

IMPACT REPORT



UAB BILL L. HARBERT INSTITUTE FOR
INNOVATION AND ENTREPRENEURSHIP
The University of Alabama at Birmingham

2021

UAB COMMERCIALIZATION: TRANSLATING IDEAS TO IMPACT

The University of Alabama System resumed in-person learning this summer leading up to the fall 2021 semester. The return to campus has offered renewed opportunities for outreach and collaboration and a sense of resiliency among the UAB academic and health systems.

Disclosures of intellectual property have increased by 50 percent since the previous fiscal year, demonstrating UAB's campus-wide continued commitment to innovation, even amid a global pandemic. UAB researchers rose to meet ongoing challenges with life-saving technology and innovation fueled by the university's mission to advance patient care outcomes, provide world-class education and drive research innovation across the enterprise while contributing to the public good.

This year, we launched three new startups based on university technologies – ResBiotic, TixiMed and SonoPhantom. We have at least another three poised for growth in the early months of FY22 and several more earlier in the development pipeline. These emerging technologies run the gamut of medical devices designed to meet real world healthcare challenges, to technology applications that will help build more resilient communities in the near future.

While we are still navigating this post-pandemic “new normal,” the Harbert Institute remains unwavering in our charge to support our researchers and campus entrepreneurs.

Kathy Nugent, Ph.D.

Associate Vice President, Executive Director

Bill L. Harbert Institute for Innovation and Entrepreneurship



Learn more about innovation and entrepreneurship from across the university and community

Groundbreaking technologies	3
Economic development	5
Licensing activities	7
Innovator recognition	9

GROUND BREAKING

UAB spinoff company files \$44 million IPO

In8Bio, formerly known as Incysus, is a clinical-stage biopharmaceutical company that focuses on the discovery, development and commercialization of gamma-delta T cell therapies for cancer treatment. In8bio filed its initial public offering in August, raising \$44 million. in8bio.com



ResBiotic: A new class of probiotics

A biomedical research company founded by C. Vivek Lal, M.D., an associate professor in the UAB Department of Pediatrics, Division of Neonatology, is working to develop and commercialize groundbreaking probiotic formulations for lung health. The product was developed in Lal's Pulmonary Microbiome Lab at UAB, with research and expertise from UAB's Microbiome Center, Lung Health Center, and the Translational Research in Normal & Disordered Development program. resbiotic.com

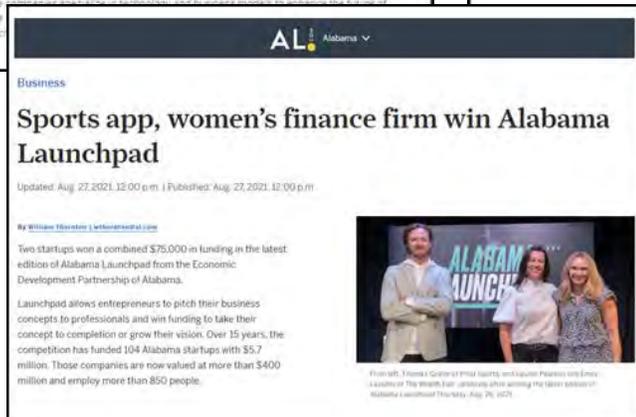
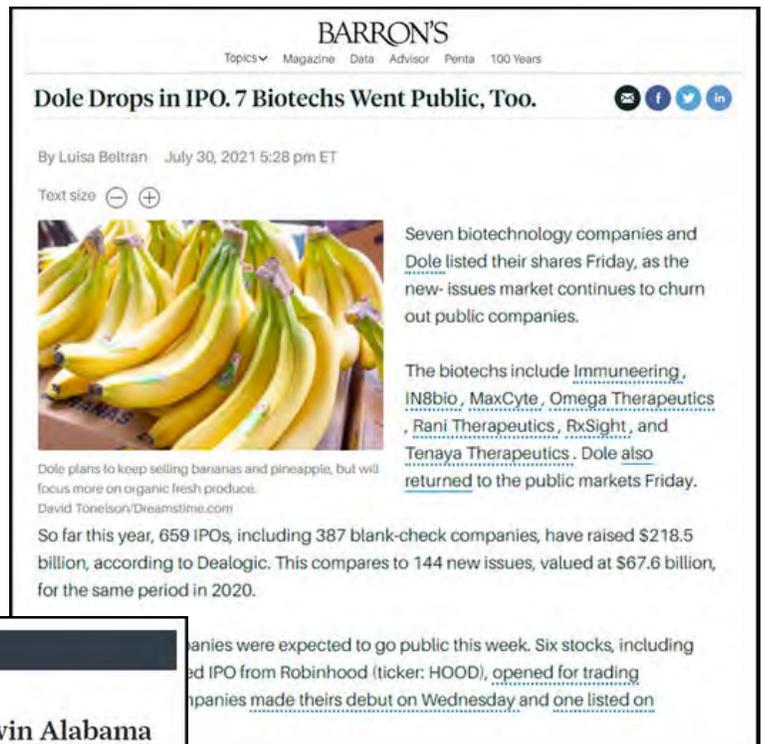
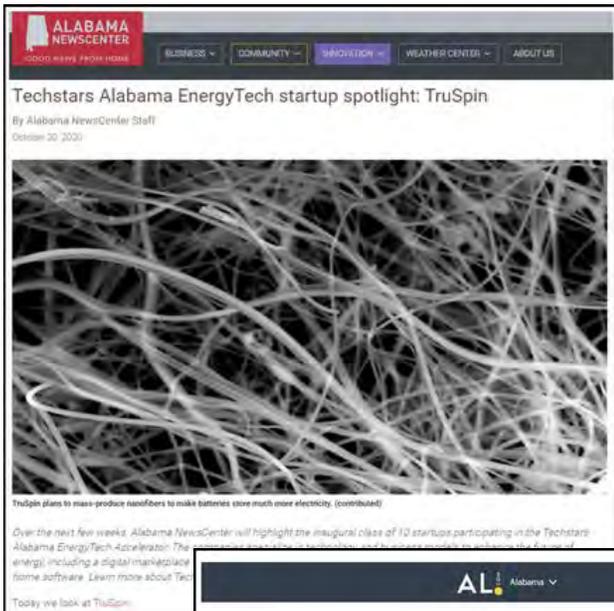
A collage of three news articles. The top left article is from 'THE WALL STREET JOURNAL' with the headline 'How to Make Your iPad More Like a Laptop'. The top right article is from 'FOX5' with the headline 'UAB researcher develops at home immunity test'. The bottom article is from 'BIRMINGHAM BUSINESS JOURNAL' with the headline 'UAB spinoff ResBiotic raises \$3 million in capital'. The bottom article includes a sub-headline 'UAB spinoff startup has secured key funding for its venture into the health realm.' and a photo of a person in a lab coat using a pipette in a laboratory setting.

TECHNOLOGIES

UAB startup company receives FDA clearance for liver imaging software

AI Metrics, a medical imaging startup focused on leveraging artificial intelligence to improve patient care, has received U.S. Food and Drug Administration 510(k) clearance and CE mark clearance for the company's Liver Surface Nodularity software.

Founded by Andrew D. Smith, M.D., Ph.D., vice chair of Clinical Research in the UAB Department of Radiology, AI Metrics technology represents a tremendous cost-saving opportunity for health systems, as the software solution applies to liver images from all CT scanners in an institution and requires no additional hardware. aimetrics.com



ECONOMIC

Highlighting the job growth and capital raised by a selection of UAB startups companies.



Raised \$2M
3 employees



Raised \$75M
15 employees



Raised \$1.6M
5 employees



4 employees



25 employees

PREVIOUS YEARS

2019



Raised \$4.5M
6 employees



Raised \$200k

SonoPhantom

2021

DEVELOPMENT



Raised \$1.6M
3 employees



Raised +\$50K
2 employees



Raised \$280K
1 employee



Raised \$500K
5 employees



2 employees

2020



AlphaYoung

Adjuvax

2022

LICENSING

120

IP Disclosures
Submitted

47

U.S. Patent
Applications

19

U.S. Patents
Issued



ACTIVITY

49

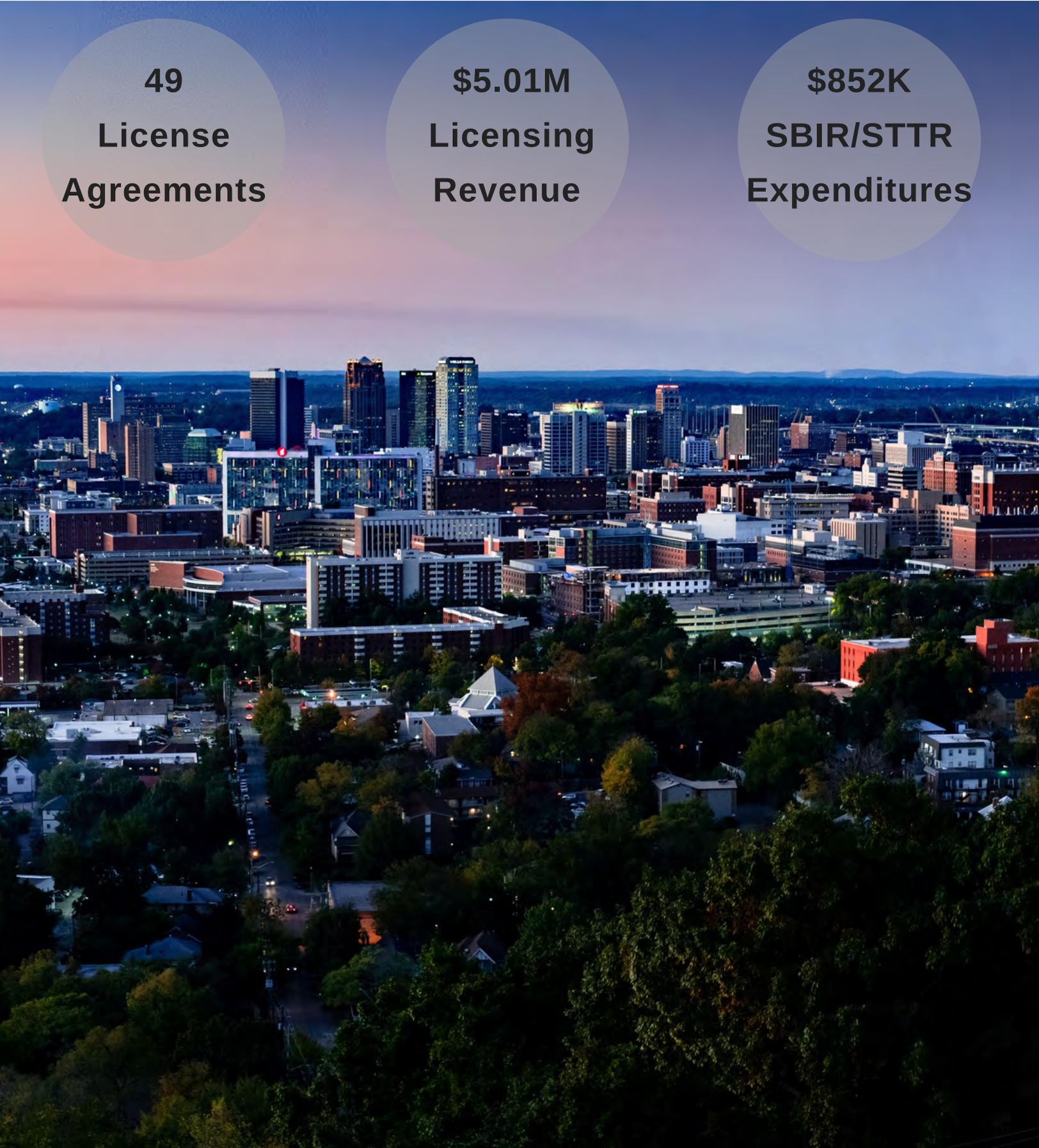
License
Agreements

\$5.01M

Licensing
Revenue

\$852K

SBIR/STTR
Expenditures



RECOGNIZING

Patents

Campus researchers who are inventors on patents issued in FY 2021

Blake Feltman; James T. Houston; Dean Leo Sicking

Patent 10,729,200 - Protective helmets having energy absorbing tethers

Haibin Ning; Selvum Pillay

Patent 10,792,873 - Fastening devices for landing string buoyancy and other solutions

Paul D Gamlin

Patent 10,793,606 - Modified AAV capsid proteins and uses thereof

Venkatram R Atigadda; Wayne J. Brouillette;

Clinton J. Grubbs; Jeonga Kim; Donald Muccio

Patent 10,800,726 - Rexinoid compounds and methods of using rexinoid compounds for treating metabolic disorders and cancer

Scott Barnum; James M. Johnston; Theresa N. Ramos

Patent 10,830,774 - Methods and compositions for diagnosis and treatment of meningitis

Matthew N. Alder; Max D. Cooper; Brantley R. Herrin

Patent 10,870,692 - Methods and compositions related to soluble monoclonal variable lymphocyte receptors of defined antigen specificity

Michael E. Niederweis; Mikhail Pavlenok

Patent 10,870,883 - MSP nanopores and related methods

Haibin Ning; Selvum Pillay; Uday K. Vaidya

Patent 10,907,719 - Hybrid composite gear with enhanced strength and wear resistance

Julie M Decker; Beatrice H. Hahn; Ying Y. Li; Denise Kothe Monti; George M. Shaw

Patent 10,946,090 - Consensus/ancestral immunogens

INNOVATORS

Patents

Campus researchers who are inventors on patents issued in FY 2021

Victor M Darley-USmar

Patent 10,954,228- 1 H-pyrazol-1-yl-thiazoles as inhibitors of lactate dehydrogenase and methods of use thereof

David M Bedwell; Ming Du; Kim M Keeling; Venkateshwar Mutyam; Steven M Rowe

Patent 10,960,018 - Methods and compounds for stimulating read-through of premature termination codons

Victor M Darley-USmar

Patent 10,961,200 - Small molecule inhibitors of lactate dehydrogenase and methods of use thereof

Selvum Pillay

Patent 11,008,134 - Foldable and/or collapsible plastic/composite utility enclosures

Joanne Murphy-Ullrich

Patent 11,033,535 - Oxadiazoles and thiadiazoles as TGF- β inhibitors

Harrison Kim

Patent 11,040,152 - Injection device and methods related thereto

Roslyn B Mannon

Patent 11,041,208 - Urine biomarkers for detecting graft rejection

Joanne Murphy-Ullrich

Patent 11,046,729 - Dipeptide analogs as TGF-beta inhibitors

Junqin Chen; Gu Jing; Anath Shalev; Lance Thielen

Patent 11,103,508 - Substituted quinazoline sulfonamides as thioredoxin interacting protein (TXNIP) inhibitors

RECOGNIZING

Disclosers

Campus researchers that disclosed intellectual property in FY 2021

Aaron Fobian	Carlos J. Orihuela
Abinash Nayak	Chander Raman
Adam Luechtefeld	Chang Long Wu
Addie Yazbak	Chao Li
Aftab Ahmad	Charitharth Vivek Lal
Aijun Qiao	Christian Faul
Alan W Eberhardt	Christian Stackhouse
Alexis Walter	Christopher Anthony Girkin
Alfredo L. Guzman	Christopher D Willey
Amit Gaggar	Christopher P Yanucil
Amitkumar N. Mehta	Chu-Fang Chou
Andre Leier	Claude Rivers
Andres Guerrero	Craig Decker
Andrew D. Smith	Dan Berkowitz
Andrew Kyle Taylor	Daniel C. Marson
Andrzej Tadeusz Slominski	Daniel Larry Smith
Angela M Stowe	Daniel W Jones
Anil Kumar Challa	David Askenazi
Anna Sorace	David E. Briles
Arie Nakhmani	David M Bedwell
Ashleigh Allgood	Dawn Kissner DeCarlo
Ashlesha A. Deshpande	Denver R. Fuller
Ashraf F Fouad	Dorothy Carol Ogdon
Benjamin Horst	Dorothy W Pekmezi
Benjamin M. Larimer	Eric P. Plaisance
Bhupendra Singh	Erik Roberson
Bianca Vamesu	Ezzuddin Abuhussein
Brian M. Casey	Gangjian Qin
Brooks Wingo	Gayan B Wijeratne

INNOVATORS

Disclosers

Campus researchers that disclosed intellectual property in FY 2021

George Y. Gillespie	Joe Tector
Gillian Huskin	John Knight
Grant Richard Williams	Jonathan R Sligh
Gregory D. Kennedy	Joseph L Henley
Gregory Kane Friedman	Joseph Palmer
Guangjie Cheng	Joshua Bernstock
Gurusai Sujitha Peramsetty	Joshua Charles Anderson
Guy Yembi-Goma	Joshua R Nicholson
Hao Jiang	Jun Zhang
Harrison Kim	Jyoti Sharma
Harrison Walker	Kai Jiao
Hasan Alrefai	Kathleen Weden
Hayden Pacl	Kathryn Green
Hayley N Widden	Kelly Shelton Trawick
Hector H Gutierrez	Kenneth David Pruitt
Hengbin Wang	Keshav K Singh
Hunter Dean	Kevi Jay Rodzinak
Isabella Reed	Kevin Harrod
Jake Y Chen	Kevin M Pawlik
James Henry Willig	Kim M Keeling
James J. Kobie	Krista Jackson
James M. Markert	Kyle D Wood
Jana Hecking	Kyung-Don Kang
Jasvinder Singh	Lara Ianov
Jeffrey R Curtis	Lara Tapy
Jegen Kandasamy	Lauren Davis Padalino
Jesse G.A. Jones	Lawrence J. Delucas
Jianyi Zhang	Leslie Moon
Jinsuh Kim	Lianwu Fu

RECOGNIZING

Disclosers

Campus researchers that disclosed intellectual property in FY 2021

Lorie Harper	Moon Nahm
Louis Burt Nabors	Muhammad Rifqi Aufan
Lufang Zhou	Mythreye Karthikeyan
Macy Jane Moon	Nagababu Enika
Manoj Tanwar	Namasivayam Ambalavanan
Margaux Barnes	Nancy M. Borkowski
Maria Bartolomeo Grant	Narendra Wajapeyee
Mark E Clark	Natalia Filippova
Mark T Dransfield	Natalie R Baker
Mark Walter	Nathan Howard Mcwain
Martin D Holland	Norberto Gonzalez-Juarbe
Martin D Holland	Olaf Kutsch
Harrison Kim	Parmanand Malvi
Massimo Antonio Fazio	Patricia M Speck
Matt Might	Paul A Baker
Melanie Gibbons Hallman	Paul A Goepfert
Melissa Harris	Peter H King
Mica M. Hughes-Harrell	Pi-Ling Chang
Michael E. Niederweis	Pritam Mondal
Michael John Patton	Qin Wang
Michael Scott Piepenbrink	Radomir Matthew Slominski
Michelle R Brown	Randall Quentin Cron
Mike Wells	Rebecca E. Kennedy
Mikhail Pavlenok	Rebekah A Llinares
Min Xie	Reepa Saha
Ming Du	Robert H Whitaker
Mohamed Galal Shoreibah	Robert Samuel Welner
Mohammad Awad	Romi Gupta
Mohanraj Thirumalai	Rouzbeh R Nazari

INNOVATORS

Disclosers

Campus researchers that disclosed intellectual property in FY 2021

Roy Joseph	Thanh Minh Nguyen
Rui Zhao	Thomas M Ryan
Saad Alsuwailem	Thomas T Norton
Saidulu Mattapally	Tim M Townes
Sandeep Bodduluri	Timothy J Gawne
Sandipan Pati	Tom J. Brett
SangSang Park	Utpreksha Vaish
Sarah Owens	Venkateshwar Mutyam
Sasanka Ramanadham	Victoria Gail Wicks
Saurabh Aggarwal	Victoria Williams
School of Nursing	Vikas Dudeja
Scott M Wilson	Vineeth Vijayan
Scott W Ballinger	Vinoy Thomas
Seth Daniel Fortmann	Virginia Camacho
Syedabdollah Mirbozorgi	Vivek Vishwanath Shukla
Shama Ahmad	W Winn Chatham
Shariq Qayyum	Wei Li
Smita Bhatia	Wendy Demark-Wahnefried
Srikanth Iyer	Wesley Joe Young
Srini Tridandapani	William J Placzek
Stacy A Krueger-Hadfield	Xiaoguang Margaret Liu
Steven Carroll	Xiaosi Han
Steven D. Thompson	Xuan Huang
Steven G Lloyd	Yiming Zhang
Steven J Pittler	Yogesh K Vohra
Steven M Rowe	Yuhua Song
Stijn De Langhe	Zainab Motolani Shonibare
Surya P. Bhatt	Zehong Cao
Tejeshwar Jain	Zhiying Lu
	Zongliang Yue



**BILL L. HARBERT INSTITUTE
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