

STC.UNM

SUPPORTING TECHNOLOGY TRANSFER AND
CATALYZING ECONOMIC DEVELOPMENT AT
THE UNIVERSITY OF NEW MEXICO

STC.UNM and the Lobo Rainforest Ecosystem

Lisa Kuuttila
101 Broadway Blvd. NE, Suite 1100
Albuquerque, NM 87102
(505) 272-7900
kuuttila@stc.unm.edu

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WHAT DOES STC DO?

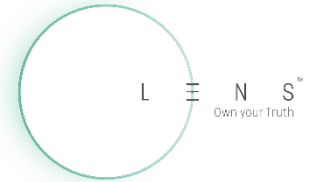
- ❖ Protect technologies developed at UNM and transferring these technologies to the marketplace, via starting new companies and transferring technologies to established companies
- ❖ Connect the business community to UNM for access to expertise, facilities, and research activities
- ❖ Facilitate UNM's role as a contributor to New Mexico's economic development



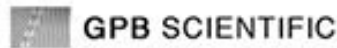
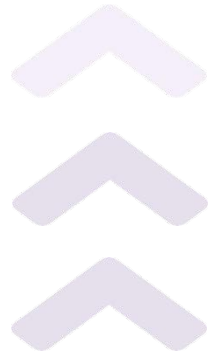
STC ACTIVE START-UP COMPANIES

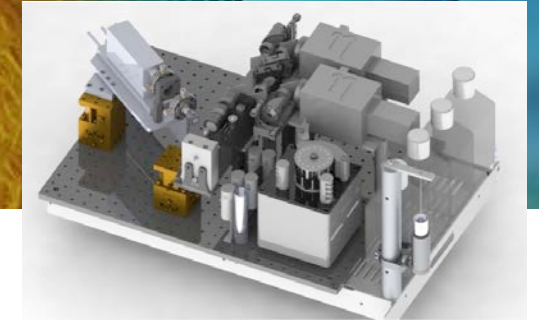


SpinCeutica, Inc.

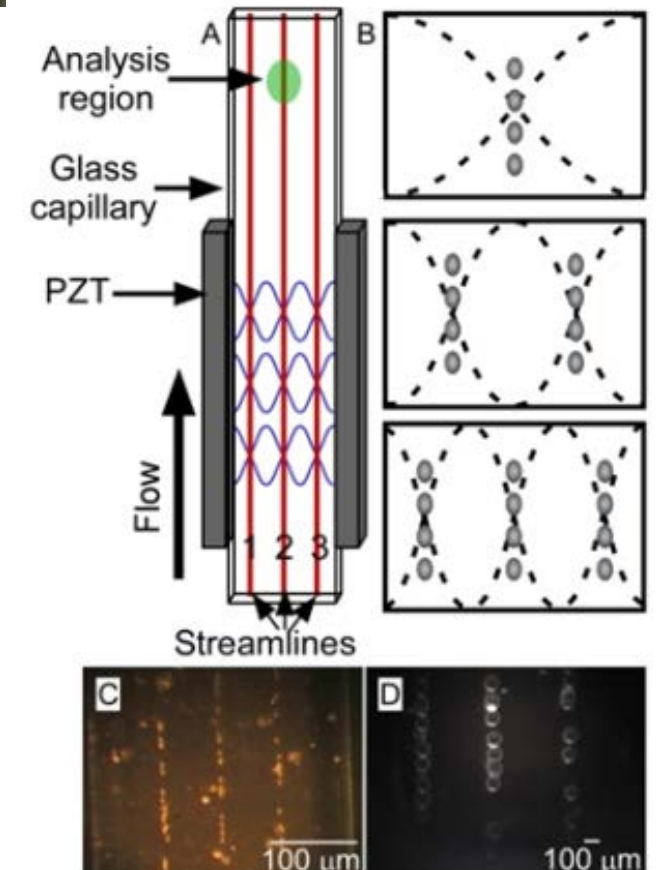


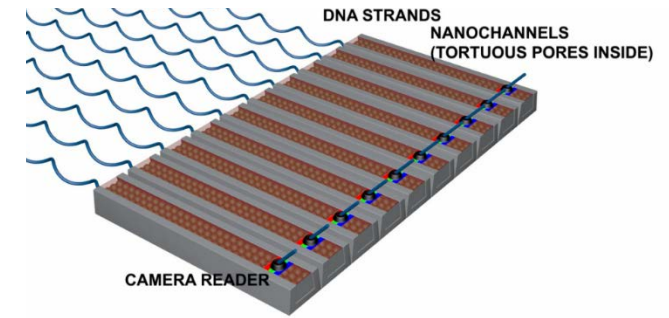
Dynamic Photonics





- ❖ Steve Graves, Ph.D., CEO, Founder and Inventor
- ❖ Albuquerque based startup
- ❖ High-throughput technology that increases the cell analysis rate for flow cytometers by using parallel analysis streams
 - Provides early stage detection of many forms of cancer
 - Excellent sensitivity and precision
 - Improves flow cytometry sample throughput by over 100x
- ❖ Raised a \$1.5 million Series A from Tramway Ventures, Cottonwood Technology and Sun Mountain Capital





Mission: To become the industry's gold standard DNA sequencer for precision medicine research applications.

- ❖ Founder: Scott Goldman
- ❖ Primary Investigator: Dr. Steve Brueck, CHTM
- ❖ Quality of de novo genome assemblies using short read technologies is low, limiting the ability to identify structural changes and repeated regions
- ❖ Armonica is developing third generation DNA sequencing technology
 - Integration of nanochannels deliver single DNA molecules with nanopores optimized to slow DNA translocation sufficiently to provide massively parallel, single base resolution using optical techniques
 - Long read, label free, optical nanopore DNA sequencing
- ❖ Advantages:
 - Ability to determine the role of sequence variations in a variety of human diseases
 - Superior to current technologies in terms of quality, throughput, and cost
 - Highly profitable replacement chip business model
 - Complete genome sequencing capable of identifying complex genome variants
 - Simple fabrication process leads to inexpensive readout structures
 - Inexpensively produced and designed to be field replaceable
 - Precise control of the DNA translocation

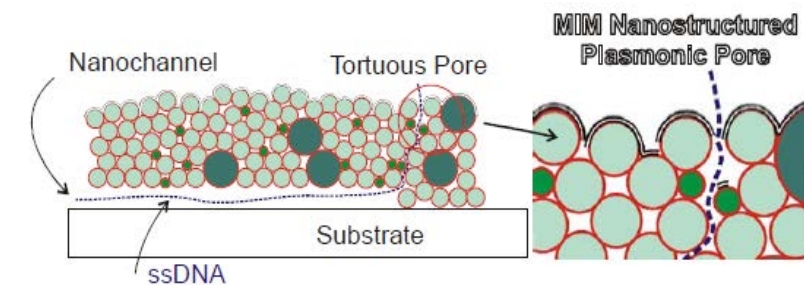
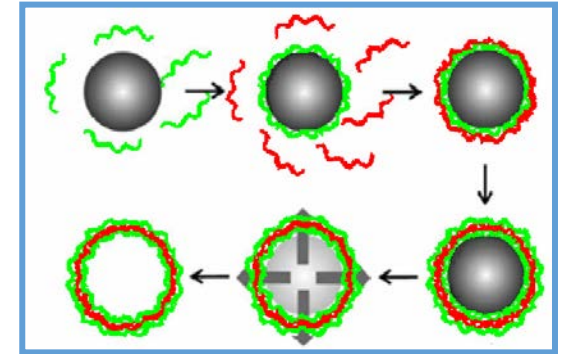
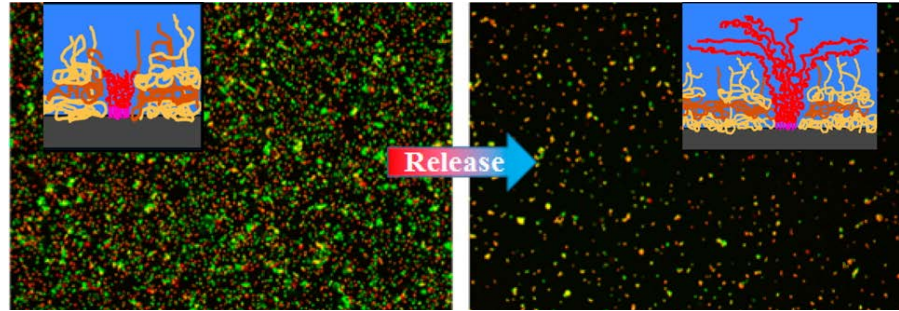


Fig: Overall schematic of nanostructured system for ssDNA sequencing. The DNA enters the nanochannel from the left, is partially uncoiled in the nanochannels, threads through the tortuous nanopore where it passes a self-aligned NIM structure providing the single base readout using surface-enhanced coherent anti-Stokes Raman spectroscopy (SECARS).



- ❖ Albuquerque based startup developing a new class of light-activated synthetic antimicrobials

- ❖ <http://biosafedefenses.com>

Key Benefits of Our Antimicrobials



BROAD SPECTRUM

Effective against a wide range of disease-causing pathogens.



PREDICTIVE KILL WINDOW

The only antimicrobial that signals the need for re-application.



COMBAT DRUG RESISTANCE

Light-induced Reactive Oxygen Species (ROS) kills antibiotic-resistant strains of bacteria with ease.



ERADICATE BIOFILMS

Control biofilm growth, with our self-cleaning surfaces.



FABRIC TREATMENT

Easier and more effective than NanoSilver.



DETERGENT COMPATIBLE

Retain killing power in the presence of commonly used detergents.



SAFE TO USE

Deadly to microbes, but tested and proven not to irritate skin.



LEVERAGE TECH PLATFORM

Today health care and biodefense, tomorrow food service. Killing microbes is our strength.

intellicyt



❖ Background

- Terry Dunlay, Founder, President, & CEO

- 2006 explored moving to New Mexico
- Viewed many technology opportunities
- Selected high throughput screening technology
 - Inventors: Larry Sklar and Bruce Edwards
- 2006 - Worked with STC through Cecchi Venture Lab (first tenant)

- Raised over \$20 Million

- 2007-2010 - \$5 million in 3 rounds. \$1 million in 2007 from Verge & Village Ventures, \$1.5 Million in 2008 from Verge & Village Ventures and \$2.5 million from Prolog Ventures, Verge, and New Mexico Community Capital.
- May 2013 – \$8 million from Arboretum Ventures who led the venture funding round with participation from current backers Prolog Ventures, Verge Fund and New Mexico Community Capital
- July 2015 – \$5.4 million from Arboretum Ventures who led the venture funding round with participation from current backers Prolog Ventures, Verge Fund and New Mexico Community Capital

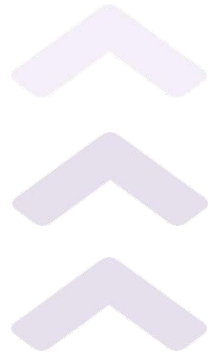
❖ Sold to Sartorius AG in June 2016 for \$90 million; now owned by Essen BioScience

- Company currently ~ 120 employees
- Company will continue to operate in New Mexico





- ❖ David S. Joseph, CEO
- ❖ Founded in 2010, based in Santa Fe, NM
- ❖ Avisa Pharma™ Inc. is a clinical stage company developing a rapid, 10 minute point-of-care biomarker breath test for the detection and monitoring of pulmonary infections
 - Currently collection additional subjects for Phase IIB clinical study of a proprietary test for pneumonia
- ❖ Raised over \$13.2 million and \$15 million Series B raise open that will take the Avisa through pivotal study results for pneumonia
- ❖ <http://www.avisapharma.com>





- ❖ Dr. Federica Pericle, CEO
- ❖ Albuquerque, NM based start-up company developing superior vaccines and integrated platforms for rapid vaccine discovery and delivery using virus-like particle (VLP) based platforms
- ❖ As of May 2018 Agilvax is a resident company at Johnson & Johnson Innovation, JLABS at the renowned Texas Medical Center
 - Developing novel cancer immunotherapies and vaccines
 - Utilization of JLABS facilities to support the development of the company's lead cancer immunotherapy candidate, AX09, for the treatment of triple-negative breast cancer
- ❖ Over \$3.2M raised to date
- ❖ <http://www.agilvax.com>



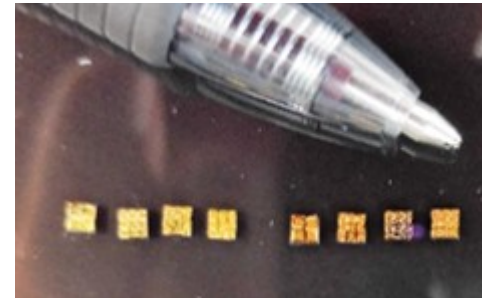


- ❖ Thomas J. Stephenson, CEO
- ❖ Albuquerque based start-up company focusing on **non-platinum fuel cell catalysts**
 - Fundamentally changing the economics of fuel cells by enabling better performance and greater durability at a lower cost
 - Technology is focused on the cathode side derived from a variety of different precursors
- ❖ Raised over \$1M and received several grants including a recently awarded \$1M DOE grant
- ❖ <https://pajaritopowder.com>





- ❖ Mathis Shinnick, CEO
- ❖ Technology enables long distance, 10Gbps LightSpeed Wireless™ data transmission at a fraction of the cost of fiber
 - Technology has been demonstrated over 100+ meters with ease to go much further enabled by a chip that is the size of the head of a pin. 20,000 of these chips are fabricated on a single wafer. 100s of lasers are on a single chip
- ❖ Betatron in Albuquerque contracted to populate the first batch of detector boards for use in Prototype 3
- ❖ Raised approx. \$2.5 million; kicking off another round for up to \$2 million
- ❖ <https://optipulse.com>



L E N S

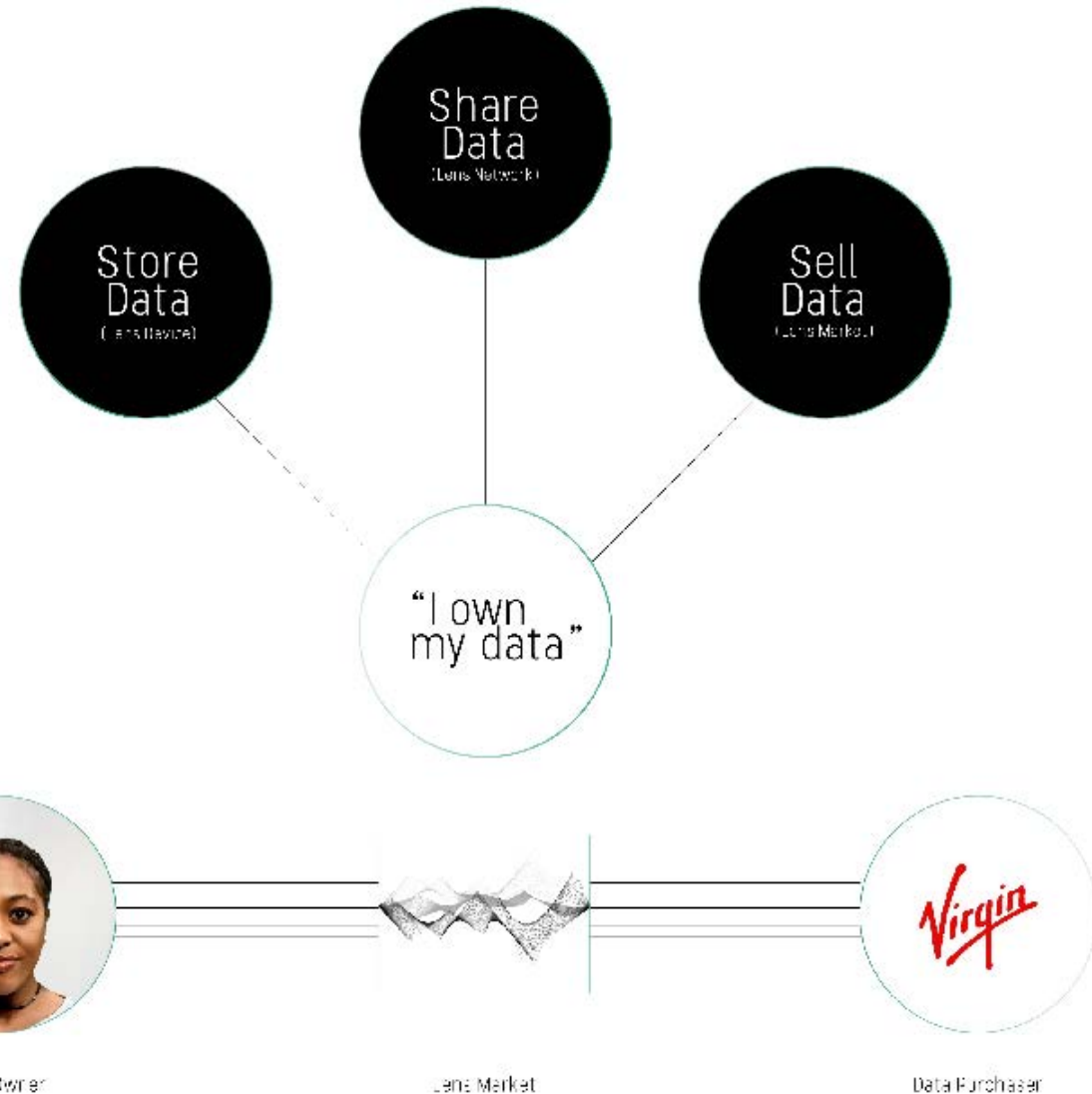
- ❖ **Lens is giving the individual ownership of their data allowing them to store, share, and sell data**
 - Building hardware device for the individual to securely store their data
 - Creating an enterprise market for the individual to sell their data
 - Building a phone app to interact and share with the data stored on an individual's hardware device
 - Lens makes 10% off each transaction made

- ❖ Splash page up and running: mylens.io

- ❖ Product launch event September 20th

- ❖ Received \$100,000 from STC's co-investment fund

- ❖ Mark Chavez, CEO



A RAINFOREST IN THE DESERT

- ❖ What is a Rainforest?
 - An environment with special characteristics
 - Provides the right setting to foster serendipitous evolution
 - As applied to innovation systems, we want to nurture the sprouts (startup companies) to grow
 - Bottom up model



INNOVATION ACADEMY

Program Data



900+

Students registered for iA



36

Student-run companies currently in business



143

iA approved courses taught each semester



85

Different majors represented



\$1.3 million

in venture funding for student-run businesses



INNOVATION ACADEMY



Robert G. DelCampo, Ph.D.

Interim Dean
University College

Executive Director
Innovation Academy

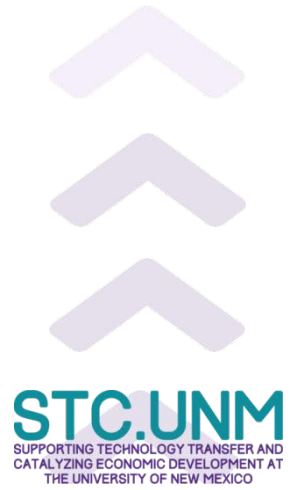
Office of the Provost and Executive VP for Academic Affairs

Program progress:

- >50% female, >50% students of color, >65% first generation college students
- Pitch Competitions had over 190 companies/groups and over \$50,000 in prize money
- 82 students enrolled in 2+1+2 Associates to MBA

INNOVATE ABQ

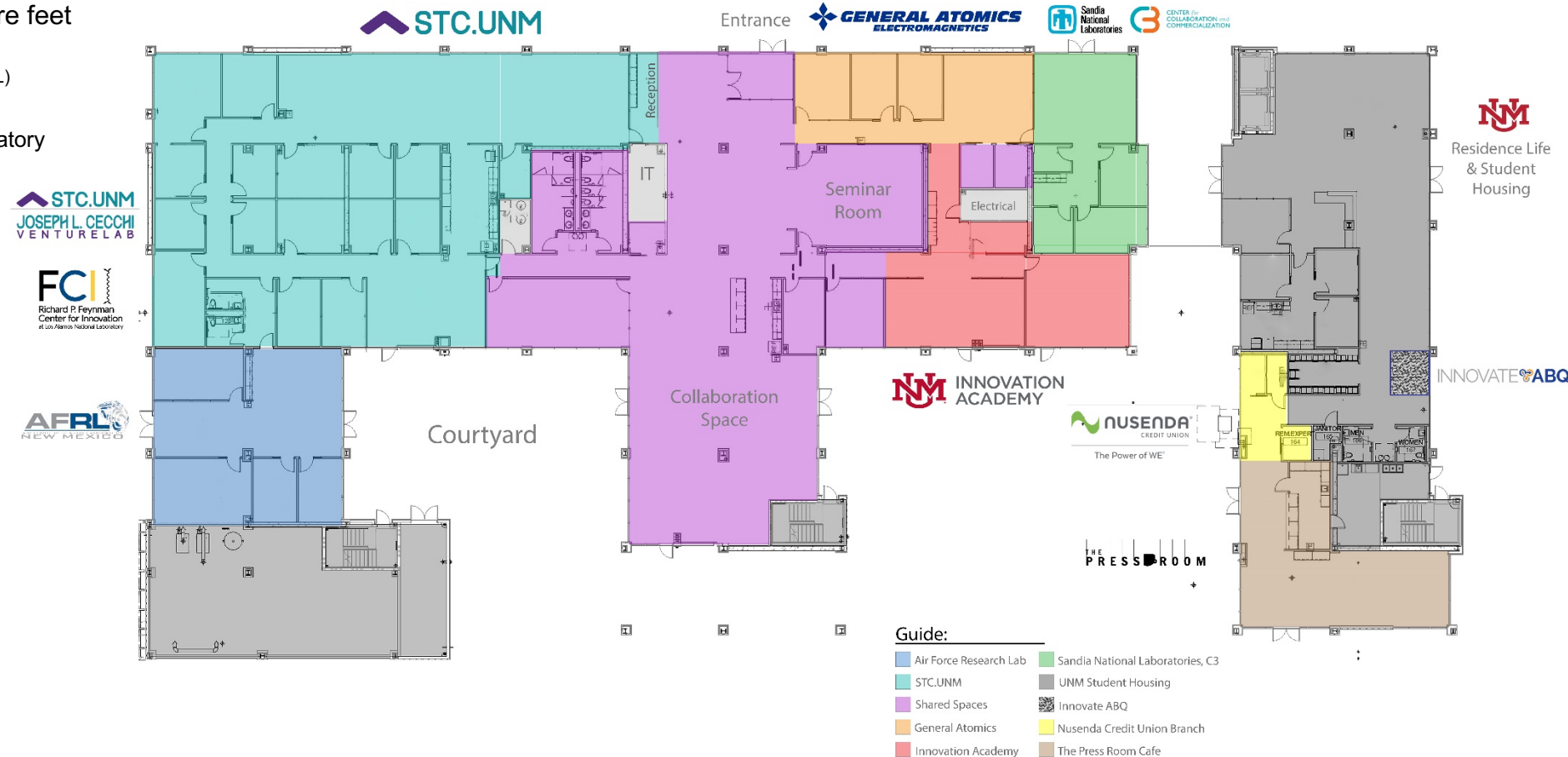
lobo RAINFOREST



INNOVATE ABQ

- ❖ First new building – Lobo Rainforest building held groundbreaking ceremony June 2016
- ❖ 158,830 square foot, Six story building
- ❖ Ground Floor–29,485 square feet
 - STC.UNM
 - Cecchi VentureLab (CVL)
 - UNM Innovation Academy
 - Air Force Research Laboratory
 - Sandia National Labs
 - General Atomics
 - Los Alamos Lab
 - Nusenda Branch/Café
- ❖ Upper five floors
 - 155 apartments
 - 2 bedroom/2 bath units
 - Small fitness center – 2nd floor

lobo RAINFOREST



ECOSYSTEM

ABQ Ecosystem

INNOVATE  ABQ
lobo RAINFOREST



RAINFOREST
EDA
U.S. ECONOMIC DEVELOPMENT ADMINISTRATION

*New Mexico Rainforest
EDA University Center*

INNOVATE NEW MEXICO®
Discover The State of Innovation
Showcases

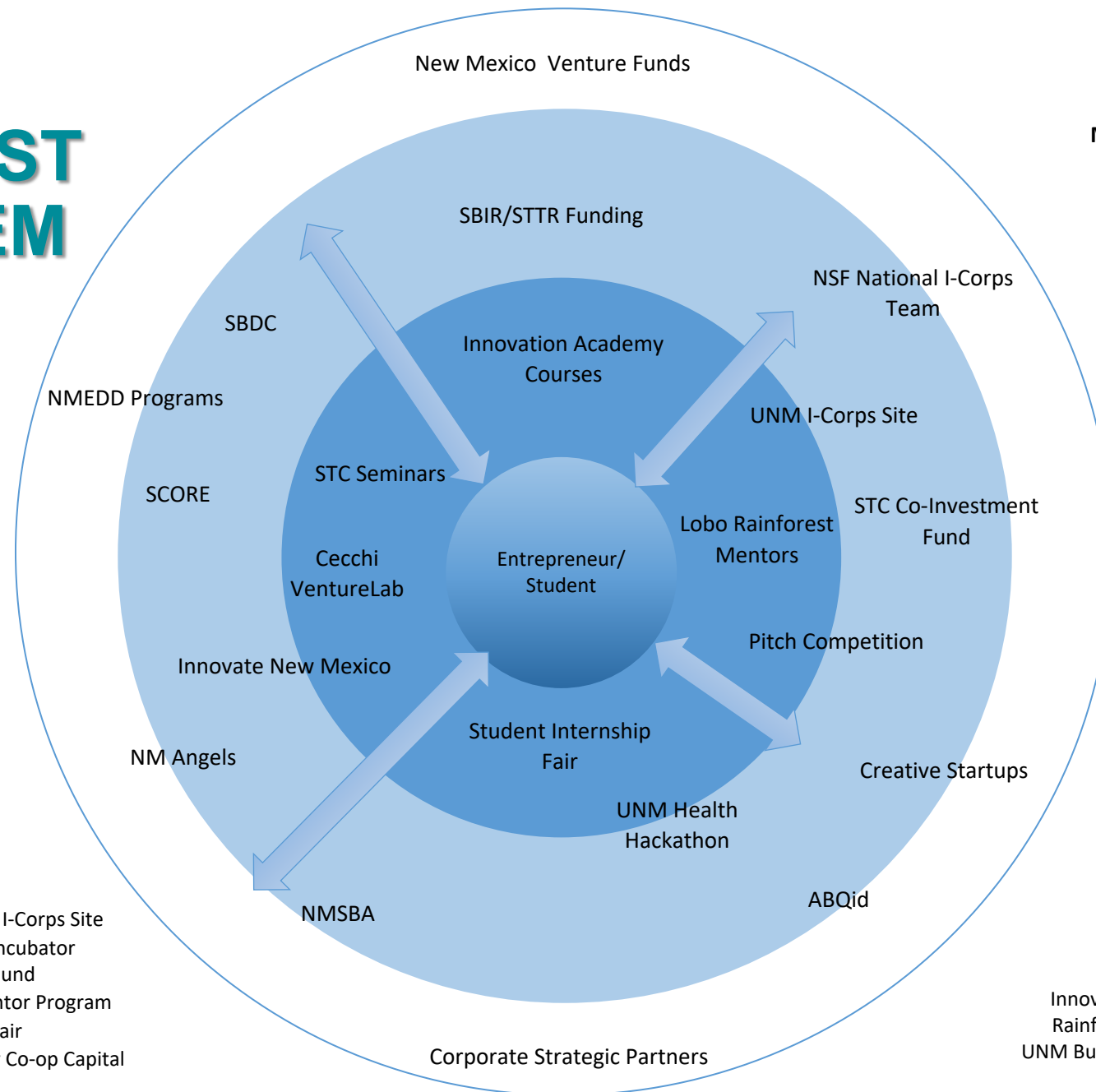
Statewide New Mexico Ecosystem

 GALLUP
 LOS ALAMOS
 TAOS
 VALENCIA
 UNM WEST

UNM Branch
Campuses



LOBO RAINFOREST ECOSYSTEM



Mentoring/Resources

SCORE Office Hours
SBDC Officer Hours
Public Speaking Coach
Office Hours
STC Seminar Series

Events

Innovate New Mexico
UNM Health Hackathon

Students Only

Innovation Academy Courses
Rainforest Pitch Competition
UNM Business Plan Competition

Programs

Lobo Rainforest NSF I-Corps Site
Cecchi VentureLab Incubator
STC Co-investment Fund
Lobo Rainforest Mentor Program
Student Internship Fair
Innovation Academy Co-op Capital

LOBO RAINFOREST ECOSYSTEM

RAINFOREST
lobo

TRAINING

- ❖ Innovation Academy Courses - <https://innovationacademy.unm.edu/ia-scholars/courses.html>
 - Create, Sell, Bank
- ❖ Lobo Rainforest UNM I-Corps Site (\$3K funding) - <http://loborainforest.com/icorps/>
- ❖ National NSF I-Corps (\$50K Funding) - https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf18515&org=NSF
- ❖ STC Seminar Series - <https://stc.unm.edu/events/>
- ❖ New Mexico Rainforest EDA University Center/e-commerce for All - <http://nmrainforest.com/>
- ❖ New Mexico Manufacturing Extension Partnership - <https://newmexicomep.org/>

MENTORING

- ❖ Public Speaking Coach Office Hours (at the Lobo Rainforest)
- ❖ SBDC (Office hours at the Lobo Rainforest) - <http://www.nmsbdc.org/>
- ❖ SCORE (Office hours at the Lobo Rainforest) - <https://albuquerque.score.org/>
- ❖ PTAC - <https://www.nmptac.org/>
- ❖ NM Fast - <http://arrowheadcenter.nmsu.edu/nmfast/>
- ❖ Lobo Rainforest Mentors

FUNDING

- ❖ Innovation Academy Co-op Capital/Loans (up to \$10K) - <https://innovationacademy.unm.edu/programs/co-op-capitalloans.html>
- ❖ NMSBA Program Funding (Technical Assistance up to \$20K) - <https://www.nmsbaprogram.org/>
- ❖ NMEDD Programs - <https://gonm.biz/business-development/edd-programs-for-business/office-of-science-technology/>
- ❖ SBIR/STTR Funding - <https://www.sbir.gov/>
- ❖ New Mexico Angels - <http://nmangels.com/>
- ❖ STC.UNM Co-Investment Fund (up to \$100K co-investment in UNM companies)

❖ New Mexico Venture Funds (examples)

- Verge Fund - <http://vergefund.com/>
- Cottonwood - <https://www.cottonwood.vc/>
- Sun Mountain Capital - <https://sunmountaincapital.com/>
- NMA Ventures - <https://www.nmaventures.com/>

ACCELERATORS/INCUBATORS

- ❖ STC.UNM Cecchi Venture Lab Incubator (office space) - <https://stc.unm.edu/cvl/>
- ❖ BioScience Center - <http://www.thebiosciencecenter.com/>
- ❖ WESST - <https://www.wesst.org/>
- ❖ ABQid (\$20k for 6% equity) - <https://www.abqid.com/>
- ❖ Creative Startups - <http://www.creativestartups.org/>
- ❖ Mixing Bowl (for food start-ups) - <http://www.svedc.org/development-programs/the-mixing-bowl/>

CORPORATE STRATEGIC PARTNERS

EVENTS/NETWORKING

- ❖ Student Internship Fair - <https://innovationacademy.unm.edu/programs/internship/index.html>
- ❖ Rainforest Pitch Competition (up to \$1K funding) - <http://stc.unm.edu/epc>
- ❖ UNM Business Plan Competition (up to \$25K funding) - <https://bizplan.mgt.unm.edu/>
- ❖ UNM Health Hackathon - <https://hsc.unm.edu/research/ctsc/blog/unm-hsc-hacking-health.html>
- ❖ Entrepreneurial Events at the Lobo Rainforest - <http://loborainforest.com/events/>
- ❖ Innovate New Mexico Tech Showcases - <http://www.innovatenewmexico.com/events/>

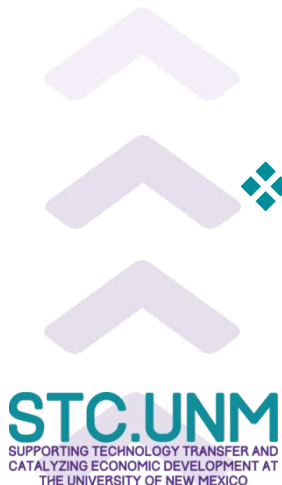
*If you have any questions or would like more information about the events and programs listed above, please feel to reach out to Cara Michaliszyn at cmichaliszyn@stc.unm.edu.

RAINFOREST STUDENT PITCH COMPETITION

- ❖ Hosted by STC.UNM and the UNM Innovation Academy
- ❖ Student entrepreneurs present their innovative ideas for products, services or technologies in 60-90 second presentations before entrepreneurs, investors, and business professionals in the community

91%
OF PITCH
COMPETITION
PARTICIPANTS ARE
CURRENTLY IN
BUSINESS

- ❖ Next competition will be in the fall



LOBO RAINFOREST I-CORPS SITE

- ❖ To encourage and support entrepreneurs from all disciplines and backgrounds at UNM to commercialize their projects, create new start-up businesses, generate licensing agreements and business models, and submit fundable proposals to the I-Corps program
- ❖ Receive up to \$3,000 to participate in the customer discovery process of a STEM-related innovation
- ❖ 2 cohorts per year – First cohort started in October 2017
- ❖ Program consists of workshops and meetings over 10 weeks, where teams work to validate the market size, value propositions, and customer segments of their innovations
- ❖ National Lab teams joined in 2018
- ❖ Apply at <http://loborainforest.com/icorps/>



LOBO RAINFOREST I-CORPS SITE

Spring 2019 Teams



❖ UNM Teams

- A software that acts as a tool for those who want to change their physical address across any product, service, or platform in under a minute
- A digital platform allowing students to optimize their university's resources through advanced customization and networking
- Wheelchair armrest for stroke patients
- Arterial Pulse Oximetry
- Red-eye reflex in order to recognize change; consequently, this could help identify early stages of eye disease
- Comprehensive at home blood testing device
- Blanket Booster for hospitals, nursing homes and other medical applications (UNM Gallup)
- TaosWorks is a coworking space and a business creation lab. (UNM Taos)
- Developing Manufactured housing Site Development technology
- Biome Crosstalk to diagnose Inflammatory bowel disease (IBD) and develop personalized therapies and strategies for patients
- Broad Spectrum HPV Antivirals that prevent infection and/or neoplastic progression
- A new class of mini centrifuge for continuous, high-volume separation of solids from a liquid feed
- Enterprise system that would improve employee productivity and efficiency within an organization
- Non-destructive measurement of the absorption coefficient of the doped single-mode optical fibers
- Development of Fully Autonomous Mobile Robotics using Deep Learning and Deep Reinforcement Learning

❖ National Lab Teams (AFRL)

- Technology that allows user to image artificial satellites during the daytime.
- Incorporate/prototype affordable adaptive optics (Fast Steering Mirror) for smaller telescopes

EDA UNIVERSITY CENTER

New Mexico Rainforest



- ❖ 5-year grant
- ❖ STC and UNM, in a partnership with the Innovation Academy will expand the Rainforest model to the branch campuses.
- ❖ The program will be a blended model of training, support, and resources for emerging entrepreneurs provided by experts/mentors who will instruct onsite and through distance learning and teleconferencing that will build relationships and skills.
- ❖ Class Credits and Certificate Program

UPCOMING UNIVERSITY CENTER SEMINARS

- ❖ June 26 – **“Design Thinking”** Presented by Nancy Lewis, MPA, M.S., Director of the UNM Innovation Academy’s Canopy for Creative Collaboration at the Lobo Rainforest
Register at loborainforest.com/events/category/university-center/

- ❖ Past Seminars
 - March 29 – **“Pitching/Presenting your Idea”**
 - April 17 – **“Market Analysis”**
 - May 2 – **“Business Canvas”**

You can view recordings of past seminars at <http://loborainforest.com/nmrainforest>



CREATE. SELL. BANK!



- ❖ Online Course Offering: Create, Sell, Bank
 - Framework for eCommerce, affiliate marketing, how working online can inform your business/non-profit
 - Class offered for credit via UNM Online or for certificate for community members
- ❖ Instructor: Bill Szaroletta, P.E., szar@unm.edu
- ❖ Course Numbers:

	Term	CRN	Subject	Number	Section
UNM Main	201910	49326	LAIS	309	014
Los Alamos	201910	49081	UNIV	101	302
Gallup	201910	49197	MGMT	190	470
Taos	201910	49386	MGMT	190	800
Valencia	201910	49689	MGMT	190	501

REMARKABLE STUDENT ENTREPRENEUR

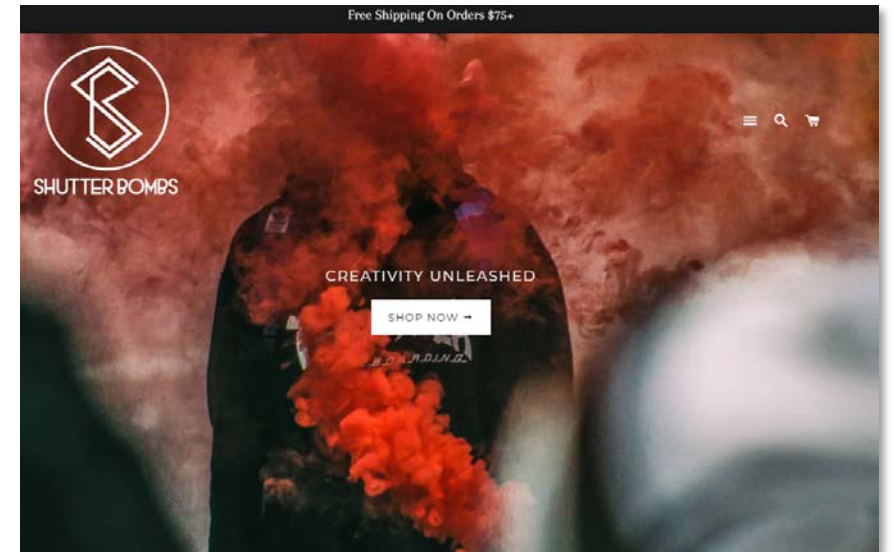
- ❖ Kyle Guin, 21 year old entrepreneur developed startup companies **Pencil-In** and **Shutter Bombs**
- Shutter Bombs are colored smoke bombs for photography and videography use and is marketed specifically to content creators
 - Pencil-In is a mobile application for iOS devices, that can take a picture of a printed schedule or event and add it in to the user's phone calendar – *acquired by company named Lens*



CSB SUCCESS STORY – SHUTTER BOMBS

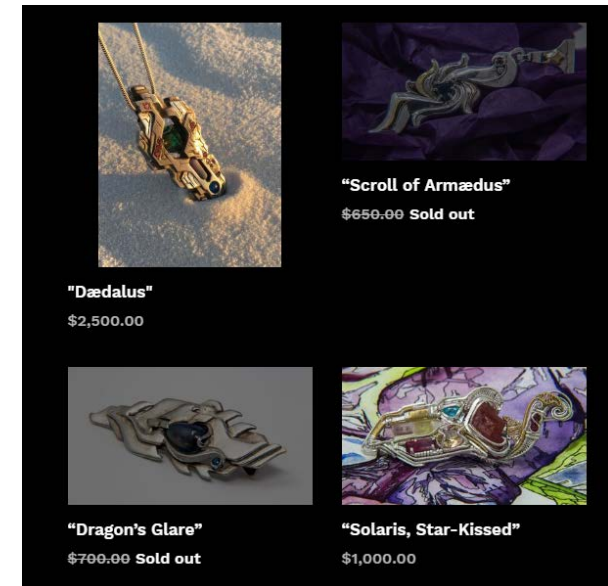
- ❖ ShutterBombs.com was conceived and founded by UNM student Kyle Guin using innovation processes in Create. Sell. Bank!
- ❖ Kyle, a professional photographer and videographer, won \$1,000 in the Student Pitch Competition. His domain name selection was researched and purchased. He set up an online store and made his first sales.
- ❖ In CSB 2, the product cost model was refined through international vendor interviews and research. Kyle designed custom labels and obtained shipping approvals for the Shutter Bombs product line. Kyle scaled his business using paid ads.
- ❖ Shutter Bombs has 3 employees (founder plus 2 hires) and has grown past \$20K/month in sales.

Shopify store at <https://shutterbombs.com>



CSB SUCCESS STORY – SESSIONS FINE ART

- ❖ Sessions Fine art & Minerals was developed by Brandon Sessions in Create. Sell. Bank!
- ❖ Art, gems, minerals now generating sales
- ❖ An online store was set-up using Shopify
- ❖ Plans to develop free jewelry-making video tutorials
- ❖ <https://sessionsfine.art/>



CECCHI VENTURE LAB

JOSEPH L. CECCHI
VENTURE LAB

- STC's Incubator program
- Office space for newly forming companies
- Access to program support from STC student interns
- Co-working Space
 - Open desk on a first-come, first-served basis
 - Physical address
 - Mail collection
- Conference rooms, high-speed internet, etc.
- Introductions to investors/others

