



Our History

In 2011, Hitachi High-Tech America embarked on an ambitious mission: to inspire the next generation of innovative science pioneers through the advancement of Science, Technology, Engineering, and Math (STEM). As a global leader in the electron microscope industry, we worked with national organizations and leaders like Change the Equation and The National Nanotechnology Infrastructure Network, to develop a program that provides access to our portable Tabletop Scanning Electron Microscope in the classroom. This program provides an interactive hands-on, project based experience for learning electron microscopy and nanotechnology.

As the world changes, The HTA Inspire STEM Education Outreach Program is committed to making an impact on being a resource for education. With this the Remote Expansion for virtual learning as been developed and launched for the upcoming school year.

The Inspire STEM Program's ultimate goal is to inspire a new generation of achievement in science education and to ensure that students have the skills they need to meet the evolving demands of our future global workforce.

History of Hitachi Tabletop Microscope Series.

Great demand on our small SEM

Hitachi continues to improve upon its tabletop microscope technologies. These developments allow users to perform easy and quick imaging without special sample preparation. The microscopes are designed for use by both experienced and novice users. The TM Series microscopes are widely used for STEM education initiatives around the world.

2009 TM-1000
• Birth of Tabletop Microscope
• First of its kind design
• Addition of Hitachi and Hitachi Education (2009-2011)

2013 TM3000
• Resolution improvement 30,000x
• 4.5kV mode

2014 TM3030
• Addition of Hitachi Education
• Addition of Hitachi Education
• Addition of Hitachi Education

2017 TM3030Plus
• Low voltage operation is included with Tabletop microscope for low voltage operation

2017 TM4000 / TM4000Plus
• A larger size unit is introduced by changing the base system
• UVD-CL image observation is available

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*1. UVD (Ultra-Violet Detector) is included with Tabletop microscope for low voltage operation
*2. UVD (Ultra-Violet Detector) is included with Tabletop microscope for low voltage operation
*3. UVD-CL (Ultra-Violet Detector) is included with Tabletop microscope for low voltage operation
*4. UVD-CL image observation CL information acquired by UVD

Our Program

Students



- 100 Thousand students and counting
- Kinder to College and beyond
- Inspiring life long interest in STEM

Learning Modules



- Hands-on activities in microscopy
- In person and virtual SEM activities
- Videos & ideas from the field

Partners



- Educator created content
- Global & local partners
- Partners across 4 continents

Social Media



- Follow us on Twitter
- @Hitachi_STEM
- #Hitachi_STEM

Remote Extension



We would like to hear from you

The Inspire STEM Education Outreach Program encompasses schools, community settings such as after-school and summer programs, science centers and museums that together constitute a rich array of learning opportunities. A learning ecosystem harnesses the unique contributions of all these different settings to deliver STEM learning.

Our goal is to increase STEM teaching, for all, globally by equipping educators with STEM stimulating technology they would otherwise have no access to. As change leaders, we are committed to the STEM Education initiative by placing science and technology directly in the hands of youth across the globe.

Inspire STEM Education is meant to excite and engage students by taking advantage of our TM series' flexibility and ease of use. The Tabletop SEM is available to schools, colleges, teacher conferences and other educational events so students and teachers alike can experience discovering the Nanoworld.

Our Process



Visit us

Learn how our work makes a difference in our communities around the world.



Contact us

Questions? More information? Reach out to us for help



Discuss

All communities are unique. Lets discuss your needs and ways we can help



Submit

Submit your proposal.



Roadmap

Together let's create a roadmap for success for your community



Plan

Finalize outreach, set start date.

Teaching Tools

Training & Resources

Learn about SEM loan program



Crossing Borders Award

To collaborate visit our website or email Lori.Harvey@Hitachi-HighTech.com

**Hitachi High-Tech America
Inspire STEM Education Outreach Program
100k Students and Counting**

*Join us to Inspire the NEXT and Powering Good
for our future...*



Inspiring the Next & Powering Good

The Hitachi High-Tech America's Inspire STEM Education Outreach Programs' mission is to inspire the next generation of innovative science pioneers through the advancement of science, technology, engineering, and math.



Our program inspires kindergarten to graduate-level students with the tabletop scanning electron microscope and maximizes the learning experience with the best practices and resources from our work in the field as well as from collaborators and partners in education and business.

We open the micro-world as an exciting, hands-on, active learning resource for students that can inspire a lifelong interest in STEM. Our teaching tools provide an opportunity to incorporate nanotechnology and microscopy into the classroom.

Benefits/Value

Technology



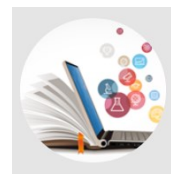
- The TM4000 Series features innovation and cutting-edge technologies
- Integrates ease of use, optimized imaging, and high-image quality.
- Maintains a compact design

Training



- Dedicated support team
- In person and virtual SEM training
- Video & written instructions for all types of learners

Resources

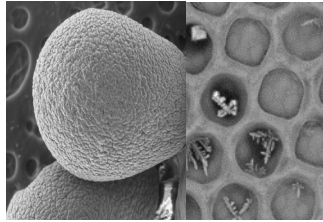


- Growing Library of educator created content
- Expanding network of STEM partners across the US
- Flexible projects for educators & students to use in school or remotely

Contact us: [Lori Harvey@hitachi-hightech.com](mailto:Lori.Harvey@hitachi-hightech.com); Twitter: @Hitachi_STEM;

Our Program

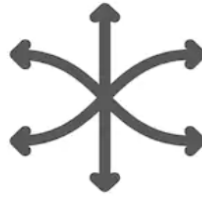
Technology



Fine Structure Observation

- High Sensitivity to observe different brightness levels representing composition
- Compositional contrast including surface details using lower accelerating Voltage
- Innovative secondary-electron detector to obtain surface detail with non-conductive samples at lower vacuum conditions

Flexibility



Solutions based on local needs

- Dedicated staff who listens, experienced in creating local educational & business solutions to meet community needs
- Wide range of experience implementing best practices for success.
- Innovative solutions to ever changing shifts in education and world issues.

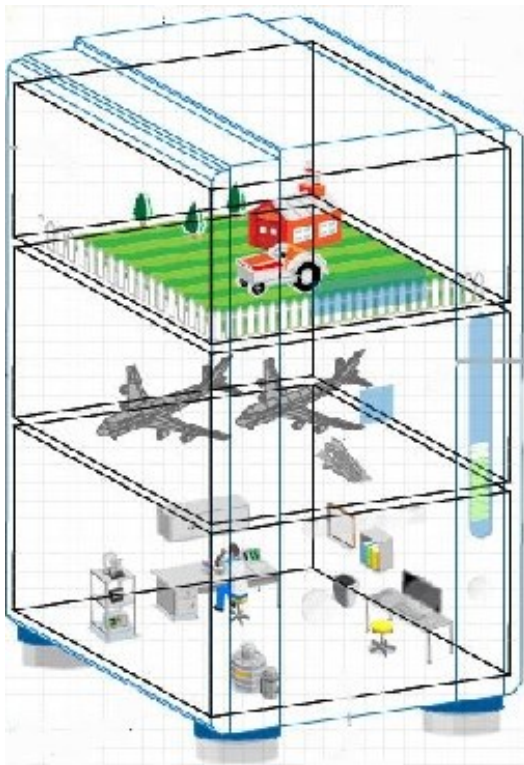
Program Access



Learning Scenarios

- Flexible teaching tools that can be used both in school and remotely
- Robust pathways that work with almost any existing school teaching platform: i.e. Google and Dojo Classroom , & more
- Intuitive ease of use for educator and students with a growing number of partners for support.

Real World Application



Agriculture

Biosciences uses TM Series microscopes to characterize and classify mites and insects to protect our food chain.

Material Science

TM series microscopes assist in developing nanomaterials such as carbon composites, which allow planes to have less weight, more structural integrity, and an ability to fly longer distances.

Medical

The TM Series is used in manufacturing better drug-eluting/ polymeric coatings, which help increase patient longevity.