# 2019-20 Annual Report

# DIRECTOR'S MESSAGE:

The Ventura County STEM (VC STEM) network celebrated its fifth birthday this year with many successes and opportunities for growth. The network was launched in December 2014 as

an initiative of the Ventura County P-20 Council with generous support from Amgen Foundation. We are grateful that Amgen Foundation has continued to support VC STEM with a $75,000 grant for the upcoming year. Over the past five years, VC STEM received recognition as one of the original 26 STEM Ecosystems in 2015 and as a City Network of US2020 (now Makers + Mentors) in 2016. We continue to serve as a model to other STEM Ecosystems across the nation.

During the past year, VC STEM went through a strategic planning process that led to a commitment to the network engaging in Collective Impact[1] with a focus on ensuring STEM Equity. Working Groups were formed during Summer 2019 that were aligned to four of the five conditions of Collective Impact (Governance and Agenda, Data and Shared Measurement, Aligned Activities, and Outreach and Continuous Communication). If you would be interested in joining one of these working groups, please let us know!

Our strategic planning process pointed to a need to update our Mission, Vision, and Goals that were originally created in 2015. The new Mission continues to point to the role of VC STEM as a "leadership hub for regional stakeholders who are working together to improve educational outcomes in STEM." As a hub, we connect organizations with the Vision that "all Ventura County students, especially first-generation, low-income, and/or underrepresented students, have access to high-quality STEM learning opportunities." While it is difficult to measure how VC STEM has impacted collaboration between organizations, we have many stories from our partners that support our impact. As an example, STEM leads from NAVFAC, NAVAIR, and NAVSEA partnered with Oxnard College to secure nearly $80,000 in grant funding to support 49 FIRST Robotics teams (21 existing teams and 28 new teams) from Ventura County.

We embark on an ambitious plan this year to develop measurement tools and data sharing partnerships that will allow us to measure the impact of STEM efforts in our county.
VC STEM is grateful to our AmeriCorp VISTA staff members (Claudia Magana, 2016-17; Gabriela McDaniel, 2017-18; and Colleen Tabor, 2018-19) who have built capacity a STEM Mentoring effort with the catchphrase, "*Kids Can't Be What they Cannot See: Get STEM Inspired!*" You can follow Colleen's work on building VC STEM's social media visibility on Facebook, Instagram, Twitter, and LinkedIn.
VC STEM piloted a unique Junior Scientist Project this past year that engaged over 300 middle school students and five teachers from four schools in authentic research experiences facilitated by STEM undergraduates and faculty from CSU Channel Islands. This program will double in size this year to engage 13 middle school teachers from eight schools and over 700 middle school students in this exciting program!

We look forward to launching a STEM Mentor Day in May 2020 that will connect STEM professionals to elementary school classrooms across Ventura County.

Director, VC STEM
Professor of Chemistry and Interim Director of Educational Partnerships, CSU Channel Islands

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## NETWORK OVERVIEW

The *Ventura County STEM Network* is an initiative if the local P-20 Council. With generous support from the AMGEN Foundation, VC STEM, for the past 5 years, has been working tirelessly to bring business, educators, parents and the community together, to improve educational outcomes in STEM (science, technology, engineering, and mathematics) for all Ventura County students. Our newly reimagined mission, vision and goals state:

## MISSION

The Ventura County STEM Network serves as a leadership hub for regional stakeholders who are working together to improve educational outcomes in STEM (science, technology, engineering, and mathematics) for Ventura County students.

## VISION

Members of the VC STEM network partner to ensure that all Ventura County students, especially first-generation, low-income, and/or underrepresented students, have access to high-quality STEM learning

UPCS Environmental Science Fair

## GOALS

VC STEM promotes this Vision through

CSUCI Summer Bridge Program

**INSPIRE** Pk-20 Students' interest and pursuance of stem as an educational path and future career

**ENGAGE** partners in cultivating a broader pool of students who are pursuing STEM related degrees and careers

**EDUCATE** PK-20 educators, leaders, and the community on high-impact STEM learning practices and encourage their adoption in formal and informal settings.

**COLLABORATE** to expand networking and resource sharing across sectors (Employers, Educators, Policymakers, Funders, and Others) to increase capacity to serve Ventura County PK-20 students

**Core Staff**

Dr. Phil Hampton, Chemistry Professor, Educational Partnerships Interim Director
Sandy Birmingham, Project Promesas Coordinator
Meagan Chiarmonte, Executive Assistant
Colleen Tabor, VISTA Staff member, Citizen Schools/US2020 Network
Jeff Hamlin, Educational Consultant
Anne Jernks , Educational Consultant

**Steering Committee**

Doug Askegard - *IEEE Buenaventura Professional Activities Chair*
Richard Duarte - *Board of Directors of the Boys & Girls Club of Greater Oxnard and PH*
Suzanne Godinez - *Director of Early Care and Education, Child Development Resources*
Dr. Phil Hampton - *Director of VC STEM; Professor of Chemistry, CSU Channel Islands*
Dr. Grady Hanrahan - *Associate Provost, California Lutheran University*
Dr. Cynthia Herrera - *Dean Institutional Effectiveness, Oxnard College*
Nathan Inouye - *Science Coordinator, Curriculum and Instruction, VCOE*
Dr. Marcella Klein-Williams - *Director, Project Acabado, Oxnard College; President - CI Park Foundation*
Jan Marholin - *CEO, Boys & Girls Club of Santa Clara Valley*
Dr. Tiffany Morse - *Director of Career Education, Ventura County Office of Education*
Monique Navarro - *Education Coordinator, Channel Islands National Park*
Patrick Newburn - *WDB Administration Manager, VC Workforce Development Board*
Dr. Bill Pratt - *Vice-President Operations, Kinamed, Inc.*
Jim Rose - *Director of STEM Business Development, GBL*
Cheryl Monson - *Expeditionary Warfare Center (EXWC) program manager for STEM*
Ramon Flores - *Naval Surface Warfare Center (NSWC) program manager for STEM*
Julie Marshall - *Naval Air Warfare Center Weapons Division (NAWCWD China Lake) program manager for STEM*
Tony Straight - *Naval Air Warfare Center Weapons Division (NAWCWD Port Hueneme) program manager for STEM*
Phillis Thrower - *Naval Air Warfare Center (NAWC) Weapons Division site coordinator for Point Mugu*

## National Affiliations

**STEM Ecosystems**

- VISTA Staff, Colleen Tabor
- Fall Convening, Kansas City
- Spring Convening, Newport Beach, CA
  Facilitated an E2E Workshop: *Measuring Collective Impact*

**Makers+Mentors Network** (formerly US 2020)

## Corporate Partnerships

- AMGEN Foundation
- ARCONIC Foundation
- Solve for Pattern
- Society of Manufacturing Engineers
- California Los Padres Chapter of the American Chemical Society

# HIGHLIGHTS FROM 2018-2019

## Strategic Planning Summit:

June 2019, at El Dorado Hall, CSUCI, with Consultant Michelle Slade

Key Outcomes:

- Reimagined Vision, Mission & Goals
- Refocused Action Groups:
  - Communications
  - Measurement
  - Governance
  - Aligned Activities

## Communications Upgrade

- VC STEM Twitter & Instagram postings, addition of TicToc
- Website update
- Monthly Newsletter/Mentor Opportunities
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# VC STEM Network Initiative

- **AMGEN Designated Monthly Mentor Opportunities -** Collaborating with the AMGEN Foundation to highlight a selected mentoring opportunity each month in hopes of engaging AMGEN STEM professionals to inspire the next generation of biologists, chemists, and engineers.

- **STEM Inspired Stories** - Stem Inspired Stories are interviews with STEM professionals conducted by CSUCI students. The interviews capture the human story behind STEM innovators. The stories then become polished podcasts and videos available through our online collection and can be used across the nation and around the world.

  Collection includes 9 AMGEN Mentors, 18 Ventura County STEM Professionals, and 8 CSUCI Faculty (added in 2018).
- **STEM Inspired Classroom** - STEM Professionals share their story in person and via video conference with classrooms across Ventura County. This series of interactions create lasting impacts on children by providing role models for them to emulate.
  - Emphasize STEM subjects currently being discussed in class
  - Makes real life application to studies being taught
  - Build excitement for the intersection of science, technology, engineering and math
  - Makes STEM careers visible
  - Brings the knowledgeable field trip docent to your classroom

  2018-19 saw ___mentors visit ____ classrooms in Ventura County

- **VC STEM 3D Self-Assessment Tool** - focuses on five attributes of quality STEM education. It continues to be highlighted and applied in the application process for the Golden Gear Award recognition.

## Partner Initiatives

Bedtime Math: http://bedtimemath.org - Rio School District
Crazy 8's Math Club: https://crazy8s.bedtimemath.org/home/what
Girls Who Code Clubs: https://girlswhocode.com
Girls in STEM: Oxnard Union High School District, https://youtu.be/U7BJa8as-VA
Junior Scientist: - CSUCI, Junior Scientists
Science Carnival - CSUCI, https://youtu.be/_bo4VRbvRCY
Engineering Summer Bridge: - CSUCI, https://youtu.be/FSnkpFQFIpA
Family Steam Nights: - The Discovery Center, http://discoverycntr.org/
STEM Innovation Challenge - CSUCI
VCOE STEAM Symposium - STEAM Symposium #5

## LEAD STEM

https://stemecosystems.org/lead-stem/
Lead STEM is a year-long leadership development program for STEM Learning Ecosystem members and emerging leaders. The program entails personalized leadership development through face to face and virtual meetings and a capstone project focused on an issue or initiative of great importance to the Lead STEM local ecosystem.

Dr. Phil Hampton, Chemistry professor at CSUCI, and Regan Bynder, Operations Specialist at VCOE Early Childhood Programs, collaborated to develop the *STEM Learning Starts at Birth* initiative designed to address systemic change in early educator STEM professional development, encouraging student-initiated instruction and collaboration across the pre-K to K-3 educational system.

Phil and Regan recently collaborated with The Reynolds Center for Teaching, Learning and Creativity and Education Development Center on an NSF Innovative Technology Experiences for Students and Teachers grant titled The Littlest Engineers Who Could: Building a STEM Toolkit to Nurture Engineering and Mathematical Thinking in PreK through Grade 1.

## STEMtastic! 2019

https://www.vcstem.org/stemtastic/

VC STEM Network's annual evening of celebration and recognition of high quality STEM education in classrooms and Expanded Learning through the Golden Gear Awards. We also recognize individual and corporate support for STEM education through our STEM Champions/STEM Radical recognitions, often presented by local officials. A highlight of the evening is a special STEM related keynote presentation to add wonder & inspiration

- **2019 Golden Gear Awards**
  - Ventura College CHILD DEVELOPMENT CENTER
  - Rio Del Norte 3- 5 GRADE STEAM
  - Hollow Hills Elementary FAMILY STEAM NIGHTS
  - Rio SUMMER SCIENCE ACADEMY
  - Oxnard Summer WRITING & SCIENCE CAMP
- **2019 STEM Champions - Individual**
  - Dana Navarro – National Board-certified Science Teacher, Conejo Valley USD
  - Cheryl Monzon - Intellectual Property and Technology Transfer Program Manager, NAVFAC EXWC
  - Tony Straight – STEM Program Manager, NAVAIR Warfare Center
  - Doug Askegard – Activities Chair, IEEE Buenaventura
  - Jan Marholin – CEO, Boys & Girls Club of Santa Clara Valley
  - Jim Rose – Director of workforce Development, Oxnard Chamber Commerce
  - Patrick Newburn – Administrative Manager, Workforce Development Board
  - Bill Pratt – Vice President Operations, KINAMED, INC.
  - Dr. Lorenzo Ramirez – Allies in STEM Program Manager, CLU
  - Candace Whitesell – STEM Lead, NAVAIR
  - Carina Morgan – STEM Program Manager, NAVFAC EXWC
  - Eyvette Sou – VCOE Volunteer, Hack-a-thon

- **2019 STEM Champions - Corporate**
  - American Association of University Women (AAUW), Camarillo Branch
  - Santa Paula Unified School District
  - STEMbassadors, Ventura CA
  - Ventura County Workforce Education Coalition
- **2019 STEM Radicals - Individual**
  - Dr. Ramon Flores – STEM Coordinator, Naval Surface Warfare Center & the Ventura County Board of Education
  - Dr. Tiffany Morse – Director of the Ventura County Career Education Center, now Superintendent, of Ojai Unified School District

  - Nathan Inouye – Science Coordinator, Ventura County Office of Education, President of Gold Coast Science Network
  - Ron Solórzano – Librarian, Ojai Public Library, Ventura County Libraries
  -

- **2019 STEM Radicals - Corporate**
  - Naval Facilities Engineering & Expeditionary Warfare Center

  *For the full listing of all of our VC STEM Champions visit our website: https://www.vcstem.org/vc-stem-awards-and-recognitions/stem-champions*

- **Keynote:** Dr. Jeff Vinokur - *The Dancing Scientist - "So You Think You Can Do Science"* https://www.dancingscientist.com/

  **Dr. Jeff Vinokur**, has a PhD in Biochemistry from UCLA and has conducted biofuels research there. He hosts a kids science show on www.GenerationGenius.com and specializes in demonstrating science through TV shows and inspirational school assemblies. With 25+ million YouTube views, he has a contagious passion for science and a talent for teaching. His presentation has been performed at the Smithsonian Institute, The World Science Festival, The USA Science & Engineering Festival, and over 400 schools coast-to-coast.

## Network Convenings
## https://www.vcstem.org/convenings/

VC STEM May Convening 2019

**January 2019**: VC STEM Network Convening – STEM in Early Learning

- Research regarding engaging children with STEM from Birth to School
- Early Childhood Curriculum
- STEM Ecosystems Early Learning Leadership Project

**May 2019**: VC STEM Network Convening & Resource Fair

- Announcement of the Golden Gear Recipients for 2019
- STEM Resource Fair with 12 partnering organizations sharing their STEM activities and available resources.

October 2019: **STEMTastic! Celebration,** Oxnard College Performing Arts Center. Keynote: Dr. Jeff Vinokur - *The Dancing Scientist*

**Partnering Organizations**
https://www.vcstem.org/partners/

- Ventura County P-20 Council https://www.vcp20.org/
- Ventura County Office of Education https://www.vcoe.org/
- Ventura County Libraries https://www.vencolibrary.org/
- NAV SEA https://www.navsea.navy.mil/
- NAV AIR https://www.navair.navy.mil/
- NAV FAC https://www.navfac.navy.mil/navfac_worldwide/specialty_centers/exwc.html
- IEEE Buenaventura Chapter https://embs.ieee-bv.org/EMBS/
- Workforce Education Coalition https://www.workforceec.org/
- Workforce Development http://www.workforceventuracounty.org/
- The Discovery Center http://discoverycntr.org/
- Channel Islands National Park https://www.npca.org/parks/channel-islands-national-park
- MERITO Foundation https://www.meritofoundation.org/
- Students for Eco-Education & Agriculture (SEEAG) https://www.seeag.org/
- Boys & Girls Club Santa Clara Valley http://www.bgclubscv.org/
- Boys & Girls Club Oxnard & Hueneme https://bgcop.org/
- STEMbassadors https://www.stembassadors.net/
- 12th District PTA - http://www.12thdistrictpta.org/

**Partnering Educators**
https://www.vcstem.org/partners/

- California State University, Channel Islands
- California Lutheran University
- Ventura County Community College District
- Oxnard College
- Ventura College Child Development Center
- University Prep Charter School
- Rio School District
- Simi Valley School District

- Oxnard School District
- Ventura Unified School District
- Oxnard Union High School District
- Santa Paula Unified School District
- Somis Union School
- Mesa Union School

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(1) Collective Impact: https://www.collectiveimpactforum.org/what-collective-impact. Wikipedia: "the commitment of a group of actors from different sectors to a common agenda for solving a specific social problem, using a structured form of collaboration." https://en.wikipedia.org/wiki/Collective_impact.