MassBio, the Mass Technology Leadership Council (MassTLC) and leaders from life sciences, technology innovation, academics, venture capital and government gathered on May 13 to explore the challenges and emerging opportunities in life sciences information technology and informatics (LSIX) in the region.

The event, Life Sciences Informatics: The Massachusetts Opportunity for Global Leadership, was held at the Microsoft New England Research and Development Center. It explored the market opportunities at the intersection of life sciences and technology and how life sciences companies and healthcare organizations across Massachusetts are collecting data—from genome sequences to drug screens, clinical trial data, electronic medical records, claims data and even patient-reported data.

“If we can utilize our partners in technology, that will only make us more dominant in research and development,” said MassBio President & CEO Robert K. Coughlin. “Time is precious. Any opportunity to work together as industries to do our job better will benefit patients.”

“As we look at technology, it’s not one thing,” said MassTLC President & CEO Tom Hopcroft. “It’s security, mobile communications, robotics—many things. We want to use that technology to help solve real problems and help people live longer and healthier lives.”

R.T. (Terry) Hisey, Life Sciences Senior Strategy Principal of Deloitte Consulting, delivered the conference keynote, highlighting strategic ways in which companies are leveraging informatics and becoming insight-driven organizations.

Newton North High School students explored biotech at Genzyme during Career Exploration Day on April 15 organized through MassBioEd's BioTeach program.
Reflecting on 30 Years as the Industry’s Voice

As we recognize MassBio’s 30th anniversary as a trade association—and the world’s very first biotech trade association at that—I’d like to take this opportunity to thank you all for your continued support over the years and to celebrate how far we’ve come.

Looking back at 1985, a new industry was emerging called genetic engineering and leaders thought a trade organization to represent the collective voice might help guide policymakers in developing regulations. Today, Massachusetts is the world leader in the life sciences. It is a great achievement to have accomplished so much in 30 years, but we must continue to take a leadership role in articulating the value of our industry—to the economy, to the healthcare system and, most importantly, to patients around the world.

We have had a busy spring, and hope all of you who attended our signature events—the 2015 Annual Meeting and the first ever Life Sciences Informatics Conference—enjoyed the panels, speakers and networking opportunities. At our Annual Meeting, we continued critical conversations on defining value in healthcare and innovative early-stage funding models. At the LSIX Conference, we discussed the life sciences informatics funding environment, emerging opportunities and innovative partnerships.

Coming up, I encourage you all to attend the 2015 BIO International Convention in Philadelphia, as well as BioPharm America, right back here in Boston.

We look forward to working with you throughout the remainder of this very special year. I cannot wait to see what the next 30 years will bring.

Robert K. Coughlin is President & CEO of MassBio.
What’s your favorite part of being a MassCONNECT mentor?

Seeing startups evolve as the weeks go by: the final showcase pitches are usually much more crisp, focused, confident and compelling. Even more “favorite” is seeing the startup then attract interest and funding from investors, business plan competitions, SBIR’s, etc. I also enjoy the connectivity and interaction with other mentors and with the investment community. We all learn from each other.

What is one piece of advice you’d like to share with budding entrepreneurs?

Focus on your audience — who are they, what do they care (or not care) about, how will your company solve a problem for them. Tell the story as a problem in search of [your] solution, not the other way around!

What have you learned in your role as an advisor?

The importance of a balanced mentor team, both in expertise that is relevant for the startup and in willingness to commit time to the program.

What is one piece of advice you’d like to share with budding entrepreneurs?

Focus on your audience — who are they, what do they care (or not care) about, how will your company solve a problem for them. Tell the story as a problem in search of [your] solution, not the other way around!

What is one piece of advice you’d like to share with budding entrepreneurs?

Interesting technologies in search of a market tend to be less successful. Having mentored many companies through MassCONNECT, the successful entrepreneurs are those who listen well and can incorporate input from their mentor team while channeling their own and the team’s resources into a comprehensive business story. Identifying the unmet need, providing a competitively advantageous solution, and mapping this onto a business plan with funding requirements has been a common theme of the many successful MassCONNECT graduates.

What have you learned in your role as an advisor?

The importance of a balanced mentor team, both in expertise that is relevant for the startup and in willingness to commit time to the program.

What is one piece of advice you’d like to share with budding entrepreneurs?

Focus on your audience — who are they, what do they care (or not care) about, how will your company solve a problem for them. Tell the story as a problem in search of [your] solution, not the other way around!
Annual Meeting fuels discussion on innovation and efficiency in bringing products to patients

Closing out MassBio’s 2015 Annual Meeting, executive Andrew Lo—a professor at MIT’s Sloan School of Management and one of TIME Magazine’s most influential people—presented attendees with a pointed solution to one of our biggest challenges: curing cancer.

“We have some of the world’s most advanced healthcare centers versus walking distance, as well as the world’s best academic centers and the world’s most vibrant biotech community,” said Lo. “But we have one of the world’s largest unmet management concerns. We ought to bring that into the discussion.”

Lo said that while many investors are currently putting their money in “tumor-busting firms,” they should collectively be looking at the bigger picture. He shared his vision of Massachusetts curing cancer through a creative megafund, advised by a board of scientific and business experts. If every eight percent of the state’s population invested $3,000 of their 401K to the fund, that would equal $30 billion to be invested in a multitude of cancer projects.

“One of 100 investments, there’s a 99.9 percent chance that at least one will succeed,” said Lo. “We’ve almost surely generated a guarantee.” Disagreements change the risk of the business.

More than 400 biotechnology industry leaders gathered for the Annual Meeting, held at the Bay State Hall in Cambridge. It took place over two days, March 26-27, and included discussions on precision medicine, defining value, reimbursement and market access, innovative ways to fund early-stage companies and more.

The event’s opening keynote speaker, Kathy Guisti, Founder and Executive Chairman of the Multiple Myeloma Research Foundation, shared her vision of a world where patients better understand their disease, even as that disease evolves and changes.

“As a patient myself, I know my genetics early on,” said Guisti, who was diagnosed with multiple myeloma in 1998. “We’ll like to see a world where every patient knows their risk, subtype and evolution. With genomics, there’s a constant need for innovation because of the high risk of relapse, which is why it’s important to understand the genomics of our disease. I’ve often found myself acting like a concierge, guiding people to the right question and experts.”

Since establishing the Multiple Myeloma Research Foundation in 1998, seven new drugs have been approved, nearly 30 treatments are in clinical trials and the life expectancy for patients has tripled. The foundation’s UnMalignant Story helping researchers gain access to key patients’ genetic data and learn how patients respond to therapies, and the resulting data is placed on a public portal. Guisti and the more information patients give, the more their specific journeys can be mapped out for them.

“The truly bring value to patients, speed and efficiency are critical parts of the equation,” said Guisti. “Every patient gets to put their feet on the ground for one reason—the hope that there will be a cure in their lifetime. I have been given so much time. I’m standing here today because of companies that believed in drug development. Know the importance of what you’re doing and how much we appreciate it. If this is giantful, multiply that by hundreds of thousands.”

During a keynote address on precision medicine, panels included Sarah Emond, Vice President of Communications and Government Affairs of Foundation Medicine, followed up on Guisti’s vision of messaging communications and information sharing to advance research and drug development.

“If we look at cancer not as a disease of the body part but as a disease of the genome, we’re able to match the right person with the right treatment at the right time, based on their genetic profile,” said Emond. “As a patient, you don’t have months and months to get educated. It is unaffordable. When patients come to us, we help them to assimilate with a comprehensive profile to match the most effective genetic driver[s].”

The panel also included David Altshuler, Executive Vice President of Global Research and Chief Scientific Officer of Varian Pharmaceuticals, Walter Cohen, Chief Scientific Officer and General Manager of Nucana Diagnostics, and moderator Jeff Elton, Managing Director of Life Science at Accomplice.

“Advocacy is so important,” said Cohen. “We need to educate the patients about what’s available to them. Not all diagnostics are created equal and we as consumers need to be getting the right information.”

During a panel on defining value, Sarah Emond, Chief Operating Officer of the Institute for Clinical and Economic Review, defined the value of a product in two ways: (1) is it affordable and (2) does it work well?

“If medicines have dialogues with patients and insurers up front, they can better work within their expectations,” said Emond.

Other panels included Christopher Hassell, President of the American Cancer Society, Cancer Action Network, Inc., and William Sibold, Senior Vice President and Head of Multiple Sclerosis at Genzyme. MassBio Board Chair Glenn Batchelder of Amicus Therapeutics, served as moderator.

“Foundations like the Multiple Myeloma Research Foundation or the Michael J. Fox Foundation do a good job in engaging the patient in the process,” said Batchelder. “The more we get the patient involved, the more the patient will own their own health.”

Also at the meeting, MassBio celebrated its 30th anniversary and unveiled a new mission statement to advance Massachusetts’ leadership in life sciences to grow the industry, and add value to the healthcare system and improve patient lives.

“We are taking this time this year to reflect back on what we’ve been and the people and companies who have made us who we are today, while at the same time engaging in the conversations that will define who we will be 30 years from now,” said MassBio President and CEO Robert K. Coughlin. “This is an industry that in some ways has progressed light years since 1985. Today, Massachusetts is home to nearly 60,000 biotech employees, 21 million square feet of life space and companies with 1,500 leaders in the pipeline.”

Coughlin recognized his predecessors as CEO of MassBio, Jeannette Roan and former House Speaker Thomas F. Fitton, who were both in attendance. He also extended seven new board members: Tim Clackson of ARO Pharmaceuticals, Chris Goobin, Sara French of Angen, Melora Beauchaud Ayog of Amicus Pharmaceuticals, Anthony Lovern of Suneva Pharmaceuticals, John Orton of Biotech Balance and Michael Pellino of Founding Medicine.

Massachusetts Secretary of Housing and Economic Development Jay Ash introduced himself to attendees, piquing the Baker administration’s commitment to advancing the Massachusetts life sciences industry.

During the awards ceremony, Mark Levin, co-founder of Third Rock Ventures and an industry leader with 40 years of experience, was presented with the 2014-15 Entrepreneur Innovation Award for his passion for improving patient lives through disruptive technologies and innovative science.

“Mark personally influenced many of the leaders in Boston’s biotech community,” said Batchelder, who worked with Levin at Millennium Pharmaceuticals. “Delivery on his bold vision during those early days set the stage for innovation in our industry today.”

“What a privilege it’s been to work with so many ‘visionaries in this industry,’” said Levin. “If you put together great people, you can do anything.”

Levin, who started out in Silicon Valley and described Boston as evolving from “sleepy town” to the hub of activity, spoke about bridging territories in order to advance more therapies and cures.

“The tools and technology of our future are not all here in Massachusetts,” said Levin. “How do we work with Silicon Valley or with China or with whom best for patients?

“We want to be No. 1, but we need to work together in this global setting to make a difference.”

The Joshua Rogers Innovative School of the Year Award was presented to Barnstable High School. Barnstable was selected as a BioTeach School in 2013 and has since introduced a biotechnology course and a forensic pathology class to all its students. The school has added a biotechnology class and a pathology and forensics class. Student interest and enrollment has increased, and Barnstable has enriched its science programs through new external partnerships and student-driven research projects.

“I would love to continue my learning and will major in bioengineering next year,” said Barnstable High student Samantha Delaney. “Being able to go through the techniques in the lab, actually seeing the equipment that we’ve been given, really helped solidify my decision to pursue that path.”

Dr. Michael F. Collins, Chancellor of UMass Medical School was presented with the MassBio Leading Impact Award for his work across the universe to forge new and innovative partnerships with the life sciences industry. The award was accepted by Drummond Leary, Executive Vice Chancellor of Innovation and Business Development.

Sarah Emond, Christopher Hassell, William Sibold and Glenn Batchelder participated in a discussion on defining value.

Keynote speakers were Andrew Lo, left, and Kathy Guisti.

Susan Hagee, Walter Camery, David Altshuler and Jeff Elton discussed the opportunities of precision medicine.

Mark Levin was presented with the Harris A. Terrance Innovation Leadership Award.

Mark Barham and Roberts K. Coughlin presented the MassBio Leading Impact Award to Brendan O’Leary on behalf of Dr. Michael F. Collins.
This spring, MassBio launched a new Forum series centered on the opportunities social media provides those in the life sciences to collaborate, create communities and contribute to a global conversation.

The Forums focus on building strategies, clinical trial recruitment, employee connections and patient/advocacy conversations as ways to harness the power of social media.

The first Forum in the series, “Growing a Dynamic Social Media Strategy” was held May 21. The second Forum, “Clinical Trials in the Age of Social Media: Strategies for Increasing Trial Awareness & Patient Recruitment” will be held on June 11. Speakers will include:

- **Dawn F. Fenton**, MT(ASCP), Clinical Operations Lead, Global Clinical Operations, Biogen
- **Aaron Fleishman**, Patient Recruitment Strategic Consultant, Product Innovation, BBK Worldwide
- **Sally Okun**, RN, Vice President for Advocacy, Policy, and Patient Safety, PatientsLikeMe
- **Matthew Stafford**, Assistant Director of the IRB, Boston Children’s Hospital
- **Jeremy Chadwick**, PhD, Head Global Clinical Development Operations, Shire (Moderator)

Future sessions include:

- Part 3: Social Media: Bridging Your Career, Your Employees & Your Company (July 29)
- Part 4: Let’s Talk: Open Dialogue with Patients & Patient Advocacy Groups (August 13)


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**MASSBIOED RECEIVES $139,999 GRANT TO BRING BIOTEACH TO 10 HIGH SCHOOLS**

Newton North High School students explored biotech at Genzyme.

The MassBioEd Foundation will expand its proven biotechnology education program, BioTeach, to 10 public high schools this year, thanks to a grant from the Massachusetts Life Sciences Center (MLSC).

MassBioEd will use the $139,999 from the MLSC’s STEM Equipment and Supplies Grant Program to provide 10 schools with professional development for teachers, curriculum for biotech labs, access to student career exploration experiences, and up to $12,000 each for materials and equipment for school labs.

Lance Hartford, Executive Director of the MassBioEd Foundation is thrilled to see the program continuing to grow.

“MassBioEd is excited to expand our BioTeach program into 10 schools chosen through a competitive process,” said Hartford. “By providing Massachusetts students with lab experiences in high schools across the state, we hope to inspire students to pursue educational opportunities and careers in the life sciences and biotechnology industry.”

Susan Windham-Bannister, President & CEO of the MLSC, acknowledged the invaluable opportunities MassBioEd provides students.

“Investing in training the next generation of life sciences workers is a critical part of the Center’s mission,” said Windham-Bannister. “We want to create an interest in STEM careers among students all across the state, and at all levels. The Center's investments in equipment and supplies for training at high schools, both directly and through our partnership with the MassBioEd Foundation, are increasing interest in STEM among all of our students—regardless of socio-demographics or zip code.”

The 10 schools funded by the MLSC’s grant include:

- Avon Middle-High School, Avon
- Claremont Academy, Worcester
- Dennis-Yarmouth Regional High School, South Yarmouth
- Gloucester High School, Gloucester
- Lee Middle and High School, Lee
- Palmer High School, Palmer
- Smith Vocational and Agricultural High School, Northampton
- South Community High, Worcester
- Springfield High of Science and Technology, Springfield
- Weymouth High School, Weymouth

With the addition of these schools, the BioTeach program, recognized by the Massachusetts State STEM Council as a premier @Scale initiative, now reaches 204 schools in the Commonwealth.

SEE THE SAVINGS
MEMBERS REAP THE BENEFITS OF MASSBIO PURCHASING CONSORTIUM

There is power in numbers! By aggregating the purchasing power of the member companies within MassBio, the MassBio Purchasing Consortium allows members to have a strong presence in the marketplace so they can bring more to their bottom lines. MassBio continuously evaluates the need of member companies and the existing contracts to ensure the best value. In the last six months, MassBio has expanded the Purchasing Consortium to include lab prescription and safety eyewear and footwear through Unifirst, and access to scientific and business publications Nature, Nature Biotechnology, Science, Banker & Tradesman, Journal of Commercial Biotechnology, and Drug Patent Watch. Learn more and start saving today at www.MassBio.org.

CHECK OUT THE SAVINGS ACTUALLY ACHIEVED BY MASSBIO BIOTECH MEMBERS

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**Est. List Price:** $5,584,138
**Consortium Spend:** $3,947,333
**Est. Savings:** $1,636,805
**+Year-End Rebate:** $28,885
**- MasBio Annual Dues:** $7,651
**Bottom Line Savings:** $1,658,039

**Est. List Price:** $3,104,947
**Consortium Spend:** $2,369,473
**Est. Savings:** $735,474
**+Year-End Rebate:** $37,513
**- MasBio Annual Dues:** $27,600
**Bottom Line Savings:** $745,388

Stay tuned for examples of how associate members are saving!

MassBio President & CEO Robert K. Coughlin kicked off the Life Sciences Informatics conference with MassTLC President & CEO Tom Hopcroft.

OPPORTUNITIES EMERGE BETWEEN INDUSTRIES

**INFORMATICS:** from Page 1

“Once considered vendors or suppliers, data providers are now being seen as partners and collaborators,” said Hisey. “Evidence is informing product design and patient care.”

Paradigm4 CEO Marilyn Matz, who served as one of the event moderators, said access to data can sometimes be overlooked as an important factor when companies are locating or growing their businesses.

“Early-stage companies need access to space, capital and talent, but they also need access to data,” said Matz.

During a discussion on the funding environment and emerging opportunities, investors shared their thoughts on how Massachusetts’ LSIX entrepreneurs can differentiate themselves in a competitive market.

“We attach a lot of value to strategic investors,” said Eric Evans, who serves on the Executive Committee of Mass Medical Angels. “The involvement of a company like Microsoft or Google gives validation to an idea. It shows there’s interest, maybe even a need.”

Another panel discussed how to source and train talent and organize and integrate data science teams or departments.

“We cannot conceive solutions to biomedical problems without domain expertise,” said Covance Vice President and Chief Data Officer Dimitris Agrafiotis, calling software engineering a top skill set of today’s students and emerging workforce.

A final panel examined innovative partnerships and ways to bridge science with IT and informatics. Robert McBurney, CEO of the Accelerated Cure Project for Multiple Sclerosis and Dave King, Founder & CEO of the Cambridge startup Exaptive, described their partnership. Exaptive is helping to integrate and analyze the data contained in the Accelerated Cure Project’s ever growing repository of research studies.

“For the past decade, we’ve been trying to reinvent the way biomedical research is done by identifying and breaking down barriers that hinder research,” said McBurney. “We’ve created a bio depository, virtual collaborations and a large amount of data that we hope will unlock breakthroughs to a cure.”

With Exaptive, the Accelerated Cure Project is able to cross-reference their data with existing research, and analyze results using interactive visualization techniques from inside and outside the medical field, all in real-time.

“We sometimes put value on something being faster or more efficient, but these tools don’t just get more things done, they get different things done,” said King. “They give you different products.”

King also said an important aspect of data visualization is not just in discovery, but in communication. Stephen Cleaver, Executive Director of Informatics Systems for Novartis, agreed.

“The key is translating raw data into a system that allows you to answer relevant scientific questions,” said Cleaver.

As innovative partnerships within the industries of life sciences and informatics continue to emerge, yielding mutually beneficial results and new possibilities, King said finding the right match, or the right relationship, is essential.

“Just as personalized medicine targets the right treatment for the right disease, we’re seeing similar matches between the specific flavor of a start-up and that of a partnering company,” said King.

Registration is now open! Learn more and register at www.MassBio.org. Sponsorship and exhibitor opportunities are available. Contact Elizabeth Steele at elizabeth.steele@massbio.org or 617-674-5100.

SAVE THE DATE: 2015 CRO/CMO SYMPOSIUM
FRIDAY, NOVEMBER 13, 2015
AT THE RENAISSANCE BOSTON WATERFRONT HOTEL

Massachusetts
Every year, 1 in 33 children is born with a physical, intellectual or genetic disorder. Michael Sawyer, now 17, was one of those statistics.

“As developmental milestones go, he was meeting them up until he was about a year old,” said his father, Richard Sawyer. “When he still wasn’t walking six months after that, we aggressively started looking for answers. It was uncharted waters for us.”

Richard and his wife, Kathleen, adopted Michael from South Korea when he was 4 months old. It was later, through genetic testing, that he was diagnosed with a genetic disorder that typically causes severe intellectual disability. Affected individuals usually have weak muscle tone, breathing and swallowing difficulties and cognitive and oral communication problems. It can also lead to heart defects—which Michael has not experienced. The disorder is caused by a chromosomal deletion of genetic material and affects approximately 1 in 10,000 people. Treatment is mainly aimed at reducing the severity of symptoms and monitoring the patient’s general health.

Early on, the family met with Dr. Murray Feingold, the founder of The Feingold Center for Children, which provides diagnosis and treatment for children born with intellectual and developmental disabilities and genetic disorders. Dr. Feingold has been treating children with genetic diseases for more than 40 years and has been on the faculty of Tufts, Harvard and Boston University medical schools.

“The biggest stress on a family is the unknown,” said Richard. “The Feingold Center minimizes that stress, and we’ll be eternally grateful for that. By getting the correct diagnosis, we were able to identify service providers that have been a benefit to Michael moving forward.”

Michael still receives his primary care from The Feingold Center at its location at Boston Children’s Hospital at Waltham, and is regularly examined and monitored for high-risk problems. Because many of the children they treat require the care of numerous specialists, the staff at the center also coordinates those appointments so that patients are seen by more than one specialist at the same visit.

“It’s given us peace of mind that he’s gotten the finest care from some of Boston’s top doctors,” said Richard.

The Genesis Foundation for Children (formerly known as the Genesis Fund) primarily funds The Feingold Center. The specialized care and coordination provided to patients with complex genetic disorders is extremely costly and not covered by insurance, which is why the funding is so essential. The center and its satellite clinics would not be able to operate without it. Funding is also given to support the foundation’s therapeutic arts and recreational programs on Cape Cod. Through 60,000 patient visits, the foundation has provided diagnosis, care and guidance to many grateful families since its inception in 1982.

Michael is thriving as a junior at Woburn Memorial High School, where his younger brother, Benjamin, is also a student. In the school’s Transition Education Program, Michael is benefitting from functional life and activities of daily life (ADL) skill training. Accompanied by a job coach, he also works one day a week at CVS through the program’s community-based vocational training. After high school, he will continue to participate in vocational training opportunities available to the city’s young adults ages 18-22. Outside of school, he enjoys playing soccer, baseball and basketball.

“He’s definitely meeting his potential and we couldn’t be prouder,” said Richard.