Scaling Up: How tailoring exhibits and programs to appeal to local audiences can help drive attendance

- Jonah Cohen, Children's Museum of CT
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Nanoscience
@ Brooklyn Children's Museum

NISE network
NANOSCALE INFORMAL SCIENCE EDUCATION

JUNE 2015
NETWORK-WIDE MEETING

NISENET.ORG

Tailoring and scaling exhibits and programs to serve local audiences

- **Jordan Warner, Manager of Science Education, Brooklyn Children's Museum**
- **Marcos Stafne (not present), former VP of Programs and Visitor Experience, Brooklyn Children's Museum**

The "Multi-Pronged Attack"

Exhibition:

- Nano Mini Exhibit (part of larger themed exhibit)

Materials:

- "Nano-bio" cart (NISE Mini-Grant)
- NISEnet Physical Kits (2014, 2015)

Programs:

- Integrating nanoscience concepts into Public Programs

Exhibition: More Than Meets The "I"

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Nano Mini-Exhibit

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Molecules and Health (NYSCI)

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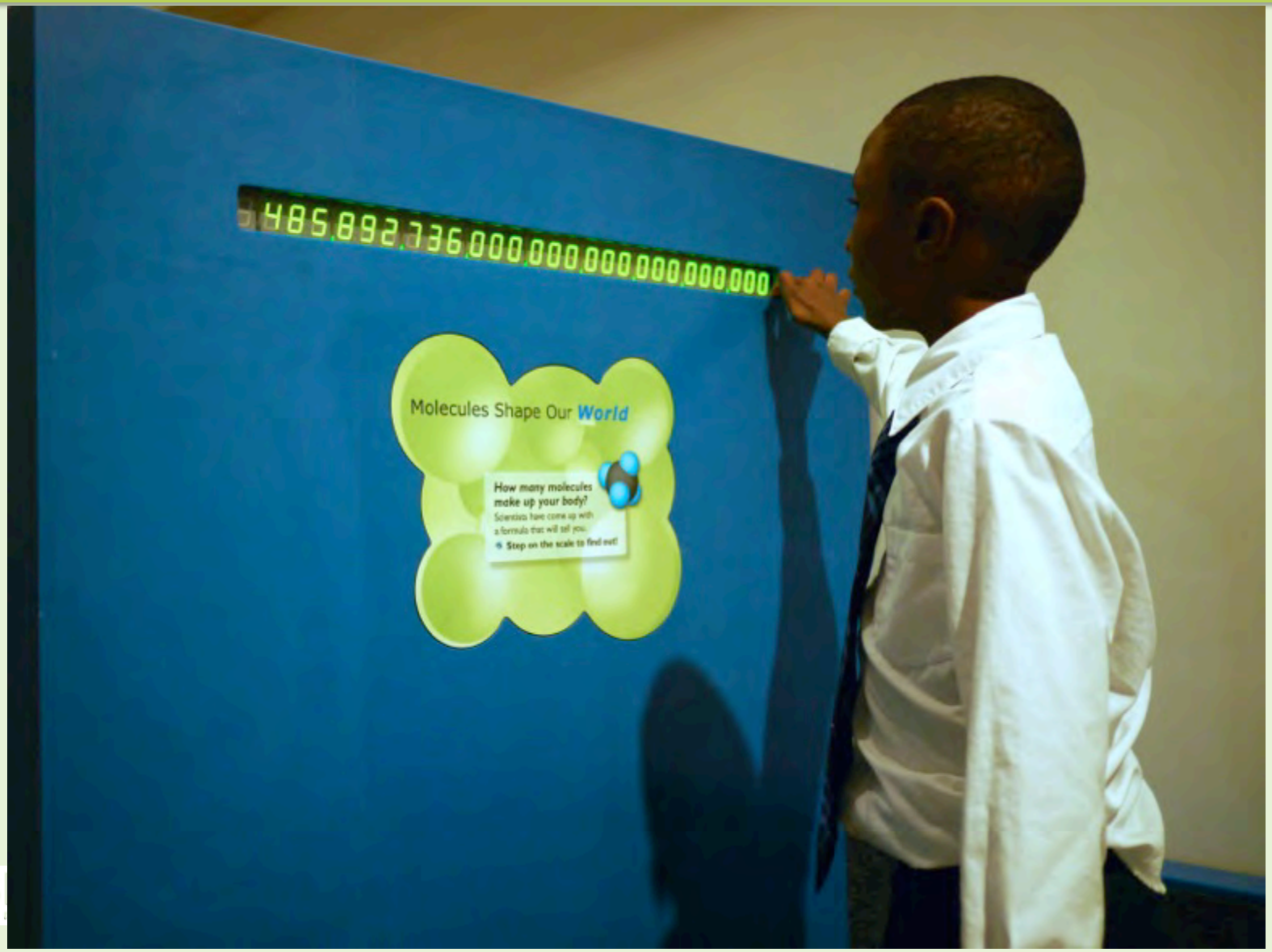

Molecules and Health (NYSCI)

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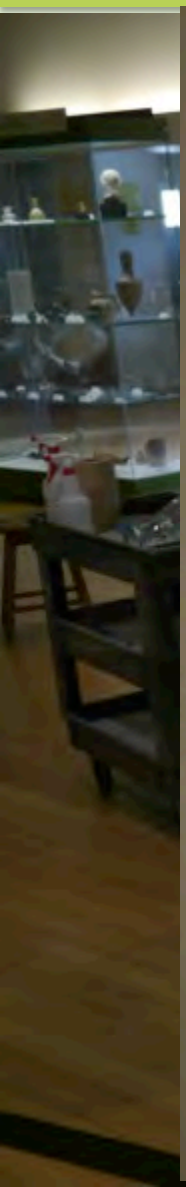
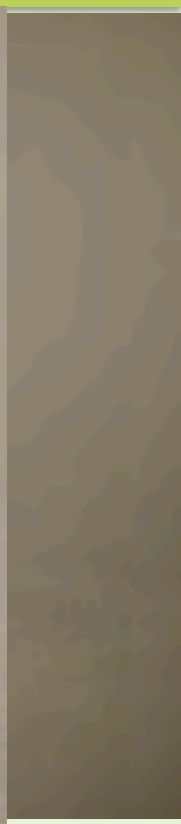
Nikon “Small World” Photos

Brooklyn Public Library “Uni”

Commodore: Robotic Fish from NYU Polytechnic

3-D Printing





3-D Printing

“Nano-Bio” Cart

NanoDays & Physical Kit

NanoDays 2014

NanoDays
The Biggest Event for the Smallest Science!

NanoDays 2014

“Zoom In!”

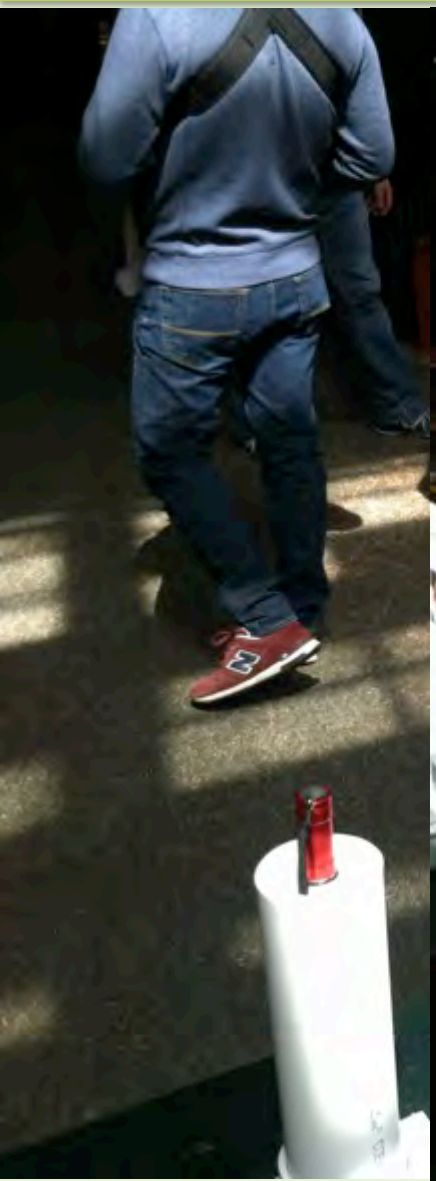
“Zoom In!”

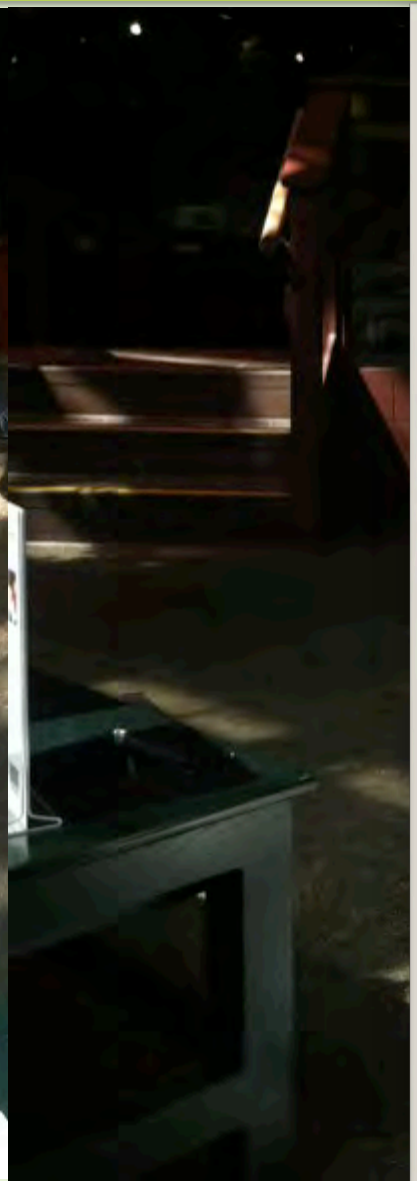

What do you **notice**?
Make a detailed drawing:
Write your observations in words:

“Zoom In!”

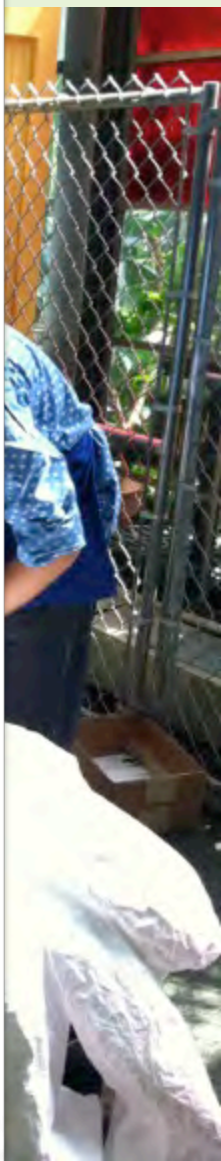
NanoDays 2015 Physical Kit Usage

NanoDays 2015 Physical Kit Usage





NanoDays 2015 Physical Kit Usage



Challenges

Audience:

- 80% eight yrs and under
  - 80% of those five years and under
    - i.e. *EARLY CHILDHOOD*

Staffing:

- Festival-style would work better with more “hands on deck”
- Lacking sufficient tech support
- Staffing transitions from 2014-15, staffing shortage, limited volunteer base/infrastructure… A “learning period”

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NanoScience And ME

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NSF

Maine Discovery MUSEUM
Too Much Fun!

www.mainediscoverymuseum.org

Maine Discovery Museum

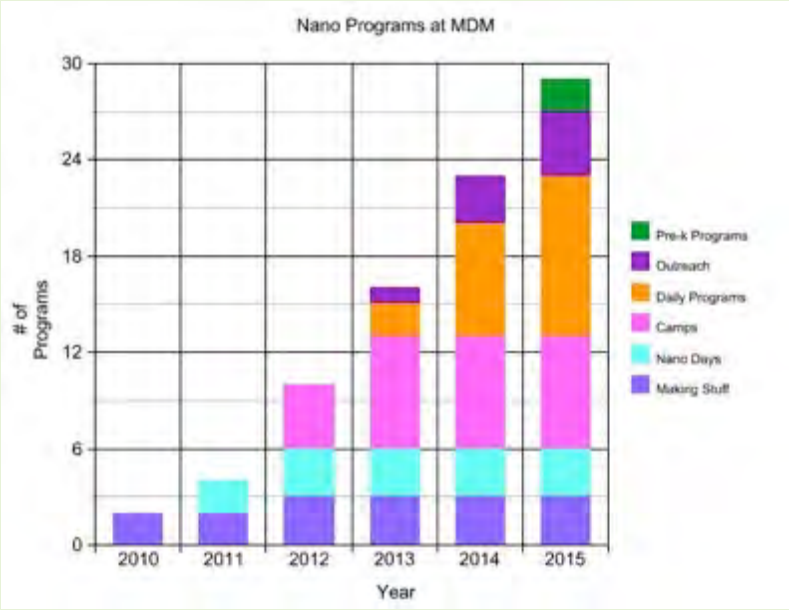
74 Main Street, Bangor, Maine
www.mainediscoverymuseum.org

As the largest children's museum and science center north of Boston we serve 60 thousand visitors each year.
We believe that hands-on learning creates a deeper understanding of Maine and the world we live in and that even the youngest children can be engaged in meaningful science if we build upon their innate sense of curiosity and wonder.

Maine Discovery MUSEUM
Too Much Fun!

Nano News: What's Been Happening at MDM?

- We've handed out 4,000 nano brochures since July 2011
- Visitors did 2,000 nano scavenger hunts since 2011
- We went from facilitating just Nano Days in 2011 to now incorporating nano content in outreach, field trip programming, daily activities, and vacation camps for children ages 4-12, grant proposals, and new exhibits



Maine Discovery MUSEUM
Too Much Fun!

What is Nano in MDM?

- Magnet Station
- Freddy the Gecko
- Dr.'s Office
- Water Fountain
- Charlotte's Web
- Gravity Tracks
- Elevator
- Smoke detectors
- Mono butterfly display
- Mood rings
- Heat sensitive hand art wall
- Freeze Your Shadow

A Deeper and Broader Engagement With Nano Content

- Scavenger hunts for school age children
- Brochure for families to learn about nano science, nano research and industry in Maine
- OUT-reach
  - We go WAY out to bring educational programming to underserved populations across Maine, including rural schools, coastal and island communities, and Native populations
- In the next year we will incorporate QR codes into exhibits so parents and older kids can learn more

Maine Discovery MUSEUM
Too Much Fun!

Nano- Very Small Scale, Very Big Deal

Use the pictures below to find out how Nano science is already part of nature, technology, and society!
Hint- look around the Museum for the floating carbon molecules

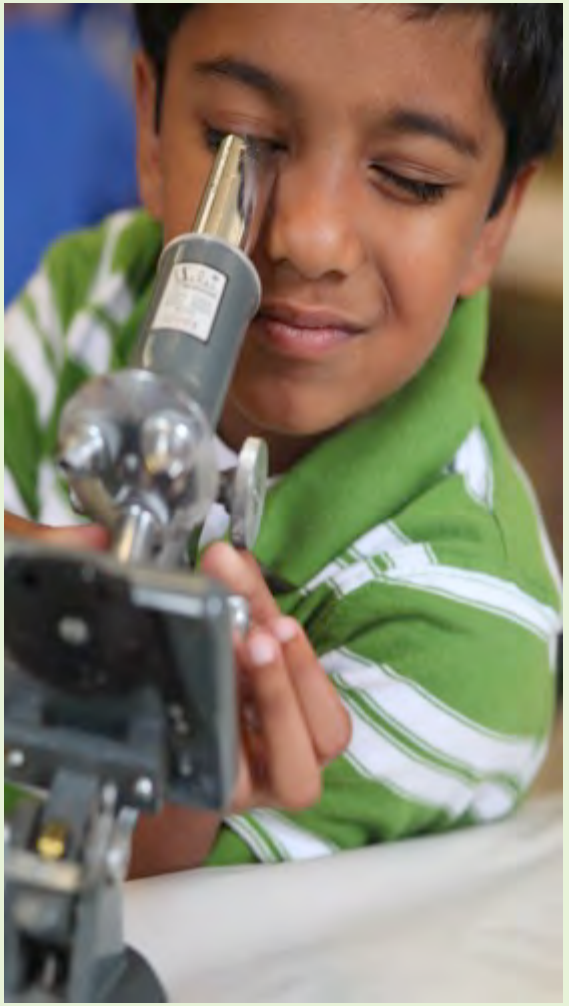





Maine Discovery MUSEUM
Too Much Fun!

In House Programming

- Shocking Science/Exploring Materials - Graphene
- Sticky Situations/Biomimicry: From Nature to Nanotech
- Exploding Diapers/Exploring Materials – Hydrogel



Maine Discovery MUSEUM Too Much Fun!

In House Programming

- Lotions, Potions, &Scientific Notions/Exploring Size - Scented Balloons
- Visiting a local water filtration lab and taking samples from the Penobscot River/Cleaning Our Water with nano technology
- What's nano About Pizza?

Nano for new audiences

Who do we reach other than the children and families coming through our doors? Who else benefits from learning about Nano science?

- **Pre-service teachers at the University of Maine**
  - Collaborated with the science methods professor at UMO who gave a selection of nano kits to education students to try and link them to the learning standards, organize them into cohesive units and develop lessons around the nano kits
- **PREP coalition:**
  - Introduced kits and field trip and outreach nano content to curriculum coordinators from regional schools. PREP is planning on involving MDM in the development of the Pre-K science standards
- **OOS providers**
  - Introduced nano content as part of the STEM curriculum at a weekly, 3 month long provider training
- **Parents**
  - As part of a Penquis Head Start parent workshop
- **New media students**
- **Maine Science Festival**
- **Intersections**

Maine Discovery MUSEUM Too Much Fun!

For the future: nano and STEAM; engaging artists, children on the spectrum, nano kits

Maine Discovery MUSEUM
Too Much Fun!

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Science Center of Iowa

- Des Moines, Iowa
  - Annual attendance 300,000
- We LOVE Nano!

NANO Mini Exhibition

- Anchor in our large central hall
- Part of semi-permanent exhibit
- Barrier during exhibit transition
- Pass through space in our second floor balcony space

Nano Spot

Goals:

- To extend nano content throughout the museum
- Show visitors examples of nano in the world around them and in their daily lives
- Try tracking QR codes and their usage by content or location in the museum
- Partner with local research to showcase scientist/engineer working with nano

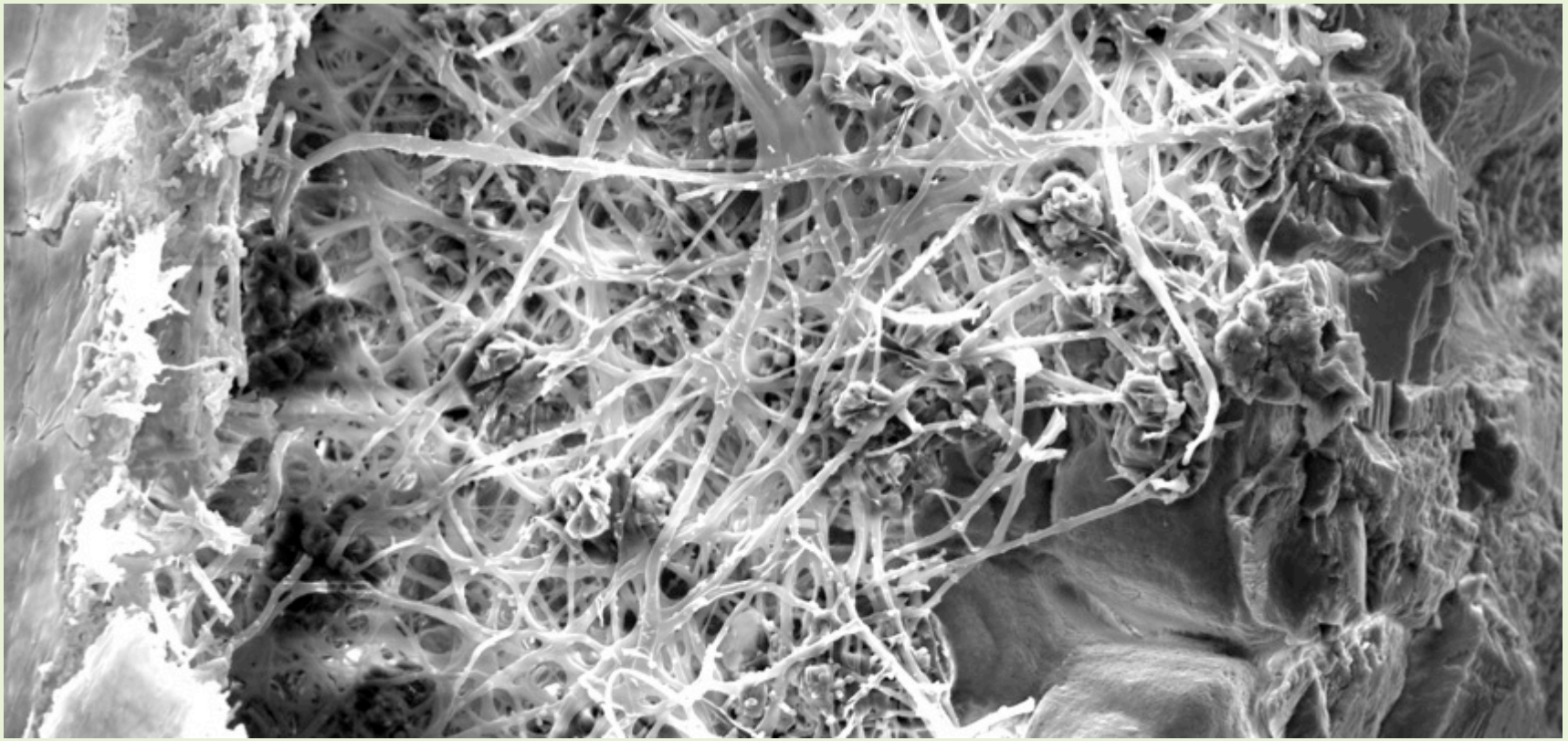
NANO Spot

How did it turn out?

- Created a total of 8 labels located throughout the museum.
- Cafe (4), Elevator, & 3 of our 4 permanent exhibits
- Made connections with and Aerospace Engineer at ISU and would still like to potentially add this content to go next to our rocket launch exhibit.
- QR code tracking didn't work as expected and while we were tracking we saw low engagement/ scanning

SEM Images

- Partnered with University of Northern Iowa
- Selected objects that most of our visitors would have interacted with
- When images are on display, we would like to also have the objects available to view under a magnifying glass and microscope.



Questions & Discussion

Thank You!

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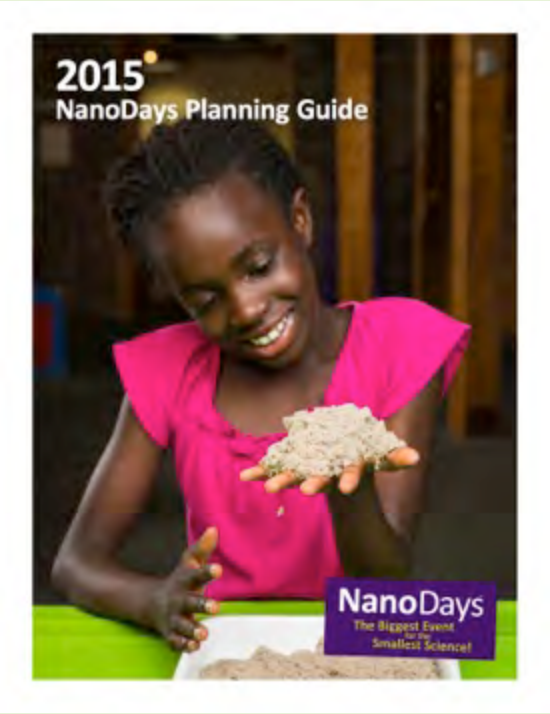
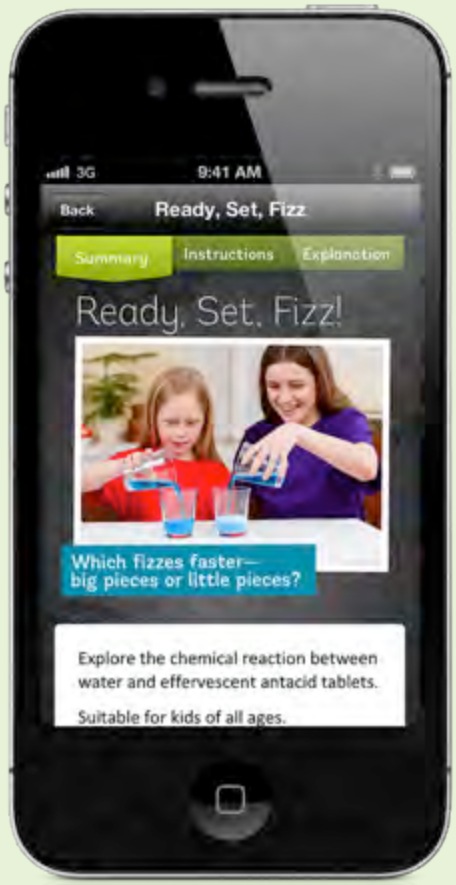
NISE Net Marketing Materials



DIY Nano & App



Available on the App Store