

Interested Party Testimony
Senate Finance Primary and Secondary Education Subcommittee
Substitute HB 166-State Operating Budget
May 9, 2019

Chair Terhar, Vice Chair Lehner, Ranking Member Fedor, and members of the Senate Finance Primary and Secondary Education Subcommittee – Thank you for the opportunity to provide testimony on HB166 in support of our request for \$500,000 per year for the STEM Educator Professional Development Collaborative. It will provide professional development and strategic training for teachers in the STEM fields that is tailored to each region of the state and community in which teachers teach – all inside an incubator setting that enables teachers to test instruction before bringing it into their classrooms and provides a full year of support following the training. Through a unique collaboration with the PAST Foundation, we will reach across the state to provide this much-needed professional development for teachers to ensure students obtain effective STEM education that engages and inspires and ultimately, helps develop the next generation of STEM workers, entrepreneurs and leaders.

My name is Grady Burrows and I serve as the Director of Health IT Talent for BioEnterprise.

BioEnterprise works directly with businesses in the STEM fields primarily around health innovation, including health IT and cyber. We have helped 320 companies grow and succeed, providing hands-on services that range from writing the business plan to recruiting talent and providing workforce training to conducting market research and pitching to venture capitalists. We play an integral role in finding the talent needed to grow businesses in Ohio and in building a diverse STEM pipeline that meets the needs of high-tech employers.

One of our programs is called Health IT Community Classroom because so many companies need a workforce with computer science and data management skills and knowledge. In this effort, we have seen a dearth of teachers in STEM and in computer science, in particular. Even though an increase in statewide demand for STEM professionals is projected to grow over the next five years, including a 12% increase for software developers alone, coding and broad computing concepts that include algorithms, data, programming and software engineering are not being offered to most Ohio students.¹

Within Northeast Ohio, Team NEO, the regional business and economic development organization found 65% of in-demand jobs by 2020 will require education or training beyond high school, yet only 54% of

current Northeast Ohioans could qualify for those jobs. Of the 3,592 schools in Ohio, only 141 of them offered an AP Computer Science course in 2017-2018.¹ Also, too many youths are losing interest in STEM. Of the one million high school freshmen who declared an interest in STEM education, 57 percent lost that interest by the time they graduated and began looking toward college or full-time work, according to a recent study.² Moreover, universities in Ohio did not graduate a single new teacher prepared to teach computer science in 2016.

We are losing the next generation and destroying our state's ability to remain a national leader in innovation if we do not invest in STEM education, starting with our teachers. Ohio is the birthplace of aviation, the first automobile self-starter, countless health innovations and a one-of-a-kind Ohio Cyber Range that doesn't exist in any other state in the country. This innovation will not continue unless we foster it.

Our focus is on training teachers because far too many teachers lack the confidence to teach STEM and do not know how to weave STEM into their instructional methods. If we don't start with the teachers, we will not have the students or workforce talent needed to fill STEM jobs now and in the future. Schools are struggling to provide access to STEM courses with a severe shortage of effective STEM educators and more than half of public school districts throughout Ohio and across the country report difficulties recruiting and retaining knowledgeable STEM teachers. Having a vibrant workforce pipeline with a pool of diverse and qualified talent in STEM is among the top factors the businesses we work with every day consider in staying in, expanding or relocating in Ohio. Our state is far behind the curve when it comes to building or sustaining a pipeline of qualified STEM and IT workers.

BioEnterprise is teaming up with the PAST Foundation, based in Columbus and already engaged in training educators across the state. We also collaborate with 21 community partners including philanthropic and corporate sponsors, hospital systems, institutions of higher education, and local school districts that formed the Northeast Ohio Health IT Talent Collaborative to enable instruction from coding professionals from IBM Watson Health and Tech Core using a curriculum provided by Hyland Software:

• Baldwin Wallace University	• Cuyahoga County Community College	• North Olmsted City Schools
• BioEnterprise	• Hyland	• North Royalton City Schools
• Case Western Reserve University	• IBM Watson	• OnShift
• Cleveland Foundation	• John Carroll University	• Pandata

¹ Code.org; "Support K-12 Computer Science Education in Ohio"

² myCollegeOptions and STEMconnector, Where Are the STEM Students?, USA, 2013

Growing Northeast Ohio's Bioscience Industry

<ul style="list-style-type: none"> • Cleveland Metropolitan School District 	<ul style="list-style-type: none"> • Kent State University 	<ul style="list-style-type: none"> • PartsSource
<ul style="list-style-type: none"> • Cleveland State University 	<ul style="list-style-type: none"> • Lorain County Community College 	<ul style="list-style-type: none"> • The Ohio State University
<ul style="list-style-type: none"> • CoverMyMeds 	<ul style="list-style-type: none"> • MetroHealth 	<ul style="list-style-type: none"> • University Hospitals

Thank you for your consideration. We hope to have garnered your support of the STEM Educator Professional Development Collaborative to provide proven effective professional development and strategic training for teachers in the STEM fields, tailored to each region of the state and community in which teachers teach and using an incubator setting that enables teachers to test instruction before going into classrooms. It also provides a full year of support following the training, which is unheard of in teacher training programs. Through a unique collaboration with the PAST Foundation and STEM businesses, we will reach across the state to provide this much-needed professional development.

I am happy to answer any questions.

Grady Burrows
 Director, Health IT Talent
 BioEnterprise
