



## High School STEM Innovation and Ohio College Scholarship and Retention Program

### STEM + Development of an Entrepreneurial Mindset = Innovation = Jobs

Testimony of John Klipfell, Michael Woytek and Angela McMurry to the Senate Finance Committee, Senator Matt Dolan, Chair, Senator Dave Burke, Vice Chair, and Senator Vernon Sykes, Ranking Member - May 22, 2019

Request for your support to fully fund Appropriation Item 235597, High School STEM Innovation and Ohio College Scholarship and Retention Program in Ohio's 2020-2021 Budget \$7,433,000 (\$3,530,000 in FY 2020 and \$3,903,000 in FY 2021). Sub. H.B. 166

Chairman Dolan, Vice Chair Burke, Ranking Member Sykes, members of the Senate Finance Committee. Thank you for allowing us to offer testimony requesting you to fully fund Appropriation Item 235597 High School STEM Innovation and Ohio College Scholarship and Retention Program in the 2020-2021 Biennial Budget in the amount of \$7,433,000 (\$3,530,000 in FY 2020 and \$3,903,000 in FY 2021). Sub. H.B. 166

Popularly known as the *Believe in Ohio* Program, this \$7.4 million appropriation is designed to create a "Culture of Innovation" in Ohio's high schools and an innovation pathway between Ohio's high schools and Ohio's colleges and universities as originally recommended by the Ohio Board of Regents.

It does this by re-establishing the *Believe in Ohio* Program as the foundation for a "High School STEM Innovation and Ohio Scholarship and Retention Program" which is designed to reach every one of Ohio's 99 House and 33 Senate Districts. (Two-thirds of the \$7.4 million is for scholarship awards for Ohio students.)

We respectfully request your support to increase this appropriation from the House passed \$1 million in FY20 and FY21, to a fully funded \$3.53 million in FY20 and \$3.9 million in FY21.

My name is John Klipfell. I am Executive Director of Entrepreneurial Engagement Ohio (EEO), which is an educational and entrepreneurship not-for-profit based in Cleveland. I am here with Mike Woytek, Executive Director of the Ohio Academy of Science (Academy). Mike and I are the Co-Directors of the *Believe in Ohio* program. With more than 1,400 members and a network of thousands of supporters and volunteers, the Academy is the only organization in Ohio with the experience, infrastructure and ability to make *Believe in Ohio* a reality.

Also, with us today is Angela McMurry, who is a high school biology teacher at Arcanum High School in Darke County. Angie is also President of the 1,500-member Science Education Council of Ohio and Chair of the National Science Teachers Association Midwest Regional Conference, which this year will be held in Cincinnati. Ms. McMurry also serves on the Executive Board of the Ohio Academy of Science and was formerly the Lead STEM Advocate for the *Believe in Ohio* program. Arguably, more than any other person in the State, Angie has her finger on the pulse of what's happening in Ohio's STEM classrooms, and what needs to be done now.

Mike, Angie and I are here today, because we believe that Ohio is at a *tipping point*. Simply stated, will the State fully embrace today's Innovation Economy by investing in and engaging its youth, or will the State continue its slow but steady decline in population, prosperity and importance relative to the rest of the USA.

In the year 2000, author Malcolm Gladwell published a book called *The Tipping Point*. The book described that "*THE TIPPING POINT IS THAT MAGIC MOMENT WHEN AN IDEA, TREND OR SOCIAL BEHAVIOR CROSSES A THRESHOLD, TIPS, AND SPREADS LIKE WILDFIRE.*" In Ohio, we believe that fully funding the *Believe in Ohio* program can be the catalyst that will help spark a "Culture of Innovation" in our youth that can, over the long term, enhance and ensure our State's prosperity.

Twenty years ago, as CEO of an Ohio based Internet company I frequented Seattle and Silicon Valley. I would often be one of a very few, if not the only person from “flyover” country at conferences and involved in deal negotiations. What I often saw was how the tech elites looked down on people from the Heartland. Ever since, I have been inspired to prove the tech elites wrong, as I know that Ohioans are every bit as capable.

Over the last fifteen years, I have mentored in more than forty Ohio high schools, spoken at forty-three STEM Forums for high school students on Ohio college campuses (altogether more than 15,000 students) and I am convinced that Ohio students can compete with anyone, if we can open their eyes to all that Ohio has to offer, and inspire them to be the innovators and job creators of the future. This is what *Believe in Ohio* is all about. This is why we are here today to ask you to fully fund the *Believe in Ohio* program.

The President of my organization is Dr. Julian Earls, who was formerly the Director of NASA Glenn Research Center, is currently a special advisor to the President of Cleveland State University, and is a life-long advocate for youth STEM education, especially in our urban areas. In 2007, he and OSU President, Dr. Karen Holbrook, co-chaired *the Science and Mathematics Education Policy Advisory Council (SAMEPAC)* for the State of Ohio, which made policy recommendations for improvements in STEM education in Ohio. However, as too often happens, those recommendations were largely placed on the shelf and not implemented.

In 2012, the Ohio Board of Regents led a Commercialization Task Force which included recommendations to create an innovation pathway between the K-12 education system and the University System of Ohio. At that time, EEO and the Academy of Science came together to develop the *Believe in Ohio* program to implement a number of Task Force recommendations. In 2013, the General Assembly appropriated \$5 million to develop the program, which was successfully implemented during 2014-2016 and included over 300 teachers, 150 high schools, 10,000 students. However, in 2016-2017, funding for the program was not renewed due to budget shortfalls.

Since then, we have evolved and improved *Believe in Ohio* with the goal to retain our best and brightest and highest potential entrepreneurial and innovative students in Ohio. One important program element is to award two hundred and thirty-five \$10,000 Innovation scholarships annually, as part of a program to encourage our high school students to continue their education and careers in Ohio. Consider this:

1. Ohio has already invested in this program and its infrastructure. Why throw that investment away?
2. Between 2012 - 2023 the number of Ohio high school graduates will decline by more than 16%, which is creating recruitment problems and financial issues for Ohio colleges and universities.
3. In most parts of Ohio, the population is stagnant or declining. While efforts are being made to “attract” people to Ohio, little is being done to retain our talented young people in our state, before they leave.
4. About one in five Ohio students who attend four-year colleges go out-of-state. These include many of our most innovative and entrepreneurial students. More needs to be done to address and curb Ohio’s brain drain.
5. Most high school students and parents have little knowledge of why Ohio is a good place for students to create their futures. For many, if not most, Ohio is still the “rust belt”, a place to move away from.
6. While Ohio has programs to help develop and incubate startup companies, programs to attract/retain existing companies, and programs to train/retrain workers for unfilled jobs, it does little to retain our most innovative students in Ohio. *Believe in Ohio* seeks to do that.
7. Once established, Ohio companies, foundations and individuals will be encouraged to fund additional \$10,000 scholarships to be awarded to students within a district, county, or city as designated by the donor.

**My name is Mike Woytek, and I also believe that Ohio is at a tipping point and needs to fully fund this program:**

8. To meet the demands of the labor market in a time of rapid technological change and industry disruption, today’s students need rigorous science and mathematics coursework to satisfy the needs of an ever-changing

marketplace. So, let's focus on providing an experiential learning opportunity that not only excites students, but develops their critical thinking and problem-solving skills and encourages lifelong learning. That program already exists and has been successfully implemented. It's *Believe in Ohio*.

9. *Believe in Ohio* addresses the question that students always ask, "why do I need to learn this stuff, anyway?" Through self-discovery, *Believe in Ohio* provides students with a sense of purpose and direction for planning post-secondary education and career orientation. It emphasizes the importance of STEM and the need to develop an entrepreneurial mindset to compete in today's Innovation Economy.
10. *Believe in Ohio* provides a curriculum that allows students to explore their own areas of interest by commercializing solutions or developing products through a STEM research plan or technological design. This allows students to teach themselves by understanding and valuing the necessary resources needed to complete a project, including the proper background and training in the sciences and mathematics.
11. Other than a small group of mostly private and upper demographic public schools, few of Ohio's 1,000+ high schools have access to the resources and programs needed to prepare their students to be "competitors" in Ohio's innovation economy.
12. To the extent that other programs do exist, they largely operate in their own silos. *Believe in Ohio* will be uniquely positioned to bring together existing STEM programs and partnerships between industry and educators across the state.

**My name is Angela McMurry, and I also believe Ohio is at a tipping point and needs to fully fund this program:**

13. We are at a critical crossroads with students in Ohio. Our districts are more concerned with ratings on report cards, which are influenced by standardized test scores, than the true inspiration of our future generations.
14. Innovation is not standardized...it's unique and authentic. When *Believe in Ohio* existed throughout the state, I was able to see excitement in the classroom. I saw classrooms embracing creativity and innovation instead of drudging through canned labs, activities and projects. I witnessed students from small rural towns having a vision of college and an advanced future that would not have been the case before. Their ideas and dreams no longer have to stay silent in their minds simply because of their location in Ohio.
15. Since returning to the classroom, I have noticed that our students are increasingly more concerned with their social media than anything that could impact their future. I also find that students are increasingly afraid to fail, so they don't stretch themselves.
16. I believe that we are on the cusp of seeing an entire generation where most significant advancements in STEM will not be led by our American (and Ohio) students, but by students from other countries where creative learning opportunities are more embraced.
17. We should not settle for the "status quo." We need our students to lead...with their heart and their minds. The opportunities that the *Believe in Ohio* program offer our students can change the directional path for our students...and our future.

**We are here today, because we believe that Ohio is at a *tipping point* and that the State needs to embrace today's Innovation Economy by investing in and engaging Ohio's youth.**

**While we thank the House for recognizing the value of the *Believe in Ohio* program, we ask the Senate to fully fund Appropriation Item 235597 *High School STEM Innovation and Ohio College Scholarship and Retention Program* to allow us to fully implement the program.**