

STC.UNM

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

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October 12, 2018

STC OVERVIEW



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



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STC.UNM BOARD OF DIRECTORS



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Mr. James Koch



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Mr. Charles Welborn



Dr. Craig White

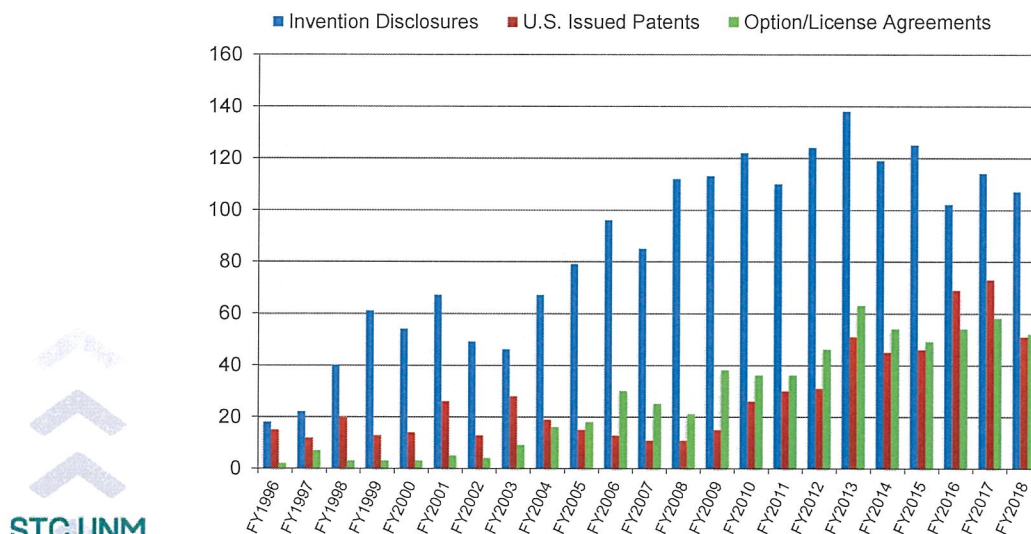


Dr. Richard L. Wood



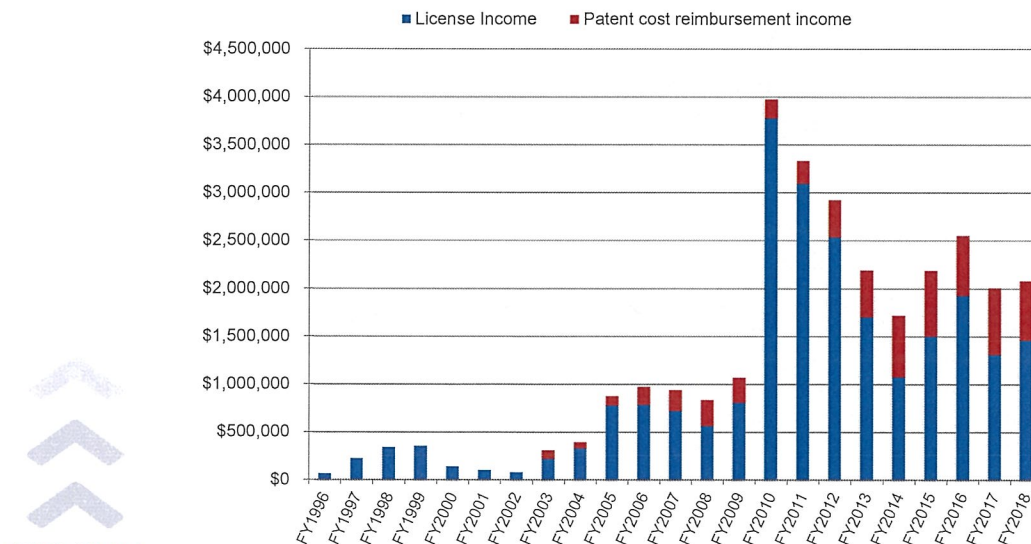
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STC METRICS – DISCLOSURES, PATENTS AND AGREEMENTS



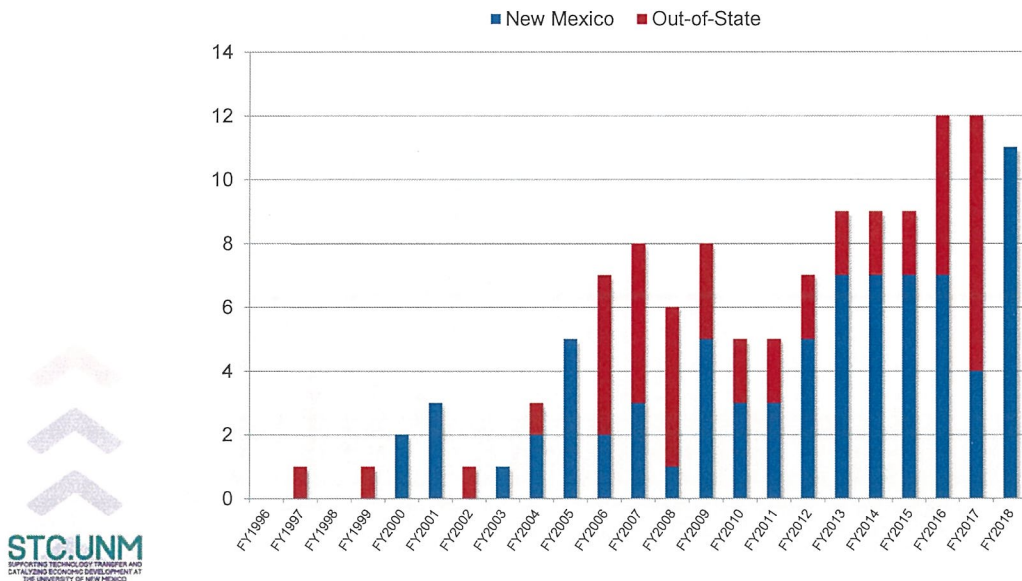
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STC METRICS – INCOME



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STC METRICS – START-UP COMPANIES



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COMMERCIALIZATION ACTIVITIES

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INVENTION DISCLOSURE

- ❖ STC receives new invention disclosures through outreach mechanisms such as personal visits with faculty, seminars, newsletters, press releases and website interaction.
- ❖ STC received 107 invention disclosures in FY 2018
- ❖ UNM inventor can disclose their invention on STC.UNM website
- ❖ STC evaluates each invention for patentability and commercial potential.
 - STC staff and UNM interns conduct preliminary patent searches.
 - Marketing staff and student interns conduct preliminary market assessments using proprietary and purchased software and database tools.



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INTELLECTUAL PROPERTY PROTECTION

- ❖ Patents are the most common form of intellectual property.
- ❖ In general, a provisional patent application is filed first. Within one year, a decision must be made whether to convert to a non-provisional patent application.
 - Decision based on the market potential, patentability and enforceability
 - On average, STC files provisional patent applications on approximately 80-90% of the disclosures it receives each year and about one-half of the provisional patent applications are converted into utility patent applications.
- ❖ STC received 51 issued patents in FY 2018, based on applications filed in prior years.
- ❖ Other IP forms are considered by STC: trademarks, copyrights, and trade secrets.



ACCOMPLISHMENTS

UNM makes list of top 100 worldwide universities with largest number of issued US patents for the fourth year in a row (recognized by National Academy of Inventors (NAI) and the Intellectual Property Owners Association (IPO))

Ranked 32 in 2017
 Ranked 33 in 2016
 Ranked 47 in 2015
 Ranked 42 in 2014
 Ranked 56 in 2013

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STC MARKETING

Tools

- Proprietary database subscriptions
- UNM Library database subscriptions
- Sophia Knowledge Management System – Internal system
 - Execute mailing campaigns
 - Generate lists
 - Track and record data (addresses, interactions, dates, etc.)
- Flintbox – External website to advertise technology
 - STC has a portfolio of over 530 inventions that are available for licensing to other parties: unm.flintbox.com



Process

- A non-confidential description of the idea is posted on STC's website as a means of advertising that the technology is available for licensing.
- STC identifies applications for its technologies and contacts established companies to generate interest in its technology portfolio.
- For those technologies suitable for a start-up, STC works to link business entrepreneurs, venture capitalists, and UNM faculty to support the development of a start-up company.
- Several meetings are held per week to preview technologies to investors and entrepreneurs. STC has a preference, whenever possible, to commercialize its technologies within New Mexico.

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STC EVENTS

STC Hosts a Regular Seminar Series and Other Events, Looking for Ways to Enhance Networking Opportunities

Sample Events

- ❖ Rainforest Student Pitch Competition
- ❖ Student Internship Fair
- ❖ New Ventures Café with SCORE
- ❖ STC Seminars
 - *How to Launch a Web App*
 - Presented by Marios Pattichis, Dept. of ECE
 - *SBIR: The Nation's Best Source of Funding for Tech Startups*
 - Presented by Barbara Stoller, SBIR Coach
 - *Trademarks: Important Assets in the Digital Age*
 - Presented by Chuck Valauskas, JD, LL.M., Valauskas Corder LL (Chicago)
 - *Happy (Learning) Hour—7 Legal Disasters Hidden in your Business & Solutions*
 - Presented by Candice L. Owens and Seth Gardenswartz, Leverage Legal Group



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STC PROGRAMS TO SUPPORT UNM START-UPS

❖ Cecchi VentureLab

- Office space for newly forming companies
- Student intern support
- Conference rooms, high-speed internet, etc.
- Virtual program
- Introductions to investors/others

JOSEPH L. CECCHI
VENTURELAB

❖ Lobo Rainforest I-Corps Site



CORPS
NSF Innovation Corps



❖ STC/UNM Foundation Co-Investment Fund

- \$100K Co-investment available

❖ Partnership with New Mexico Angels

- Showcases/Presentations
- STC & SCORE Office Hours

SCORE

❖ Regular presentations to entrepreneurs/companies/investment community

- Highlighting UNM start-ups

OSAGE
VENTURE PARTNERS

❖ MOU with Osage Venture Partners

- National Venture Fund



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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
- ❖ 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
- ❖ First Cohort started in October 2017
- ❖ Program expanded in Fall 2018 to include teams from both Sandia and AFRL-NM
- ❖ <http://loborainforest.com/icorps/>



CORPS
NSF Innovation Corps

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STC ACTIVE START-UP COMPANIES

~66% of the 126 companies spun out from the University of New Mexico are in business and active

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INVENTOR HONORS

STC.UNM *Innovation Fellows*



Sang M. Han, PhD (2018)



Gabriel P. López, PhD (2016)



Graham S. Timmins, PhD (2013)



Bryce Chackerian, PhD (2017)



Cheryl L. Willman, MD (2015)



Stephen D. Hersee, PhD (2012)



David Peabody, PhD (2017)



C. Jeffrey Brinker, PhD (2015)



Larry A. Sklar, PhD (2011)



Plaman B. Atanassov, PhD (2014)



Steven R.J. Brueck, PhD (2010)

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INVENTOR HONORS



2017 Fellow
Cheryl L. Willman, M.D.
 Distinguished Professor of Pathology
 Director & CEO of the UNM
 Comprehensive Cancer Center



2017 Fellow
Plamen B. Atanassov, Ph.D.
 Distinguished Professor of Chemical and
 Biological Engineering
 Director of the UNM Center for Micro-
 Engineered Materials



2016 Fellow
Gabriel P. López, Ph.D.
 Vice President for Research
 Professor, Department of Chemical &
 Biological Engineering
 Founding Director and Member, Center for
 Biomedical Engineering
 The University of New Mexico



2015 Fellow
C. Jeffrey Brinker, Ph.D.
 Distinguished and Regents'
 Professor, Department of Chemical &
 Biological Engineering
 Professor, Department of Molecular Genetics &
 Microbiology
 Member, UNM Cancer Center
 The University of New Mexico



2015 Fellow
Steven R. J. Brueck, Ph.D.
 Distinguished & Professor Emeritus
 Department of Electrical & Computer
 Engineering
 Department Physics & Astronomy
 Center for High Technology Materials
 The University of New Mexico



STC PEER INSTITUTION COMPARISON

Among 18 peer institutions for every \$2 Million in research dollars, STC is:

- ❖ 5th in number of invention disclosures
- ❖ 1st in number of licenses and options agreements signed
- ❖ 9th in licensing income
- ❖ 1st in number of start-up companies created



MILKEN INSTITUTE RANKING

UNM Ranked 28th for Tech Transfer & Commercialization

Milken Institute Technology Transfer and Commercialization

Rank	Institution
1	University of Utah
2	Columbia University
3	University of Florida
4	Brigham Young University
5	Stanford University
6	University of Pennsylvania
7	University of Washington/NIH, Res. Fdn.
8	Massachusetts Institute of Technology (MIT)
9	California Institute of Technology
10	Cornell University
11	New York University
12	Purdue Research Fdn.
13	University of Texas System
14	University of Minnesota
15	University of California, Los Angeles
16	University of Michigan
17	Cornell University
18	University of Illinois Chicago/Urban
19	University of South Florida
20	University of California, San Diego
21	Arizona State University
22	University of Central Florida
23	Northwestern University
24	Cleveland Clinic
25	University of Pittsburgh
26	North Carolina State University
27	Harvard University
28	University of New Mexico/Sci. & Tech. Corp.
29	University of Southern California
30	Stanford Institute of Technology
31	The General Hospital aka Massachusetts General Hospital
32	Georgia Institute of Technology
33	Johns Hopkins University
34	Duke University
35	University of Nebraska
36	Mayo Foundation for Medical Education and Research
37	Winchell Institute for Biomedical Research

Rank	Institution
38	University of Colorado
39	University of Missouri at Kansas
40	UMI/Anderson/UMF
41	University of California, Davis
42	Vanderbilt University
43	University of North Carolina Charlotte
44	University of North Carolina Chapel Hill
45	University of Houston
46	Emory University
47	Drexel State University
48	University of Virginia Parent Fdn.
49	Indiana University Res. & Technology Corp./IURTC
50	The Research Foundation for The State University of New York
51	University of Georgia
52	Tata University
53	University of California, Berkeley
54	University of California, San Francisco
55	Ohio State University
56	University System of Maryland
57	Claremont University
58	University of Arizona
59	University of Iowa Research Fdn.
60	Georgetown University
61	University of Alaska
62	Penn State University
63	University of Oregon
64	University of California, Irvine
65	University of Massachusetts
66	University of Toledo
67	Memorial Sloan Kettering Cancer Center
68	East Israel Drexelmen Medical Ctr.
69	Baylor College of Medicine
70	Yale University
71	Rutgers The State University of NJ
72	Emory University
73	Washington State University
74	University of Connecticut
75	Mount Sinai School of Medicine of NYU
76	Southwest Minnesota University
77	Rice University
78	Texas A&M University System
79	Washington State University Research Fdn.
80	University of Kentucky Research Fdn.



Rank	Institution
81	Penn State University
82	The Salk Institute for Biological Studies
83	University of California, Santa Barbara
84	Brigham & Women's Hospital Inc.
85	University of Tennessee
86	Children's Hospital Boston
87	University of Arkansas for Medical Sciences
88	Florida State University
89	Cold Spring Harbor Laboratory
90	Utah State University
91	Louisiana Tech University
92	Louisiana State University System
93	Virginia Tech Industrial Properties Inc.
94	Oregon Health & Science University
95	H Lee Moffitt Cancer Ctr & Res Institute
96	Tulane University
97	Iowa State University
98	University of Chicago/UC/Teach
99	Temple University
100	Dana-Farber Cancer Institute
101	University of Rochester
102	Portland State University



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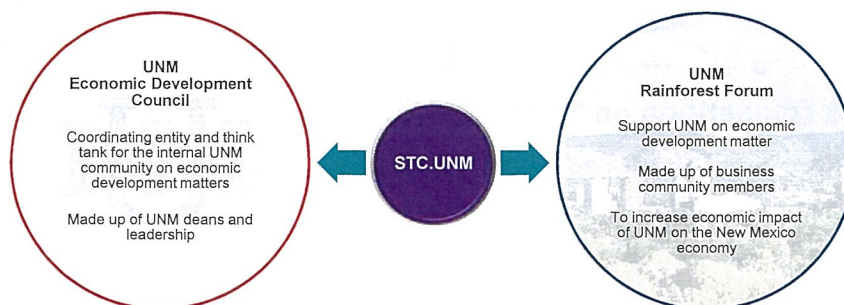
ECONOMIC DEVELOPMENT

A RAINFOREST IN THE DESERT

- ❖ What is a Rainforest?
 - An environment with special characteristics
 - Provide 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



STC'S ECONOMIC DEVELOPMENT ACTIVITIES



INNOVATION ACADEMY

Program Data



-  **875**
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




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

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RAINFOREST STUDENT PITCH COMPETITION

This is a community initiative to help recognize our student entrepreneurs in the state!



- ❖ Hosted by STC.UNM and the UNM Innovation Academy
- ❖ **Next competition on November 5, 2018 at Bow & Arrow**
- ❖ 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
- ❖ Competition open to students from any university in the state of New Mexico



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INNOVATE ABQ



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CENTRAL/BROADWAY SITE



UNM raises \$6.5M in external funding to support purchase of site in 2013

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INNOVATE ABQ®, INC BOARD



Terry Laudick
Chair



Waneta Tuttle
Vice Chair



Charles I. Wellborn
Secretary/Treasurer



Jeff Apodaca



The Honorable
Mayor Timothy Keller



Garnett S. Stokes



David W. Harris



Richard S. Larson



Pat Vincent-Collawn



The Honorable
John Sanchez



Lonnie C. Talbert



Carlos Perea



Katharine W. Winograd



VISION FOR INNOVATE ABQ



INNOVATE ABQ IS A HUB FOR RESEARCH AND INNOVATION THAT IS HIGHLY CONNECTED WITH DOWNTOWN ALBUQUERQUE.



INNOVATE ABQ

lobo RAINFOREST







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JAYNES



SIGNET
DEVELOPMENT



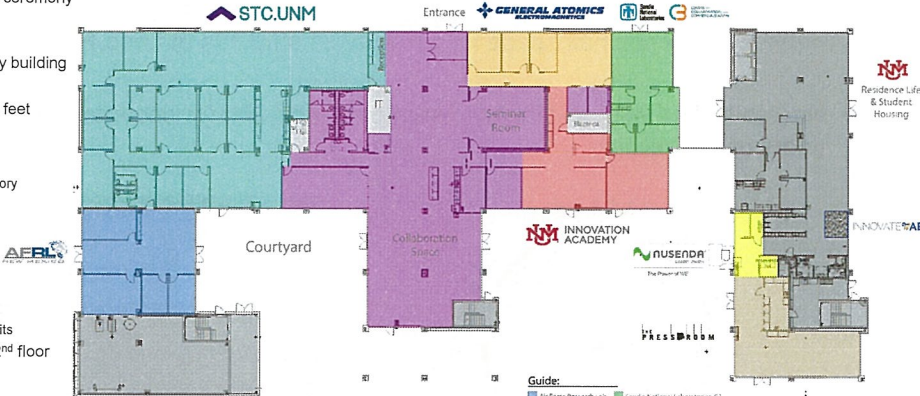
DEKKER
PERICH
SABATINI
ARCHITECTURE
DESIGN
INSPIRATION

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INNOVATE ABQ


lobo RAINFOREST

- ❖ 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 Venture Lab (CVL)
 - UNM Innovation Academy
 - Air Force Research Laboratory
 - Sandia National Labs
 - General Atomics
 - Nusenda Branch/Café
- ❖ Upper five floors
 - 155 apartments
 - 2 bedroom/2 bath units
 - Small fitness center – 2nd floor



Guide:

■ AFRL Research Lab	■ Sandia National Laboratories, C3
■ STC.UNM	■ UNM Innovation Academy
■ General Atomics	■ Nusenda A/RD
■ Innovation Academy	■ Nusenda Credit Union Branch
	■ The Press Room Cafe



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LOBO RAINFOREST EVENTS

RAINFOREST
lobo

- ❖ Ribbon Cutting and Open House for Lobo Rainforest Building, August 25, 2017
- ❖ NM BIO - Meet NMBio's Board of Directors and Tour UNM's new Lobo Rainforest Building, August 29, 2017
- ❖ NM BIO Board Meeting, September 12, 2017
- ❖ CHTM 200th Issued Patent Event, September 15, 2017
- ❖ 1776 Challenge Cup Albuquerque, September 18, 2017
- ❖ AFRL-RDH Pancake Breakfast, September 19, 2017
- ❖ UNM MarComm Advisory Council, September 20, 2017
- ❖ Intel Future Skills, September 20, 2017
- ❖ Mayor's Prize for Entrepreneurship, November 13, 2017
- ❖ UNM President's Club, November 30, 2017
- ❖ Innovation Academy Disney College Program, December 8, 2017
- ❖ Holiday Open House, December 14, 2017
- ❖ NEWS Symposium Reception, December 19, 2017
- ❖ AFRL Meetings
- ❖ Sandia Meetings
- ❖ NMSBA Meetings
- ❖ Tech Navigator Office Hours, Wednesdays
- ❖ Super STEM Saturday

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NAVAJO NATION STUDENTS AT THE LOBO RAINFOREST

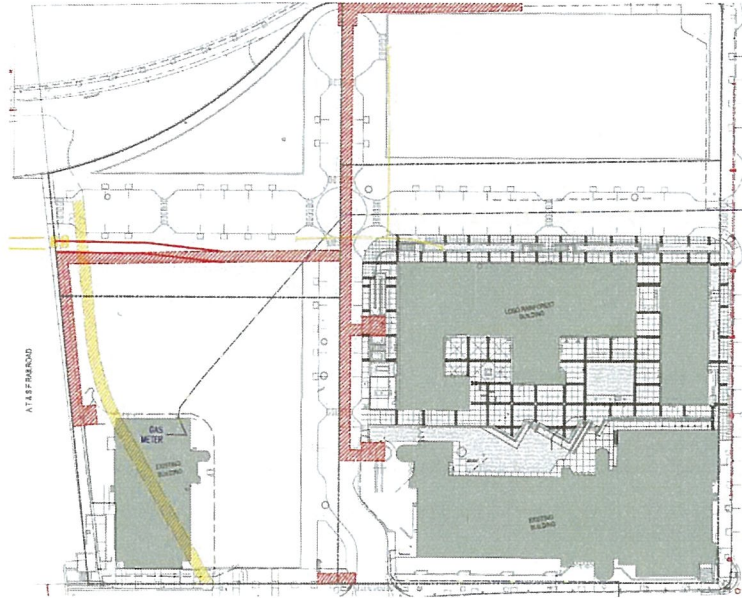
- ❖ The University of New Mexico and Navajo Nation have announced a partnership to provide residence hall space for 118 Navajo students at Lobo Rainforest
- ❖ Navajo Nation will pay UNM the sum of \$1,457,300 for occupancy of the fifth and sixth floors of the building



Russell Begaye, President, Navajo Nation

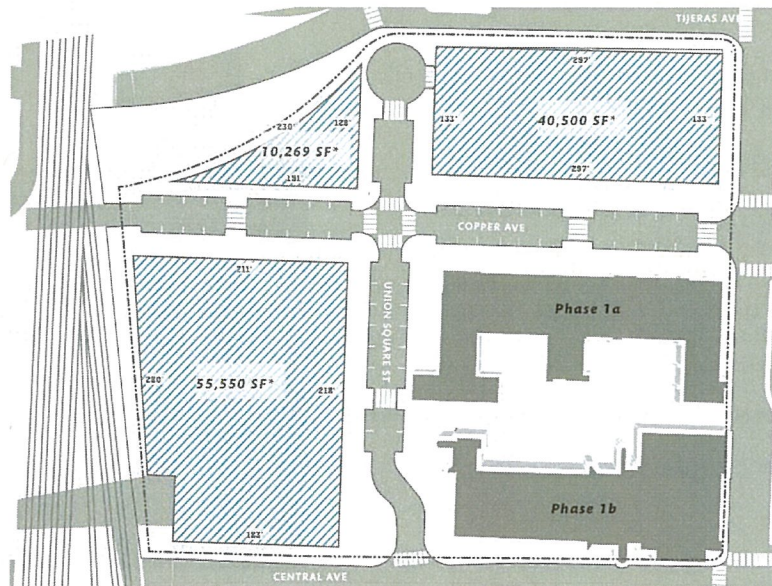
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INNOVATE ABQ MASTER PLAN



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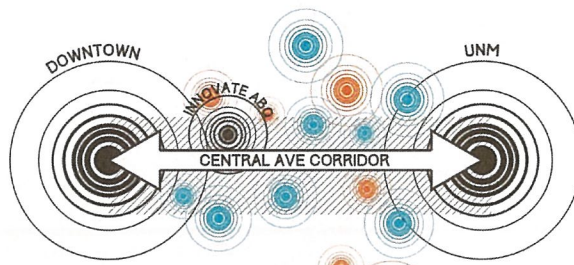
INNOVATE ABQ MASTER PLAN



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INNOVATE ABQ > 7 ACRES

- ❖ The core site is the nucleus of Innovate ABQ and the heart of the Innovation District that will drive the revitalization of downtown Albuquerque



- ❖ Innovation Corridor additions since 2013
 - FatPipe ABQ Coworking Space
 - ABQid moved to Fuse Makerspace
 - FreeRange Coworking Space
 - Titan Development - mixed-use project with multifamily housing, retail and a hotel (Central north of Presbyterian Hospital)
 - Vince DiGregory – EDo Development - mix-used/townhomes (Central between Arno and Broadway)
 - One Central Entertainment District

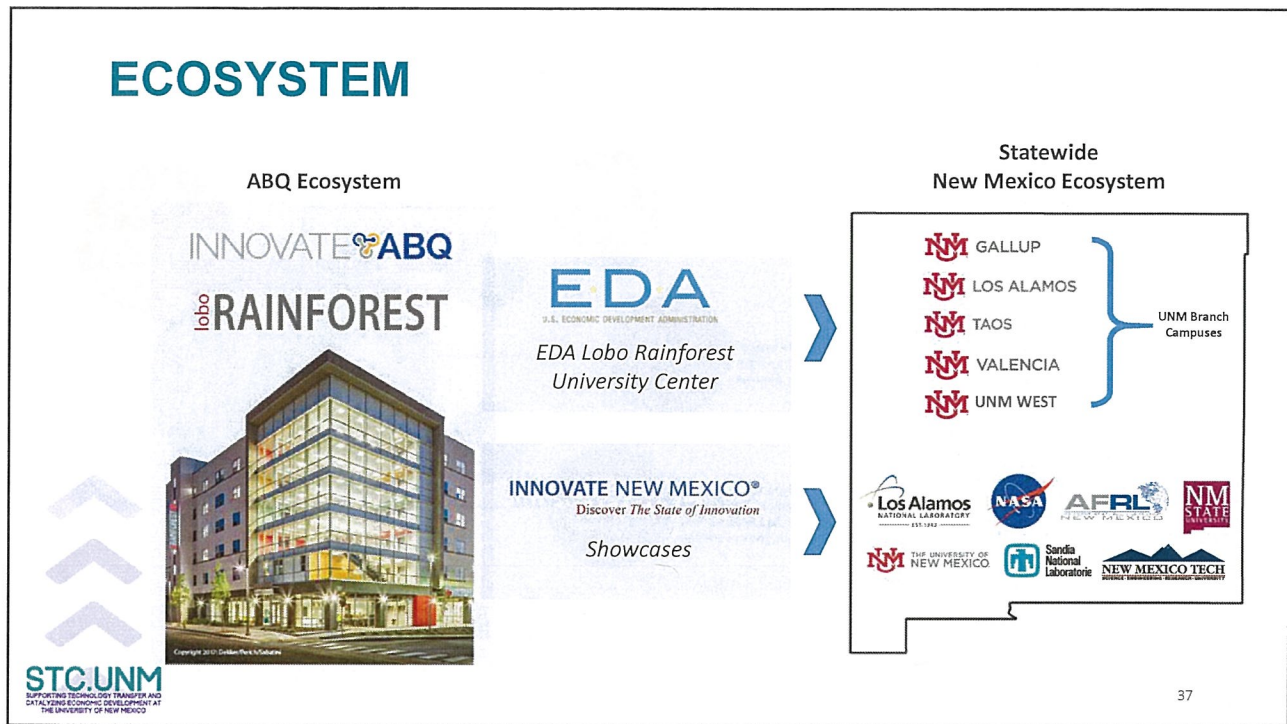


INNOVATE NEW MEXICO®

Discover *The State of Innovation*

- ❖ Front door for technology transfer and economic development in New Mexico
- ❖ Inaugural showcase held April 26, 2016
- ❖ Links start-ups with large corporations and investors out-of-state
- ❖ Leverage the assets for the leading technology transfer organizations in the state of New Mexico: STC.UNM, New Mexico State University, New Mexico Tech, Sandia National Labs, Los Alamos National Labs, Air Force Research Labs, Technology Research Collaboration
- ❖ Promote New Mexico as the “*The State of Innovation*”
- ❖ Website: innovateNewMexico.com





EDA UNIVERSITY CENTER

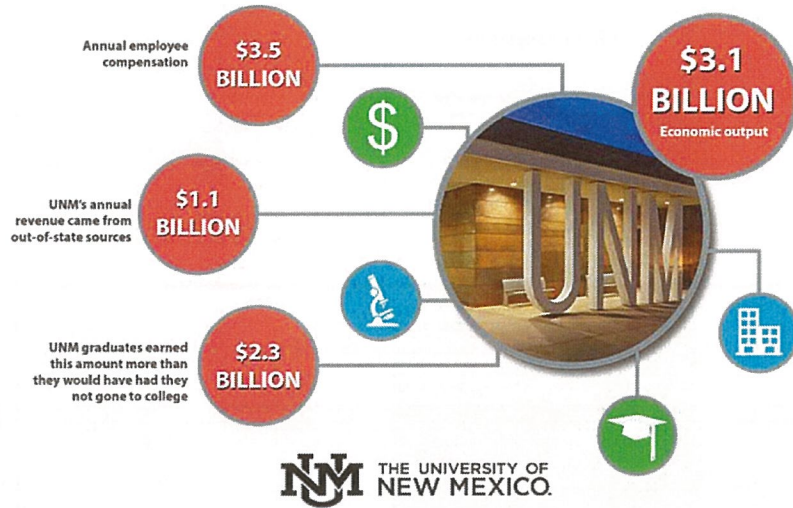
New Mexico Rainforest

- ❖ 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

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STATEWIDE ECONOMIC IMPACT REPORT

- ❖ Commissioned by STC.UNM and made possible by support from the New Mexico Gas Company, an Emera Company.
- ❖ Comprised of data from fiscal year 2017, the following highlights are derived from data from main campus, health sciences campus (medical school, cancer center, hospitals, medical group), four branch campuses and UNM alumni.



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❖ Program details for May 1, 2018 event:

- **Welcome:**
 - Matthew B. Geisel, Cabinet Secretary, New Mexico Economic Development Department
- **Keynote Speaker:**
 - Robert Peterkin, Ph.D., Director of Operations, General Atomics Electromagnetic Systems (GA-EMS Group).
- **Startup Panel:**
 - Mark J. Fidel, Co-Founder, Head of Corporate Development, RiskSense, Inc.
 - Alex Gorsuch, Research & Development Director, MagPI Innovations
 - Alex Koglin, Founder and Chief Technology Officer, NTxBIO
 - Mathis Shinnick, Chief Executive Officer, OptiPulse, Inc.
 - David Will, Chief Strategist, Osazda Energy, LLC
- **Technology Presentations:**
 - Dif-Fix: Get Your Gut Back, Anand Kumar, PhD (Los Alamos)
 - bioZera - 3D Bio-Printing, Christina Salas, PhD (UNM)
 - Digitally Unclonable Function (DUF), Peter Choi, PhD (Sandia)
 - Optically Levitated Nanoparticle Accelerometer, Maxwell Gregoire, PhD (AFRL)
 - Ultrafast X-Ray Imager (UXI), Marcos Sanchez, PhD (Sandia)
 - Ultra-High Vacuum System Assembly Tool, Oscar Martinez, PhD (AFRL)
 - Rapid Sepsis Sensor, Jessica Kubicek-Sutherland, PhD (Los Alamos)
 - Alert Cardio: Low Power Integrated System for Real-Time Arrhythmia Detection, Wei Tang, PhD (NMSU)
 - Assessing the Condition of Railroad Bridges Using Unmanned Aerial Vehicles (UAVs), Fernando Moreu, PhD, PE (UNM)
 - Prosthetic Sleeve Liner, Reza Foudazi, PhD (NMSU)
- **Closing:**
 - Jennifer Sinsabaugh, CEO, New Mexico Manufacturing Extension Partnership

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INNOVATE NEW MEXICO®
Discover *The State of Innovation*

Attend this special collaborative event, sponsored by PhRMA, which will highlight research and technology opportunities, start-up companies, and economic development resources from the leading research institutions in the state of New Mexico!

Innovate New Mexico Technology Showcase

Representatives and researchers/investigators from all 6 research institutions in New Mexico, including the University of New Mexico, the Air Force Research Lab, Los Alamos National Lab, Sandia National Labs, New Mexico Tech and New Mexico State University will be in attendance.

Early registration is \$30, space is limited. Register at <https://innovate-new-mexico.eventbrite.com>

Showcases will be held at Sandia Golf Club, 30 Rainbow Road, Albuquerque, NM 87115.



INNOVATE NEW MEXICO®

Discover *The State of Innovation*

SAVE THE DATE

Innovate New Mexico Showcase

Tuesday, May 7, 2019

Sandia Golf Club



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AFRL & STC RAINFOREST SHOWCASE

November 8, 2018

7:30 AM – 1:00 PM

Lobo Rainforest Building

Register at:

RainforestShowcase.Eventbrite.com



