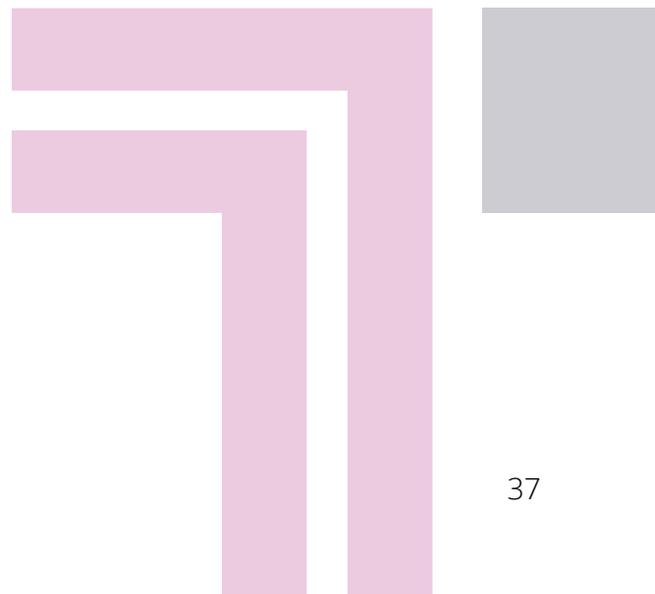
## TechCampers at ISEF 2019 - Part 1

<https://youtu.be/nPtvaSWB6cM>



## TechCampers at ISEF 2019 - Part 2

<https://youtu.be/dDhpnW6o9g>



# MEDIA COVERAGE

The activities of the 2018 and 2019 editions of STEAM TechCamp Brasil were widely disseminated by media coverage in articles about the program that appeared in print and on online media outlets from different regions of the country.

**74**  
mentions on  
media 2018-2019



## 2018 MEDIA COVERAGE

### **Faxaju, Aracaju - SE**

<http://www.faxaju.com.br/index.php/2017/12/04/abertas-inscricoes-para-o-programa-stem-techcamp-brasil/>

### **Click Sergipe, Aracaju - SE**

<http://www.clicksergipe.com.br/pais/2/36468/abertas-inscricoes-para-o-programa-stem-techcamp-brasil.html>

### **Secretaria de Educação do Maranhão, São Luís - MA**

<http://www.educacao.ma.gov.br/inscricoes-abertas-para-programa-stem-techcamp-brasil/>

### **Blog do Robson Sampaio, PE**

<http://www.robsonsampaio.com.br/professor-da-rede-e-selecionado-para-participar-do-stem-techcamp-brasil/>

### **Repórter PB, Sousa - PB**

<https://www.reporterpb.com.br/noticia/gerais/2018/01/18/professor-da-rede-estadual-representa-a-para%C3%ADba-no-stem-techcamp-brasil-2018/71957.html>

### **O Regional, Piên - PR**

<http://oregionalpr.com.br/2018/01/pinga-pinga-19012018/>

### **Socel News, PA**

<http://socelnews.blogspot.com/2018/01/professor-da-seduc-e-selecionado-para.html>

### **Pato Branco, Pato Branco - PR**

<http://www.patobranco.com/ver-noticia/20529-professores-do-parana-concorrem-a-vaga-em-curso-americano>

### **Governo do Estado de Pernambuco, Recife - PE**

<http://www.pe.gov.br/blog/2018/01/16/professor-da-rede-e-selecionado-para-participar-do-stem-techcamp-brasil/>

### **Jornal do Oeste, Toledo - PR**

<https://www.jornaldooeste.com.br/noticia/professores-do-parana-concorrem-a-vaga-em-curso-americano>

### **Agora PB, João Pessoa - PB**

<http://www.agorapb.com.br/2018/01/professor-da-rede-estadual-representa.html>

### **Governo do Estado do Rio Grande do Sul, Porto Alegre - RS**

<https://estado.rs.gov.br/representantes-da-28-cre-participam-de-programa-do-governo-americano>

### **O Progresso, Imperatriz - MA**

<http://oprogressonet.com/regional/professor-de-centro-educa-mais-e-selecionado-pela-embaixada-americana-para-formacao-cientifica/88944.html>

### **Genivaldo Abreu, MA**

<http://www.genivaldoabreu.com.br/2018/02/professor-de-centro-educa-mais-e.html>

### **Folha Nobre, Porto Velho - RO**

<http://folhanobre.com.br/2018/02/05/professor-de-centro-educa-mais-e-selecionado-pela-embaixada-america-para-formacao-cientifica-maranhao/79194>

### **Página 2, São Luís - MA**

<http://pagina2.com.br/professor-de-centro-educa-mais-e-selecionado-pela-embaixada-america-para-formacao-cientifica/>

### **Portal Gazeta do Amazonas, Manaus - AM**

<http://portalgazetadoamazonas.com.br/stem-techcamp-brasil-2018-destaca-gestor-e-professor-da-seduc-am/>

### **Portal do Holanda, AM**

<https://www.portaldoholanda.com.br/noticia-hoje/gestor-e-professor-da-seduc-serao-multiplicadores-da-embaixada-dos-estados-unidos-no-br>

### **Amazonas Notícias, Manaus – AM**

<https://amazonasnoticias.com.br/gestor-e-professor-da-seduc-sao-selecionados-como-multiplicadores-por-meio-de-programa-da-embaixada-dos-estados-unidos-no-brasil/>

### **Jornal União, Londrina – PR**

<http://www.jornaluniao.com.br/noticias/78216/professores-do-parana-concorrem-a-vaga-em-curso-americano/>

### **Jornal de Humaitá, Humaitá, AM**

<https://jornaldehyumaita.com.br/2018/02/gestor-e-professor-da-seduc-sao-selecionados-como-multiplicadores-por-meio-de-programa-da-embaixada-dos-estados-unidos-no-brasil/>

### **Secretaria de Educação e Esportes de Pernambuco, Recife – PE**

<http://www.educacao.pe.gov.br/portal/?pag=&cat=37&art=4050>

### **Governo do Estado da Paraíba, João Pessoa – PB**

<https://paraiba.pb.gov.br/noticias/professor-da-rede-estadual-representa-a-paraiba-no-stem-techcamp-brasil-2018>

### **Paraíba Rádio Blog, João Pessoa – PB**

<http://www.paraibaradioblog.com/2018/01/19/professor-da-rede-estadual-representa-a-paraiba-no-stem-techcamp-brasil-2018/>

### **Expresso PB, João Pessoa – PB**

<http://expressopb.net/2018/01/19/professor-mariense-da-rede-estadual-representa-a-paraiba-no-stem-techcamp-brasil-2018/>

### **Primeira Edição, Maceió – AL**

<http://primeiraedicao.com.br/noticia/2018/02/17/professores-sao-selecionados-pelos-eua>

### **+Unidos**

<https://maisunidos.org/2018/02/08/educadores-brasileiros-participam-da-1a-edicao-do-programa-stem-techcamp-brasil-2018/>

### **Correio Braziliense, Brasília - DF**

[https://www.correiobraziliense.com.br/app/noticia/eu-estudante/ensino\\_ensinosuperior/2018/02/22/ensino\\_ensino-superior\\_interna,661636/educadores-brasileiros-participam-do-programa-stem-techcamp-brasil.shtml](https://www.correiobraziliense.com.br/app/noticia/eu-estudante/ensino_ensinosuperior/2018/02/22/ensino_ensino-superior_interna,661636/educadores-brasileiros-participam-do-programa-stem-techcamp-brasil.shtml)

### **Bem Paraná, Curitiba – PR**

<https://www.bemparana.com.br/noticia/representantes-da-educacao-fazem-curso-ofertado-pelos-eua-->

### **Agência de Notícias do Paraná, Curitiba – PR**

<http://www.aen.pr.gov.br/modules/noticias/article.php?storyid=97309>

### **Jornal da USP, São Paulo – SP**

<http://jornal.usp.br/institucional/reitor-recebe-visita-de-embaixadores-da-franca-e-dos-estados-unidos/>

### **RTV Canal 38, Apucarana - PR**

<http://www.rtvcanal38.com.br/2018/02/21/representantes-da-educacao-fazem-curso-ofertado-pelos-eua/>

### **Abrelivros, São Paulo – SP**

<http://www.abrelivros.org.br/home/index.php/noticias/8103-usp-e-embaixada-dos-eua-oferecem-curso-para-promocao-do-ensino-ativo>

### **Anpei, São Paulo – SP**

<http://anpei.org.br/anpeinews/usp-e-embaixada-dos-eua-oferecem-curso-para-promocao-ensino-ativo/>

### **Folha Nobre, Porto Velho – RO**

<http://folhanobre.com.br/2018/02/21/stem-brasil-professores-de-roraima-participam-de-programa-da-embaixada-dos-eua-roraima/86774>

### **Jornal da USP, São Paulo - SP**

<http://jornal.usp.br/universidade/extensao/usp-e-embaixada-dos-eua-oferecem-curso-para-promocao-do-ensino-ativo/>

### **Jornal RBA, Belém – PA**

<https://www.youtube.com/watch?v=P6jjYQaZwmE>

### **Revista Trilhas Pedagógicas – FATECE, Pirassununga - SP**

[http://www.fatece.edu.br/arquivos/arquivos%20revistas/trilhas/volume8\\_9/10.pdf](http://www.fatece.edu.br/arquivos/arquivos%20revistas/trilhas/volume8_9/10.pdf)

### **Revista Brasileira de Educação Básica, Belo Horizonte - MG**

<https://rbeducacaobasica.com.br/microbiologia-e-higiene-no-ambiente-escolar/>

### **Secretaria de Educação do Estado de Sergipe, Aracaju - SE**

<https://www.seed.se.gov.br/portaldouestudante/noticia.asp?cdnoticia=13645>

### **Jornal do Dia, Aracaju - SE**

[http://www.jornaldodiase.com.br/noticias\\_1er.php?id=34508](http://www.jornaldodiase.com.br/noticias_1er.php?id=34508)

### **Jornal do Dia, Aracaju - SE**

[http://www.jornaldodiase.com.br/noticias\\_1er.php?id=33098](http://www.jornaldodiase.com.br/noticias_1er.php?id=33098)

### **Aperipê TV, Aracaju - SE**

<https://www.youtube.com/watch?v=69ordCnCQsk>

### **Seles Nafes, Macapá - AP**

<https://selesnafes.com/2018/09/estudantes-apresentam-mais-de-100-projetos-em-feira-de-ciencias-e-engenharia/>

### **Portal G1, Macapá – AP**

<https://g1.globo.com/google/amp/ap/amapa/noticia/2018/09/19/meio-ambiente-e-saude-mental-ganham-espaco-em-feira-de-ciencias-em-macapa.ghtml>

### **Fisl 18, Porto Alegre - RS**

<http://fisl18.softwarelivre.org/index.php/2018/07/14/projeto-que-ensina-robotica-em-escolas-publicas-gauchas-e-apresentado-no-fisl18/>

### **Secretaria da Educação do RS, Porto Alegre – RS**

<http://www.educacao.rs.gov.br/nucleo-de-tecnologia-educacional-da-28-cre-participa-encontro-stem-techcamp-brasil-2018>

### **UPF TV, Passo Fundo - RS**

<https://www.youtube.com/watch?v=4UoPbwpwjQE&feature=youtu.be>

## 2019 MEDIA COVERAGE

### **Escola de Formação e Desenvolvimento Profissional de Educadores, Gameleira – MG**

<https://escoladeformacao.educacao.mg.gov.br/index.php/encerradas/176-stem-techcamp-brasil-2019>

### **Secretaria de Estado da Educação de Alagoas, Maceió – AL**

<http://educacao.al.gov.br/noticia/item/17099-inscricoes-para-o-programa-stem-techcamp-brasil-estao-abertas>

### **Detran MT, Cuiabá – MT**

<https://www.detran.mt.gov.br/web/seduc/-/10758086-educadores-brasileiros-podem-se-inscrever-para-o-stem-techcamp-brasil-2019>

### **SEDUC MT, Cuiabá – MT**

<http://www2.seduc.mt.gov.br/-/10758086-educadores-brasileiros-podem-se-inscrever-para-o-stem-techcamp-brasil-2019>

### **TN Petróleo, Rio de Janeiro - RJ**

<https://www.tnpetroleo.com.br/noticia/2a-edicao-do-programa-stem-techcamp-brasil-2019-comeca-no-proximo-dia-1002/>

### **Secretaria de Educação do MA, São Luís - MA**

<https://www.educacao.ma.gov.br/oportunidade-professores-tem-ate-o-dia-12-para-inscricao-em-programa-de-imersao-na-usp-com-todas-as-despesas-pagas/>

### **Segs, Santos - SP**

<https://www.segs.com.br/educacao/138318-educadores-brasileiros-podem-se-inscrever-para-o-stem-techcamp-brasil-2019>

### **Nova Escola, São Paulo - SP**

<https://novaescola.org.br/conteudo/12825/vagas-e-oportunidades-programa-de-inovacao-com-stem-abre-as-inscricoes-para-gestores-e-professores-de-redes-estaduais>

### **Embaixada dos EUA e consulados no Brasil, Brasília - DF**

<https://br.usembassy.gov/pt/60-gestores-de-educacao-e-professores-participam-da-2a-edicao-do-programa-stem-techcamp-brasil-2019/>

### **Secretaria da Educação do RS, Porto Alegre – RS**

<https://educacao.rs.gov.br/professores-gauchos-participam-do-stem-techcamp-em-sao-paulo>

### **Centro de Tecnologia da Informação Renato Archer, Campinas - SP**

<https://www.cti.gov.br/pt-br/noticias/professor-do-ifspcampinas-participa-do-programa-stem-techcamp-brasil>

### **Casa Thomas Jefferson, Brasília - DF**

<https://thomas.org.br/news/casa-thomas-jefferson-contribui-para-a-formacao-de-profissionais-da-rede-publica>

### **SEDUC RO, Porto Velho - RO**

<http://www.rondonia.ro.gov.br/professora-e-tecnica-da-seduc-participaram-do-programa-stem-techcamp-brasil-2019/>

### **PUC Goiás, Goiânia - GO**

<http://noticias.pucgoias.edu.br/?p=84837>

### **Instituto Federal de Brasília, - Brasília - DF**

<https://www.ifb.edu.br/campus-ceilandia/19892-professor-do-ifb-ceilandia-e-representante-do-df-em-evento-de-inovacao-em-educacao-na-usp>

### **SEDUC CE, Fortaleza - CE**

<https://www.seduc.ce.gov.br/2019/02/20/professor-da-rede-estadual-representa-o-ceara-em-dois-grandes-eventos-de-tecnologia-em-sao-paulo/>

### **Blog do NTE-Canoas, Canoas - RS**

<http://ntecanoas.blogspot.com/2019/02/gestores-e-professores-da-27-cre.html>

### **Blog Braga, BA**

<http://blogbraga.com.br/?Pagina=Noticias&Titulo=experiencias-do-programa-ciencia-na-escola-e-dos-centros-juvenis-sao-apresentadas-no-stem-techcamp-brasil-em-sao-paulo-barreiras-esta-em-fase-de-implantacao&Id=58177>

### **Consed, Brasília - DF**

<http://www.consed.org.br/central-de-conteudos/educadores-conhecem-experiencias-em-tecnologia-e-inovacao-durante-o-stem-techcamp-ba>

### **Secretaria de Estado da Educação de Goiás, Goiânia - GO**

<https://site.educacao.go.gov.br/educacao/stem-techcamp-goias-sera-realizado-em-luziania/>

### **Jornal da Educação Goiás, Goiânia - GO**

<https://jornal.educacao.go.gov.br/professores-de-luziania-participam-do-stem-techcamp-goias/>

### **Instituto Federal de Goiás, Goiânia - GO**

<http://www.ifg.edu.br/projetoifg-funasa/187-ifg/campus/luziania/noticias-campus-luziania/16225-stem-techcamp-goias-apresenta-novas-praticas-e-ferramentas-de-ensino-para-professores-das-redes-municipal-estadual-e-federal>

### **Blog da Rede, BA**

<http://blog.pat.educacao.ba.gov.br/blog/2019/12/03/stem-techcamp-ba/>

### **Instituto Paramitas, Feira de Santana - BA**

<https://institutoparamitas.org.br/web/noticias.php?id=6027>

### **CETEP, Uauá - BA**

<https://cetepuaua.com.br/noticias.php?p=exibir&n=87>

### **Porvir, São Paulo - SP**

<https://porvir.org/educadores-e-estudantes-brasileiros-levam-projetos-para-maior-feira-de-ciencias-do-mundo/>

# ISEF participation



What we need to do to allow students from all over Brazil to participate in fairs such as ISEF is provide them means and show them that they can be the protagonists of learning.

Thiago Rafalski Maduro, Teacher at the Federal Institute of São Mateus, ES, STEAM TechCamp 2018 participant



As part of the STEAM TechCamp Brasil program, the U.S. Embassy in Brazil, in partnership with the Technological Integrated Systems Laboratory (LSI-TEC), selected the best participants of the program in 2018 and 2019 to join the official Brazilian party of educators and young scientists to attend the ISEF (International Science and Engineering Fair), to which FEBRACE is affiliated.

ISEF is a Society for Science & the Public (SSP) program and is the world's largest international pre-college science competition. Each year, approximately 1,800 secondary level students from more than 80 countries are awarded the opportunity to showcase their independent research and compete for almost US\$ 4 million in prizes. The ISEF is a unique opportunity that allows the participants to interact with students and mentors from around the world and also learn more about the application

and effectiveness of STEAM programs in other locations. Techcampers had a specific agenda at the ISEF: they attended ISEF-offered sessions (lectures, workshops and panels), served as volunteer interpreters for Portuguese-speaking students during judging and also interviewed students from different countries to learn more about others experiences while developing their scientific projects.

The STEAM TechCamp Brasil participants who were selected to travel to ISEF had all registration, airfare, ground transportation, accommodation, meal and training activity costs covered by the Program. Additionally, the U.S. Embassy and Consulates in Brazil supported the Brazilian party of students selected at FEBRACE to participate in ISEF in 2018 and 2019 covering the costs of airfares and meals.

# ISEF 2018



Pittsburgh,  
Pennsylvania, USA



May 13-18, 2018



4 Participants selected by  
STEAM TechCamp Brasil 2018



From left to right: Isabela, Gabriel, Maria Vitória, Andrea, Laura, Myllena, Gabriel Negrão, Pedro and Juliana



**10 awards and  
3 honorable mentions  
were won by the Brazilian party at ISEF 2018.**

The complete list of students and teachers awarded at ISEF 2018 is available at:  
[https://febrace.org.br/arquivos/site/\\_conteudo/pdf/premiadosisef2018.pdf](https://febrace.org.br/arquivos/site/_conteudo/pdf/premiadosisef2018.pdf)

## 2018 TechCampers at ISEF



From left to right: José, Flavia, Eduardo and Juliana

Eduardo Vasconcellos	Nova Iguaçu - RJ
Escola Carlos Drummond de Andrade Brasil Estados Unidos	
José Augusto Andrade	Aracaju - SE
Instituto Federal de Sergipe	
Juliana Jorge	Campo Grande - MS
Escola Estadual Amélio de Carvalho Baís	
Thiago Rafalski Maduro	São Mateus - ES
Instituto Federal do Espírito Santo	

Professor Flávia Santos Twardowski Pinto, Federal Institute of Osório, RS, was a participant in TechCamp 2018 and selected by FEBRACE to participate in ISEF, as an advisor teacher to student Juliana Estradioto.

# ISEF 2019



Phoenix,  
Arizona, USA



May 11-18, 2019



4 Participantes selected by  
STEAM TechCamp Brasil 2019

## 2019 TechCampers at ISEF



From left to right: Bruno, Elmara, Iuri and Marcos

Marcos Ribeiro Chaves SED/SC - GETIG/NTE	Curitibanos - SC
Bruno de Castro Rozenberg Secretaria de Estado de Educação de MG	Belo Horizonte - MG
Iuri Oliveira Rubim Secretaria da Educação do Estado da Bahia	Salvador - BA
Elmara Pereira de Souza Centro Juvenil de Ciência e Cultura de Vitória da Conquista	Vitória da Conquista - BA

The complete list of students and teachers awarded at ISEF 2019 is available at:  
[https://febrace.org.br/arquivos/site/\\_conteudo/pdf/premiadosisef2019.pdf](https://febrace.org.br/arquivos/site/_conteudo/pdf/premiadosisef2019.pdf)



From left to right: Ekarinny, João Pedro, Juliana, Maria Helena and Muriel celebrated the accomplishments during the Grand Award Ceremony.



**8 awards** were won by the Brazilian party at ISEF 2019.  
Highlighting the **first award in Materials Science.**

The young scientists awarded at ISEF 2019 were also honored by William Popp, in charge of Business at the U.S. Embassy in Brazil, and by the Minister of Science, Technology, Innovations and Communications, Marcos Pontes, on July 3, in Brasília.



From left to right: Muriel, João Pedro, Juliana, William Popp, Minister Marcos Pontes, Bruna, Ekarinny & Maria Helena

## small grants

During both the 2018 and 2019 editions of STEAM TechCamp Brasil participants had the chance to put the initiatives planned during the workshop weeks into practice, by transforming them into concrete proposals for the implementation of projects in their schools. Projects needed to demonstrate innovation in the active learning of STEAM, disseminate digital skills and expand collaboration among different schools and municipalities.

Projects were submitted to Small Grants offered by STEAM TechCamp Brasil, and were evaluated by a technical-scientific committee composed of representatives from the U.S. Embassy in Brazil, the University of São Paulo and LSI-TEC. The best proposals were selected and received financial support to initiate the projects in their communities.

**15**  
SELECTED  
PROPOSALS

**13**  
benefited states

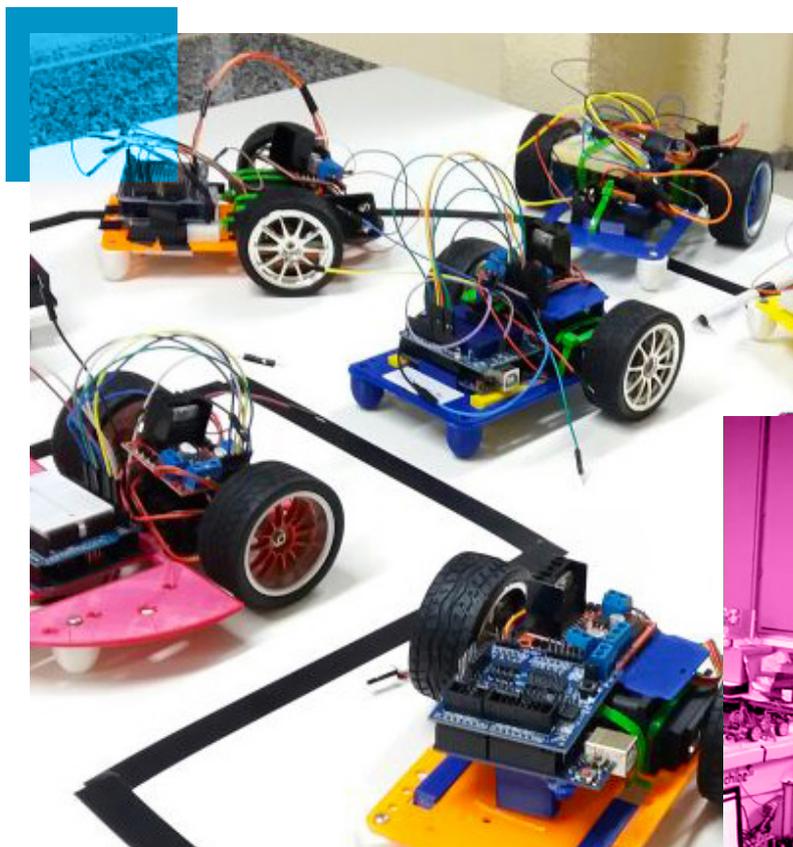
**\$ 69,600.00 (USD)**  
distributed through Small Grants

**35,756**  
students and teachers reached

**US\$ 1.<sup>95</sup>**  
amount by reached person

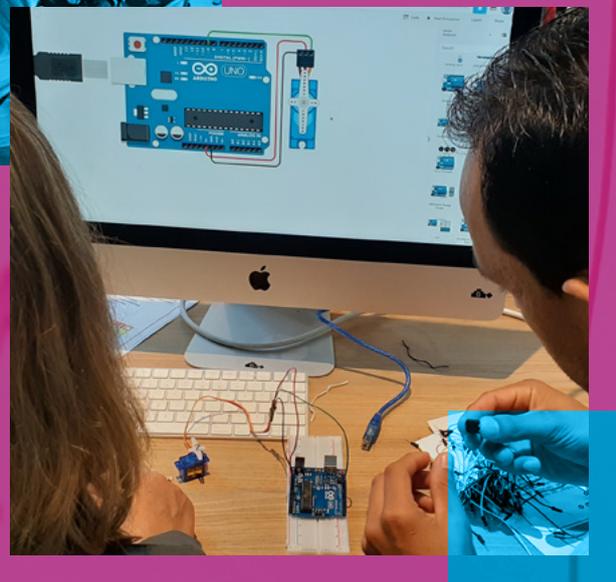
**PROPOSALS SELECTED IN 2018 TO RECEIVE THE AMOUNT OF \$ 4,100 (USD) PER PROJECT**

<b>Leader</b>	<b>Co-leader</b>	<b>State</b>
Shirley Conceição Silva da Costa - Secretaria da Educação do Estado da Bahia	Delmaci Ribeiro de Jesus - Colégio Estadual Maria Isabel de Melo Góes	Bahia
Rafael da Luz Herdy - Secretaria de Estado de Educação - Núcleo de Tecnologia Educacional de Belém - Coordenação Estadual de Tecnologia Aplicada à Educação	Wamilton Gomes Ferreira - EEEM Prof. Ecila Pantoja da Rocha	Pará
Leandro de Oliveira Costa - SEEDUC RJ - Colégio Estadual Edmundo Bittencourt	Eduardo Vasconcellos - SEEDUC RJ - CIEP 117 Carlos Drummond de Andrade Brasil - Estados Unidos	Rio de Janeiro
Flávia Santos Twardowski Pinto - Instituto Federal do Rio Grande do Sul - Campus Osório	Suziane Almeida Toffoli - Núcleo de tecnologia Educacional de Gravati 28CRE	Rio Grande do Sul
Flávio Gilberto Bento da Silva Araújo - Colégio Estadual Secretário Francisco Rosa Santos	Ana Cristina Dantas da Silva - Secretaria de Educação de Sergipe	Sergipe



**PROPOSALS SELECTED IN 2019 TO RECEIVE THE AMOUNT OF \$ 5.000 (USD) PER PROJECT**

<b>Leader</b>	<b>Co-leader</b>	<b>State</b>
Ednaldo Firmino da Silva - Secretaria de Estado da Educação de Alagoas	Marbyo José da Silva - Escola Estadual Professora Judith Nascimento da Silva	Alagoas
Thaís Marluce Marques Abad - Centro de Atividades de Altas Habilidades/ Superdotação – CAAHS	Maria Erenice de Carvalho Fontoura - Secretaria de Estado de Educação do Amapá	Amapá
Fabio Gomes da Silva - Escola Estadual Euclides Correa Vieira	Manoel Feitosa Jeffreys - Secretaria de Educação do Amazonas	Amazonas
Iuri Oliveira Rubim - Instituto Anísio Teixeira/ Secretaria da Educação do Estado da Bahia	Elmara Pereira de Souza - Centro Juvenil de Ciência e Cultura (CJCC) Vitória da Conquista	Bahia
Fernando Wirthmann Ferreira - Diretoria de Ensino Médio	Maria Zilma Conceição de Araújo - Centro de Ensino Médio Integrado do Gama	Distrito Federal
Wendell Bento Geraldês - Instituto Federal de Goiás - Campus Luziânia	Clebes André da Silva - Escola Estadual José Lobo	Goiás
Berenice Marinho - Centro de Ensino de Tempo Integral Poeta Antonio José	Cleriston Araujo da Silva - Instituto Estadual de Educação, Ciência e Tecnologia do Maranhão - IEMA	Maranhão
Darlan Dantas Alves de Araújo - E.E. Prof José Nogueira	Maíra Cíntia Lucena Melo - E.E. Severiano Melo	Rio Grande do Norte
Eliane Soares da Silva - SEDUC/RS - Núcleo de Tecnologia Educacional/27a Coordenadoria Regional de Educação	Alberto Ricardo Graciotto - Colégio Marechal Rondon	Rio Grande do Sul



# program's reach



We want to help teachers get the technological, organizational and linguistic tools they need so a network of STEM educators, that is able to increase workforce readiness after the secondary level, can be created here in Brazil. We feel that this will elevate the opportunities that Brazilian youth have and make Brazil an even stronger partner in the global force.

Sarah Borenstein, Director of the American Spaces Program of the U.S. Embassy in Brazil, 2019, STEAM TechCamp 2019

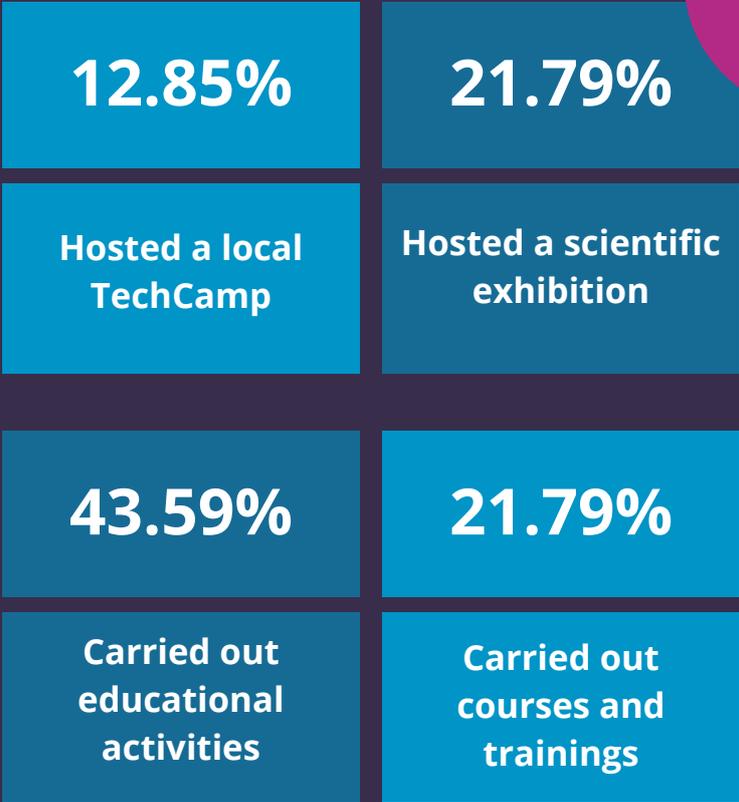


From data collected from surveys, conducted through Google Forms, sent to the participants from the 2018 and 2019 editions of STEAM TechCamp Brasil, as well as information gathered from reports submitted by the grantees of the Small Grants program, we are proud to conclude that our primary goal has been achieved.

In just two years, we have been able to train teachers and managers, who are in contact with several schools, teachers and students in their regions, in all of the Brazilian states, and have managed to form a significant network of multipliers of initiatives aimed at the active learning of STEAM throughout Brazil.

# 2018 and 2019

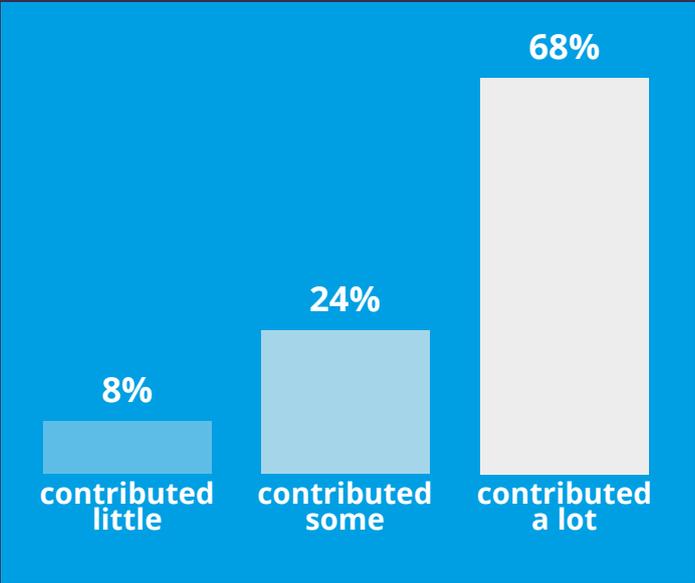
The program influenced and motivated local actions, with a total of 78 activities carried out by STEAM TechCamp participants all over Brazil.



Activities carried out in 2018 and 2019, percentage by category.

**Did the program contribute to change the participant's teaching practices and professional activities?**

Percentage of total answers (37 answers from 24 states). Survey conducted by electronic form with the participants of the 2018 and 2019 editions of the program.



Teachers, students, cities and schools reached through local actions



**80,243 students**



**17,248 teachers**



**1,032 schools**



**461 cities**



**27 states**

Analysis of the amount invested in the STEAM TechCamp 2018-2019

<b>Amount invested in the program</b>	<b>Directly reached people</b>	<b>Indirectly reached teachers</b>
<b>U\$ 396,948.00</b>	<b>121</b>	<b>17,248</b>
<b>Indirectly reached students</b>	<b>Total of reached people</b>	<b>Amount invested in each person</b>
<b>80,243</b>	<b>97,612</b>	<b>\$ 4.07</b>

Teachers, students, cities and schools reached through local actions and the relationship with the states that received small grants. Data from 2018-2019

States	Teachers	Students	Cities	Schools	Small Grant in USD	Total of people indirectly reached	Amount invested in each person
AC	180	720	2	56	0	900	0
AL	10,000	10,000	102	4	\$5,000.00	20,000	\$0.25
AM	150	1,500	3	9	\$5,000.00	1,650	\$3.03
AP	12	59	1	5	\$5,000.00	71	\$70.42
BA	150	1,000	13	22	\$9,100.00	1,150	\$7.91
CE	2,000	30,000	184	34	0	32,000	0
DF	250	2,200	4	240	\$5,000.00	2,450	\$2.04
ES	600	7,000	6	0	0	7600	0
GO	170	250	10	30	\$5,000.00	420	\$11.90
MA	33	10	6	12	\$5,000.00	43	\$116.28
MG	30	200	4	1	0	230	0
MS	270	1,300	6	80	\$4,100.00	1,570	\$2.61
MT	800	80	19	200	0	880	0
PA	130	3,000	9	25	\$4,100.00	3,130	\$1.31
PB	250	12,000	16	68	0	12,250	0
PI	53	400	2	25	0	453	0
PR	5	1,800	1	3	0	1,805	0
RJ	27	700	5	10	\$4,100.00	727	\$5.64
RN	200	600	8	30	\$5,000.00	800	\$6.25
RO	40	1,800	1	3	0	1,840	0
RR	842	1,160	6	30	0	2,002	0
RS	450	2,967	40	100	\$9,100.00	3,417	\$2.66
SC	570	1,000	7	40	0	1570	0
SE	8	320	2	0	\$4,100.00	328	\$12.50
SP	8	57	2	4	0	65	0
TO	20	120	2	1	0	140	0
<b>Total</b>	<b>17,248</b>	<b>80,243</b>	<b>461</b>	<b>1,032</b>	<b>69,600</b>	<b>97,491</b>	

Data collected from participants of the 2018 and 2019 editions, through Google Forms surveys.

# success stories

## LOCAL IMPACTS



Brazil has a strong source of creativity and innovation, new industries and new technologies. And what we are doing here is to work together to improve education and develop skills.

Michael McKinley, Ambassador of the United States of America, STEAM TechCamp 2018

During the STEAM TechCamp 2019, the United States Consul General in São Paulo, Adam Shub, praised the program by saying: "All of you from STEAM TechCamp Brasil face a great challenge and are doing very important work in this area. We are very happy with the program!"

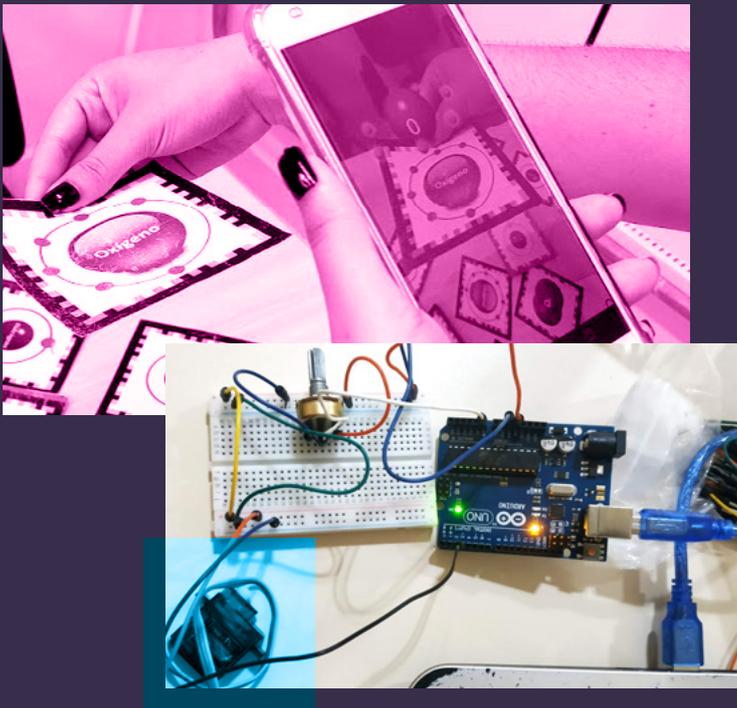
Results of the 2018 and 2019 editions of the STEAM TechCamp Brasil are already evident in all of the Brazilian states. Managers and teachers from the secretariats who have participated in the program have used resources provided by STEAM TechCamp to implement new actions or improve existing initiatives and projects in their communities, focusing on the active learning approach of the STEAM methodology for the teaching and learning process.

Here we highlight some of the success stories that were held throughout Brazil as a result of the knowledge acquired during the TechCamps. More details about them and records of local actions can be found on the website below (content in Portuguese):

<https://stemtechcampbrasil.febrace.org.br/atividades-regionais>

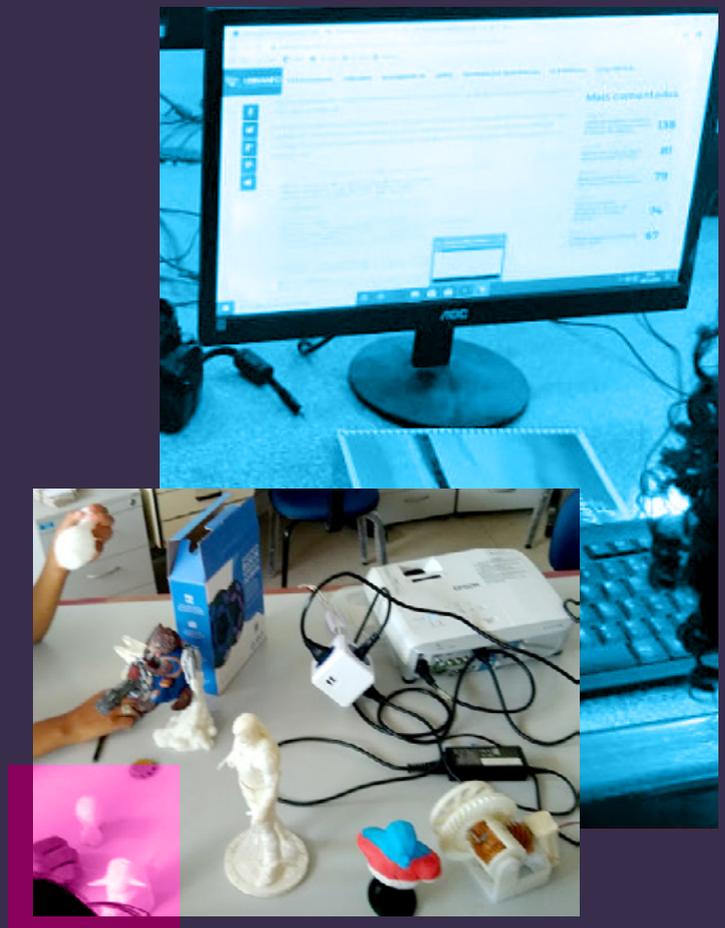
## ACRE

In Acre, participants from TechCamp Brasil 2018 coordinated training courses in scientific research, project-based research and Moocs, and also carried out project evaluations according to the STEAM methodology. In 2019, expanded their activities to include STEAM lectures and workshops on virtual and augmented reality, mind maps, molecular structuring with ChemSketch and much more. In addition to participating in the Viver Ciência Exhibition and the Semana Nacional de Ciência e Tecnologia (National Science and Technology Week), they also taught introductory robotics courses, using the Code IoT kit, at the Centro de Matemática, Ciências e Filosofia (Center for Mathematics, Science and Philosophy).



## ALAGOAS

Representatives from the state of Alagoas were able to implement improvements in three preexisting programs in the region: the Robotics Fair at the SBPC - Sociedade Brasileira ao Progresso da Ciência (Brazilian Society for the Advancement of Science), the 2018 annual meeting hosted by Universidade Federal do Alagoas (UFAL) that trains schools and teachers on the development of programming and robotics courses and the Olimpíada Brasileira de Robótica (Brazilian Robotics Olympics) - Alagoas. The number of submissions for their local science fair has tripled and the number of projects also has increased thanks to the information and knowledge acquired by the participants at the 2018 edition of STEAM TechCamp.



## AMAPÁ

The state of Amapá hosted the I TecQuinócioCamp: STEM no Meio do Mundo (I TecQuinócioCamp: STEM in the Middle of the World), which was created from projects developed in robotics workshops inspired by the lessons learned during the 2019 edition of STEAM TechCamp Brasil.



In the state of Amapá, we currently have a team of four teachers working at the Center for Above-Average Students, and by means of grants we managed to create a travelling lab. We now have some open-source hardware for robotics, which we take mainly to less endowed schools in remote areas. The idea of these workshops is not to just teach robotics, but to also identify above-average students with a high potential for robotics, technology, creativity and inventiveness, which is what STEM is all about, showing us a range of possibilities.

Thaís Marluce Marques Abad, Center for Above-Average Students, Macapá, Amapá, STEAM TechCamp 2019 participant



## AMAZONAS

Euclides Correa Vieira, a teacher from a public school, in the state of Amazonas, was able to make active use of the STEAM methodology learned at the TechCamp 2019 for the creation of the I Seminário Conectando Boas Práticas (I Seminar Connecting Good Practices) in Beruri - AM.

## BAHIA

In Bahia, participants have started a series of workshops in different parts of the state using resources from TechCamp to improve their local science fairs. They also held the Feira de Ciências das Escolas Estaduais de Catu (Catu State Schools - Science Fair), the STEM TechCamp + BA and the Festival de Invenção e Criatividade (Festival of Invention and Creativity), with an interactive display, conversation circles, a games arena and geek space.



The Bahia State Secretariat of Education is currently investing in a new platform called Inova, which will bring Google Classroom to all schools. In order to do so, we have been offering Chromebooks to all of our students and teachers, so that they can use technology for learning.

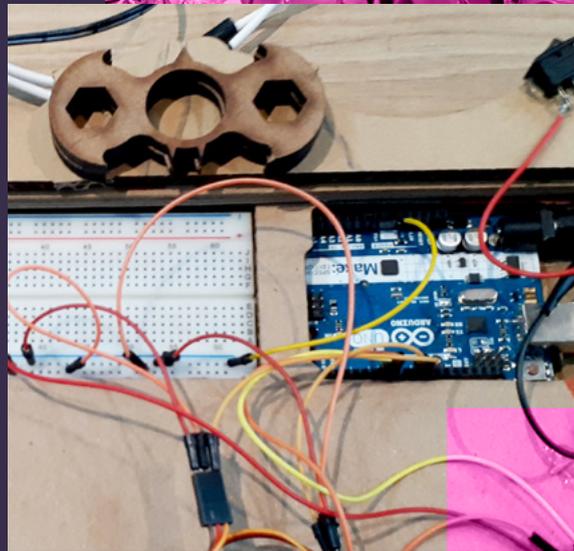
Shirley Conceição, Secretary of Education of the State of Bahia, STEAM TechCamp 2018 participant

## CEARÁ

Representatives from the state of Ceará were able to apply the knowledge acquired during the STEAM TechCamp Brasil to improve their state STEAM program, which includes activities and workshops, for both teachers and students, to learn about science and programming.

## DISTRITO FEDERAL

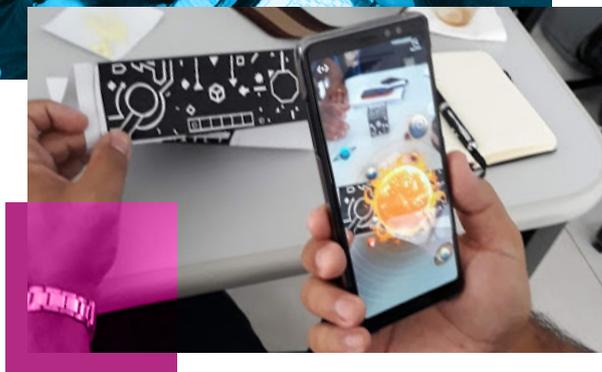
Three important events for STEAM multiplication were performed at the Distrito Federal with the support of participants from TechCamp 2019: the STEAM Criativo para Educadores de Ensino Médio (Creative STEAM for Secondary Level Educators) of the public network, with online and face-to-face activities, certification by Casa Thomas Jefferson and the seal of the U.S. Embassy; the STEAM TechCamp DF, a training targeting 100 teachers from pilot-schools that will be implemented in the New Secondary Level model in 2020; and the American Girls Can Code, with workshops, conversation circles and lectures, organized in partnership with the International Telecommunication Union.



## ESPÍRITO SANTO

In Espírito Santo, after participating in STEAM TechCamp Brasil, the representatives initiated the Fecinc program, which combines a science fair with a training program on STEAM. It focuses on training educators who work using the methodology with their students and also trains judges to analyze the work of the students at the fair. The second part of the program plans on making relevant changes to the school program, by introducing more STEAM-related content. Additionally, new tools for conducting and guiding groups of students through research and outreach projects have been implemented in the classrooms and a strong movement to train teachers and education professionals has been initiated to disseminate the culture of stimulating school projects by employing the scientific and engineering method as a means to promote science education and student leadership.





## GOIÁS

Representatives of Goiás, after participating in the STEAM TechCamp 2019, brought the STEAM methodology to the state through actions such as organizing the I STEM TechCamp Goiás, which presented lectures and robotics workshops; participating in the I Torneio Juvenil de Robótica (I Youth Tournament on Robotics); using the Code IoT electronics kit in robotics workshops, and offering Scratch and Arduino workshops.

## MARANHÃO

In Maranhão, a teacher who participated in the STEAM TechCamp 2019 supported the dissemination of STEAM in regional schools, strengthening the proposal of implementing makerspace in schools through workshops exploring the following topics: working with scraps in the makerspace, lab practices approaching STEAM in Chemistry and Biology and the Robotics Workshop: the use of Arduino in Math and Physics teaching.

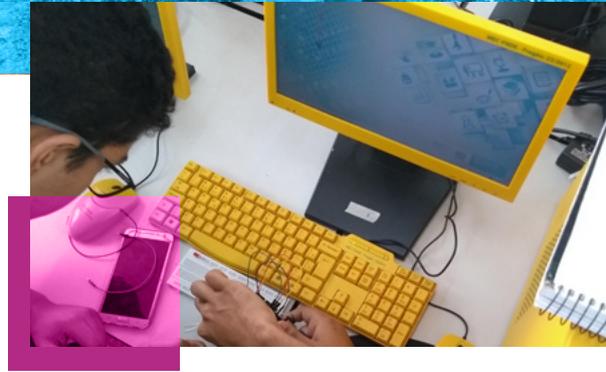


## MATO GROSSO

The knowledge acquired at TechCamp provided training courses to teachers in several municipalities in Mato Grosso and helped write a Term of Reference for acquiring robotics kits for schools. Also, videos were recorded at Long Distance Learning (LDL) events to promote STEAM practices.

## MATO GROSSO DO SUL

Representatives from Mato Grosso do Sul started a STEAM TechCamp program offered by the state school network and researchers from public and private universities. Elective classes on Arduino programming language were introduced at the Escola Estadual Amélio de Carvalho Baís, where students developed their scientific-technological projects for Science fairs. The representatives also offered counseling on robotics projects using the Code IoT electronics kit so that students could participate in different scientific exhibitions and held a scientific fair focusing on STEAM proposals.



## MINAS GERAIS

In Minas Gerais, STEAM TechCamp Brasil participants created science training groups split into four teams: Arduino, Lego Mindstorms, Chemistry and Entrepreneurship, and also conducted a Google Classroom training course for teachers. The participants mentored projects presented at various scientific exhibitions (Mostra de Ciência e Tecnologia Escolar, Feira Mineira de Iniciação Científica, Conferência Nacional Popular de Educação, Ferocit- RO, Feira Jovem – PE, UFMG Jovem, Feira de Ciências do IFMG – Campus Itabirito) and began reorganizing their science fairs according to education level, which enabled them to select students' projects that could be presented at other larger science fairs.



## PARÁ

The state of Pará has been conducting robotics workshops using the programming kits received at TechCamp. Additionally, in 2018, they held the I TechCamp Pará project show and the Reusetech Project – Reusing Solid Waste for Technological Education, which also included a robotics workshop. In 2019, they started the Movimento STEM a Alunos Surdos: Estímulos, Criatividade e Inovação (STEM Movement for Deaf Students: Stimuli, Creativity and Innovation), using the IoT kit.

## PARAÍBA

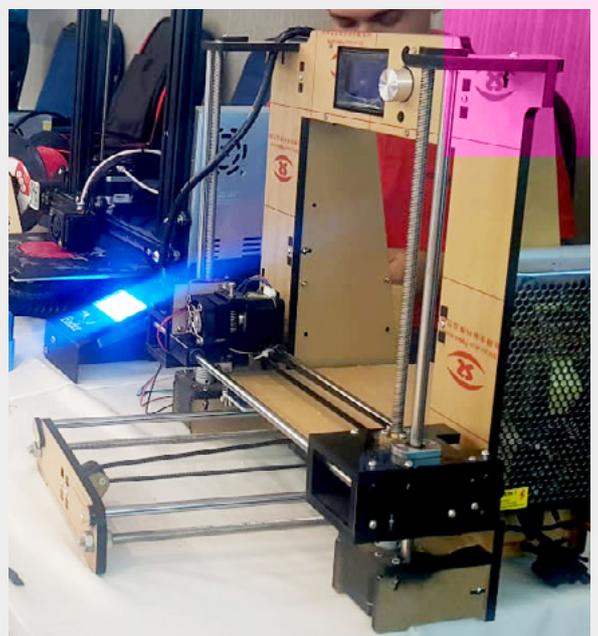
The Paraíba State Secretariat of Education implemented the methodologies and tools acquired at TechCamp in its #SeLigaNoEnemPB program, in which teachers and schools prepare students for the ENEM - Exame Nacional do Ensino Médio (National High School Exam). The promotion of robotics events, experimental practices in science and the use of games have also started to take place in schools around the state.

## PARANÁ

Representatives of Paraná, driven by the knowledge acquired at STEAM TechCamp Brasil 2018, managed to establish a partnership with SENAI - Serviço Nacional de Aprendizagem Industrial (National Service for Industrial Training) to enroll 20 students from the entrepreneurship program into Arduino programming classes offered by SENAI. By using this tool the students were able to pitch innovative solutions. Some of these solutions were presented during the Conferência Brasileira de Aprendizagens Criativas (Brazilian Conference on Creative Learning).

## PIAUI

The representatives from the state of Piauí applied their knowledge about STEAM acquired at TechCamp 2018 to organize robotics workshops with Arduino and mobile applications for teachers, and to create a laboratory for technology workshops in the Centro de Formação dos Profissionais da Educação Básica (Training Center for Basic Education Professionals) of the state school network. Additionally, representatives from the 2019 edition used the LudoBot robotics kits in their classrooms, supported and mentored students with projects for scientific events and exhibitions and also supported the participation of secondary level students in a virtual Game Jam in Canada.



## RIO DE JANEIRO

Several actions to promote the STEAM methodology in the state of Rio de Janeiro were conducted by the TechCamp participants, such as the implementation of a STEAM program at various levels of education, including training to help using STEAM during classes, an open WhatsApp group to facilitate the exchange of knowledge and experiences, science fairs involving schools that are far from the capital, such as the Feira de Ciências Municipal de Teresópolis (Teresópolis Municipal Science Fair) and the training of teachers for the use of STEAM.

## RIO GRANDE DO NORTE

In the state of Rio Grande do Norte, participants used the knowledge acquired during the STEAM TechCamp to organize a science fair at the Escola Estadual Professor José Nogueira, in addition to the STEM TechCamp Semiárido (STEM TechCamp Semiárid) and the Feira de Ciências do Semiárido Potiguar (Potiguar Semiárid Science Fair).



We work with technologies that involve science, technology and math in an alternative lab made from electronic scrap, which was the kick-off for many other projects. These other projects were recognized on a national level, such as the creation of materials for orthotics and prosthetics, and the creation of apps for people with special needs. And all this was due to the use of these technologies in the classroom and, beyond the school walls, in the community.

Ivanês Oliveira Alexandrino, E.E.E.M. Tristão de Barros, Rio Grande do Norte, STEAM TechCamp 2018 participant



## RIO GRANDE DO SUL

Rio Grande do Sul also uses the STEAM methodology at various levels, such as in the training on the practical uses of Arduino for students and teachers; the introduction of robotics classes in elementary schools; the creation of the STEM Geek program for secondary level students to get them into active contact with the methodology; the creation of a local TechCamp, nicknamed TchêCamp; and the initiation of a program that offers basic kits to introduce robotics and science training in its school network.



“

My colleague and teacher Flavia Twardowski attended the first TechCamp edition at USP and came back excited to apply what she had learned. Then we came up with an extension program for students from our institution and their community. Our school lacked an equipped lab, so we improvised in a classroom, and students from both primary and secondary schools attended. Usually at these workshops we give there is a high drop-out rate, but, with STEM, we've noticed that the completion rate was 90%. So it was very cool and, in the end, the students were amazed.

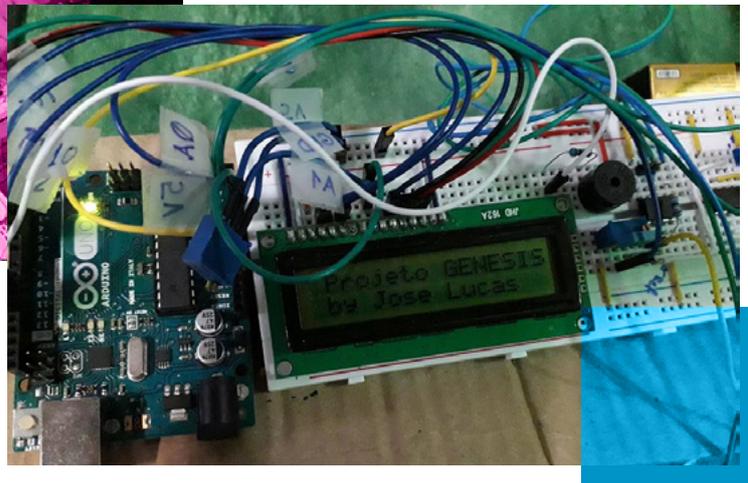
Cláudius Jardel Soares, Teacher at IFRS, Osório, Rio Grande do Sul, STEAM TechCamp 2019 participant

## RONDÔNIA

Participants from Rondônia used the inspiration and new knowledge acquired from the STEAM TechCamp to mentor students with scientific projects and organize science fairs in schools around the state.

## RORAIMA

In the state of Roraima, TechCamp participants are conducting workshops about robotics and rocket building with their students in the classroom, and addressing innovative practices using Arduino, Sketch and others. They are also supporting workshops for organizing science fairs and encouraging the participation of scientific initiation projects at national scientific events. In addition, they formed a partnership to hold the Feira Estadual de Ciências de Roraima (Roraima State Science Fair).



## SANTA CATARINA

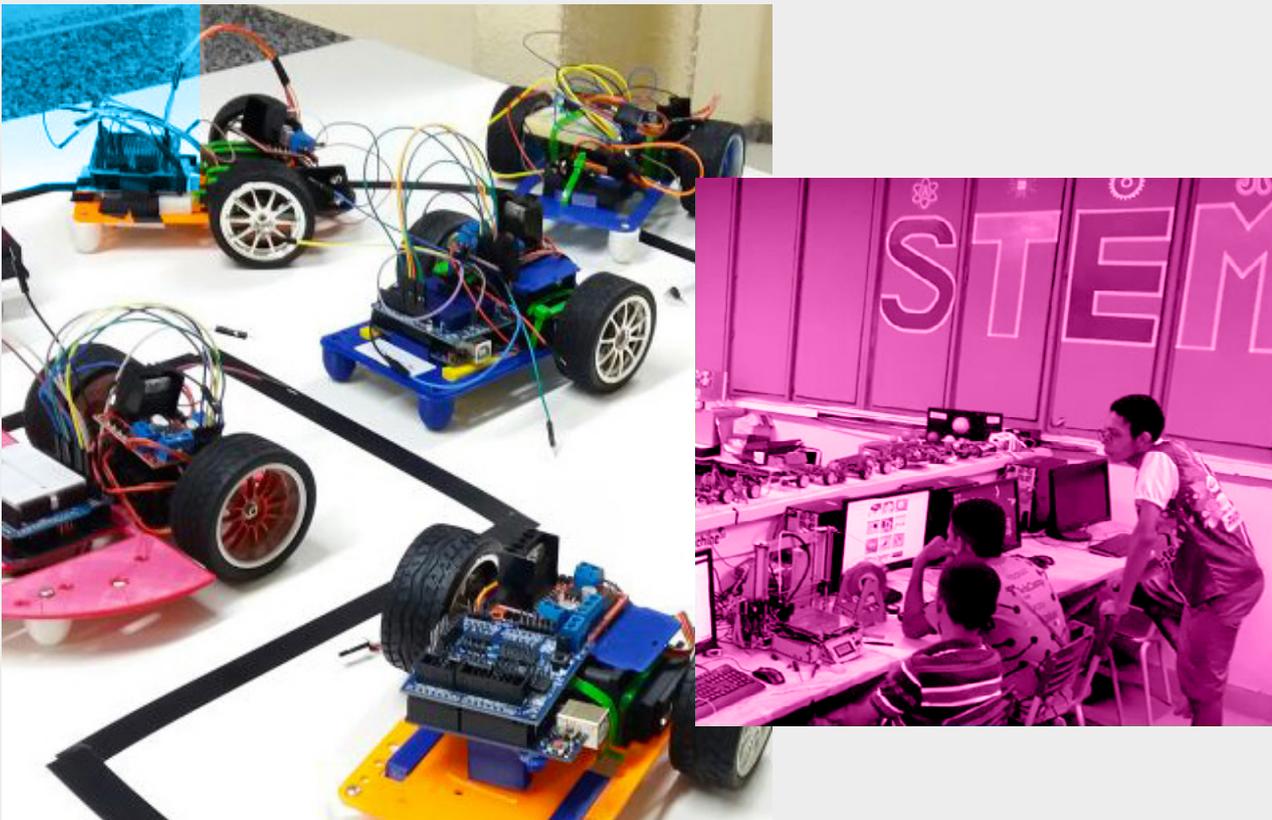
In Santa Catarina, a multilevel program is being conducted by representatives who participated at the TechCamp, which includes a training program for teachers, support meetings for schools, workshops for educational practices and a state science fair.

## SÃO PAULO

The representatives from the state of São Paulo used the new knowledge about STEAM acquired during the TechCamp to mentor secondary level students in state schools with their research projects. They also provided lectures at schools to disseminate STEAM practices.

## SERGIPE

In conjunction with teachers or entire schools, several initiatives were launched by the TechCamp participants from Sergipe. For example, they offered robotics and maker workshops with Arduino and 3D printing for students and an introduction course to 3D printing and Arduino for students and teachers. They placed a strong emphasis on the maker culture and the construction of educational objects for teaching STEAM and created STEAM challenges with the Code IoT Kit to introduce Physics and Chemistry concepts using sensors and Arduino.



## TOCANTINS

In Tocantins, participants in TechCamp encouraged the startup of a program for educators that teaches them how to use innovative methodologies and new resources, such as Arduino, in practical classes. Research activities were also implemented offering guidance for writing scientific papers.

## testimonials

“

STEM is our connection with the future of Brazil. Its importance is the teaching of innovative practices in basic education and innovation regarding modern technology, which is transforming the world. Brazil has a strong source of creativity and innovation, new industries, new technologies and what we are doing here is to work together to improve education and develop skills.



Michael McKinley, Ambassador of the United States of America, STEAM TechCamp 2018

“

What we are creating here is a learning community; a team of teachers and managers, together with a team from the academy with the support from the Embassy to exchange information on what is currently being done and what needs to be improved, to share strategies and technologies and, above all, we are going to think ahead, about new and different ways to make it all get to any student, to any school, to any teacher.



Roseli de Deus Lopes, STEAM TechCamp Brasil Scientific Coordinator, STEAM TechCamp 2018

“

TechCamp is a wonderful idea and I ended up learning many tools that will improve my work implementing STEM in my school. Sometimes it is difficult to organize ideas and work with large teams, and the tools that are being introduced here, like Design Thinking and Google's online collaborative tools, among others, will benefit enormously my work with others and they work with me. And this will certainly help us broaden our STEM work at the São Mateus campus.



Thiago Rafalski Maduro, Federal Institute of Espírito Santo, STEAM TechCamp 2018 participant

“

Young Brazilians are very prepared to come to ISEF. Not all schools have research programs or access to it, and young researchers in Brazil have conditions that are not ideal but are good for them to develop great research projects. What we find here at ISEF that is very different from what we find in Brazil is that here students have the autonomy to develop their research projects, so, when we pass by young people from the United States, we see that they develop their projects without having an advisor or supervisor, sometimes they get help from their father or mother, and that is very impressive. I've asked some of them what they did that is so different, and they said that they attend science programs that enable this awakening. One thing they have that is even more different than us, considering that we don't have the same autonomy, is that they can use the school's labs without a supervisor working with them. So I think this might be the biggest difference between us and them.



Flávia Santos Twardowski Pinto, Teacher at the Federal Institute of Osório, Rio Grande do Sul, STEAM TechCamp 2018 participant

“

In terms of the program for this year, all the participants are going to undergo a journey of interactive training led by top experts here in Brazil, as well as a handful of individuals from abroad. We are going to have representatives from the Smithsonian Institution's Science Education Center, leading Design Thinking experts coming from IDO in São Francisco, top data journalists from Chicas Poderosas across South America, Open Knowledge Brazil here in São Paulo and a handful of key professors and grad students from the Polytechnic Institute here at the University of São Paulo. With the first couple of days, participants are going to get the chance to have a 90-minute interactive training, where they can focus on these key methodologies and key techniques to add to their classes. For the second half of the program, the focus is going to be on the participants being in the driver's seat and working alongside their peers to come up with action plans that they can implement back in their school district.



Sam Gordon, TechCamp Program Manager at the U.S. Department of State, U.S.A., STEAM TechCamp 2019

“

Knowing that the work developed by STEM TechCamp participants in their regions is important for maintaining this program, I would like to share the experience I had at the end of September. Besides the work of developing STEM projects with students from the Centro Juvenil de Ciência e Cultura - CJCC (Youth Center for Science and Culture) in Vitória da Conquista and the mobilization with teachers from 8 other CJCCs and other schools in Bahia, I was invited to be one of the speakers at the I Encontro do Sudoeste da Bahia (I Southwest Bahia Meeting) that took place on the 27th and 28th of September. The theme of my speech was Technology and Education, and I had to dedicate a part of it to STEM. 400 teachers and managers from private and public schools from across the region attended the event. After the speeches, the participants asked many questions about STEM. I believe there will be developments from this, because many teachers were interested in knowing more about the topic. We keep working and multiplying what we have learned at the STEM TechCamp 2019.



Elmara Souza, Ph.D. in Knowledge Dissemination – UFBA,  
STEAM TechCamp 2019 participant

“

“I am thankful for the opportunity to participate in the formation of the STEM TechCamp at the beginning of the year and now of the STEM & English Immersion, as these were very important experiences for me, and have expanded my horizons and opportunities. I cannot forget about the unique experience of having participated in the ISEF. Being able to experience such a large, well-organized and structured scientific initiation as this event, in addition to meeting students and their incredible projects, can really make a difference. Therefore, participating in these experiences was fuel for motivation, for seeing how much education and science can make a difference in the lives of students and teachers. Finally, I would like to thank you all very much! Keep up the great work you have been doing year after year! I hope to see you again soon!



Bruno de Castro Rozenberg, Specialist in Public Policies and Government Management,  
State Secretariat of Education – SEE/MG, STEAM TechCamp 2019 participant

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I work at CAPES – Coordination for the Improvement of Higher Education Personnel, an organization attached to the Ministry of Education, at the Program for Training of Teachers for Primary Education. I was invited to attend this event, and we can see a highly qualified team and very interesting STEM initiatives, with very skilled people involved. We can't help but think of ways to use the expertise you have here in combination with other initiatives we already take part in, in order to boost such a good initiative as TechCamp.



Inaê Costa, CAPES – Coordination for Teacher Training  
Improvement, STEAM TechCamp 2019

“

I'm a trainer at TechCamp Brazil for the topic of rapid prototyping and paper prototyping of games and apps. I think what's really interesting about paper prototyping is that it's accessible to anyone, it can be done without access to technology, the internet or anything like that. I've never seen a program that takes people from every state and brings them together like this in such a unified way; I think that if we tried to do that in the U.S. it would be really difficult and so it's really great to see people coming from all around, from all different regions, with all kinds of problems and different strengths and weaknesses and just all coming together to work on some common goals. It's really wonderful.



Reuben Brenner-Adams, Interactive Developer – Smithsonian Institution, STEAM TechCamp 2019 instructor

“

It is our third year participating in the STEAM TechCamp and it is incredible to see not only the results that have come out of the Camps as projects of action that really came true but the evolution of the people that have come to participate in the TechCamp, as well as the structuring of the Camp itself, because, as we learn, we improve the techniques to guide the participants better, the campers, as we like to call them. I see that this is a very incredible opportunity to instrumentalize the teacher and the manager, and this combination of participants is also precious, because there we have both sides of the coin working together for actions, and we managed to instrumentalize them, bringing tools of methodology to help them better organize their thinking and ideation for these plans of action. I see how the result is achieved in a positive way through the projects, especially when campers from previous years present their good practices, their success stories. It is exciting to see these results being presented.



Soraya Lacerda, Casa Thomas Jefferson, STEAM TechCamp 2020 instructor

# conclusion



The 2018 and 2019 editions of the STEAM TechCamp Brasil program achieved the planned goals. In total 120 educators and state education managers planned and implemented new tools and dynamic program approaches in the STEAM areas to secondary level students. Through these participants, we were able to create relationships and networks with local professionals in each region and support and share STEAM practices via several initiatives such as organizing local TechCamps, science fairs, educational activities and courses and training in STEAM.

To achieve the positive results of the program, the strategy of involving a manager from the State Secretariats of Education and a teacher from each Brazil state with experience in managing school programs and classroom practices was fundamental. The selection of the participants was based on a refined strategy to identify educators who were already engaged and motivated to perform innovative actions and practices in their cities, and we observed that,

with their involvement, we were able to create an environment and a network that facilitated the sharing of experiences and stimulated the collective construction of STEAM-related learning practices.

The Workshop Week provided the participants with the opportunity to develop their action plans for the implementation of STEAM practices in each state, and the Small Grants program, offered to selected participants, stimulated the awardees to put their developed plans into practice.

Despite the achievements of the program, we faced several challenges. For example, some selected participants, including representatives of the Secretariats of Education and teachers, were not excused by their supervisors and were unable to participate in the program. In these cases, we had to replace them with other educators who also signed-up. Additionally, there was a teacher who was awarded a Small Grant but was unable to use the aid and continue the



program because it was not possible to perform both the school activities and grant activities at the same time. Others could not fully utilize the available financial resources, due to difficulties in securing required services and/or resources. Lastly, there were some instances of participants who left their positions at the Secretariat or school, consequently making it impossible for them to continue their action plan.

Despite these misadventures, the organization took all of the necessary measures to avoid losses and ensure that the program was a success, making the most out of the potential of the teachers and managers.

Altogether, in these two editions, all 27 Federation Units were reached, and the participants contributed to building a network of multipliers that has reached 461 cities, 1,032 schools, 17,248 teachers and 80,243 students. We believe that these significant results highlight the importance of continuing the action plans and activities from the STEAM TechCamp Brasil.

With continued support we believe that we can go even further and put even more educators, managers and students in contact with the potential of the STEAM educational approach.

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### **Support**

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National Council of Education Secretaries (Consed)

3M Institute



