

K-Club

Taking Advantage of Partnerships Outside of Academia



Survey Drawing



Survey Drawing



**September
Winner:
Kumar
Deepak**





K-Club Special: Emergency Medicine Foundation Early Career Research Development Grant

- This grant is designed to provide early career faculty applicants with the opportunity to develop a career development plan (e.g., didactics, mentored meetings, and/or advanced degree) and design, develop, and lead a research project that will advance their career in preparation for extramural funding.
- Amount: \$150,000 per year
- The principal investigator must have a primary faculty appointment in Emergency Medicine (this includes Pediatric Emergency Medicine) at the rank of Assistant Professor or below, and within 7 years of residency

LOI Deadline: October 31, 2025

More Information [Here](#)



K-Club Special: American Heart Association 2026 Career Development Award

- Postdoctoral fellows are eligible to apply but must have attained faculty appointment by the time of award activation.
- Investigators who have been awarded NIH K99/R00 or R01 grants are not eligible to apply.
- The AHA will permit a Career Development Awardee to concurrently hold an NIH K award (other than K99/R00) if there is no budgetary overlap.
- The awardee must devote at least 10% effort to the Career Development Award.
- At the time of application, the applicant must hold an MD, PhD, DO, DVM, DDS, or equivalent post-baccalaureate doctoral degree
- \$77,000 per year, including 10% institutional indirect costs. Three years, non-renewable

Deadline: December 2, 2025 1pm

More Information [Here](#)

October K-Club: Taking Advantage of Partnerships Outside of Academia



Catherine Murari-Kanti, PhD
Senior Licensing Associate,
Emory Technology Transfer
Office



Steven Goudy, MD MBA
Division Chief, Department
of Otolaryngology,
Children's Healthcare of
Atlanta,
Professor, Department of
Pediatrics, Emory University



Vivien Sheehan, MD PhD
Professor, Department of
Pediatrics
Director, Translational Sickle
Cell Disease Research
Program, Emory University



Trent Spencer, PhD
Professor, Department of
Pediatrics
Director, Gene and Cell
Therapy, Emory University



EMORY
UNIVERSITY

Office of Technology Transfer

TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY & START-UPS: CCTR

Catherine Murari-Kanti, Ph.D.
June 24, 2025



A little about me:



Technology Transfer



Why tech transfer?

- The Bayh-Dole Act: Bipartisan legislation giving Universities, non-profits and small businesses rights to intellectual property generated from federally funded research
- Emory IP policy - [Policy Manager - MCN Healthcare](#)
- Revenue generation
- Public access to products developed using federal funding



Tech transfer - Economic Impact

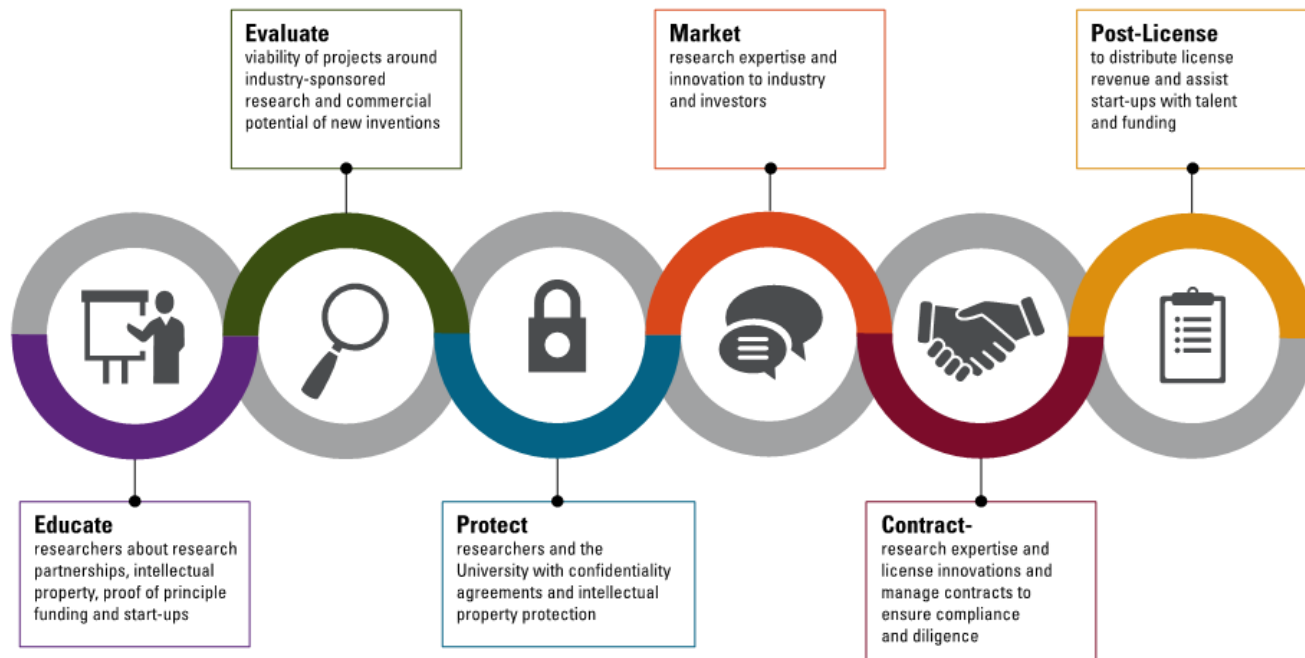
- Allegra
- FluMist
- Gatorade
- Gleevec/Imatinib (CML)
- Taxol (Breast cancer)
- Tovaxin (MS)
- Ervebor/rVSV-ZEBOV (Ebola)
- Zerit/Epivir (AIDS)
- Lyrica (Epilepsy/pain)
- CAR T-cell therapy
- Cervical cancer tests
- Nicotine patches
- Magnetic Resonance Spectroscopy
- Organ preservation solutions
- Sustained drug delivery tech
- Advanced ultrasound imaging
- Children's rotavirus vaccine
- Blood test for brain injuries
- Honeycrisp apples
- Neoprene
- Google
- High-def television
- Autonomous vehicles
- Firefighting drones
- Reverse osmosis membrane



Intellectual Property Acquisition: From Disclosure to Patent to Licensing



Typical tech transfer process





When to disclose...

- Emory IP policy
- Public disclosure
- IdeaGATE



Who is an inventor?

To be an inventor, one must contribute to the “conception” of the subject matter of at least one claim of the patent (“the claimed invention”).

Different than authorship of scientific publication! - Not all contributions are inventive

To be a joint inventor, one must: (Dana-Farber Fed. Cir. 2020)

contribute in some significant manner to the conception **or** reduction to practice of the invention, make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention, and do more than merely explain to the real inventors well-known concepts and/or the current state of the art.

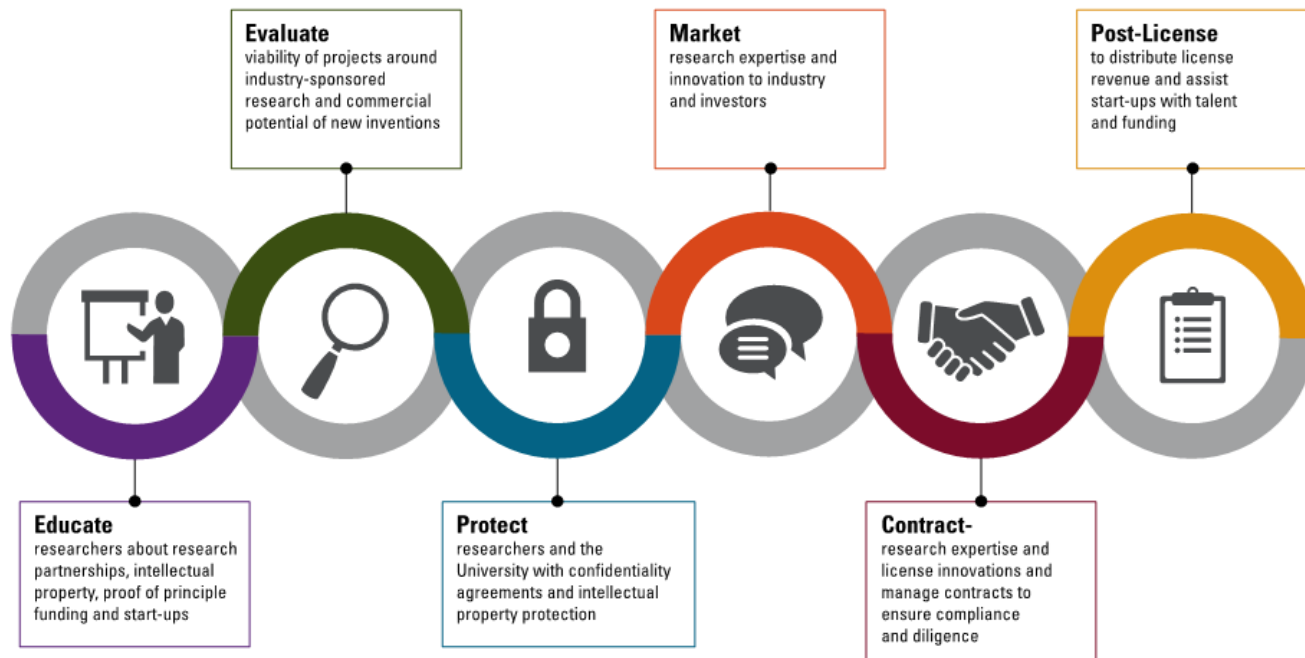
Fact intensive inquiry

One may be a joint inventor, even though you did not physically make the invention if you collaborated with joint inventors and made substantial contributions to enable making the invention (**Olusegun Falana Fed. Cir. 2012**)

One may not be a joint inventor, if you merely briefly tested the invention (**Burroughs Wellcome Fed. Cir. 1994**)



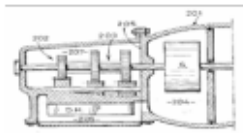
Typical tech transfer process





Overview of Intellectual Property

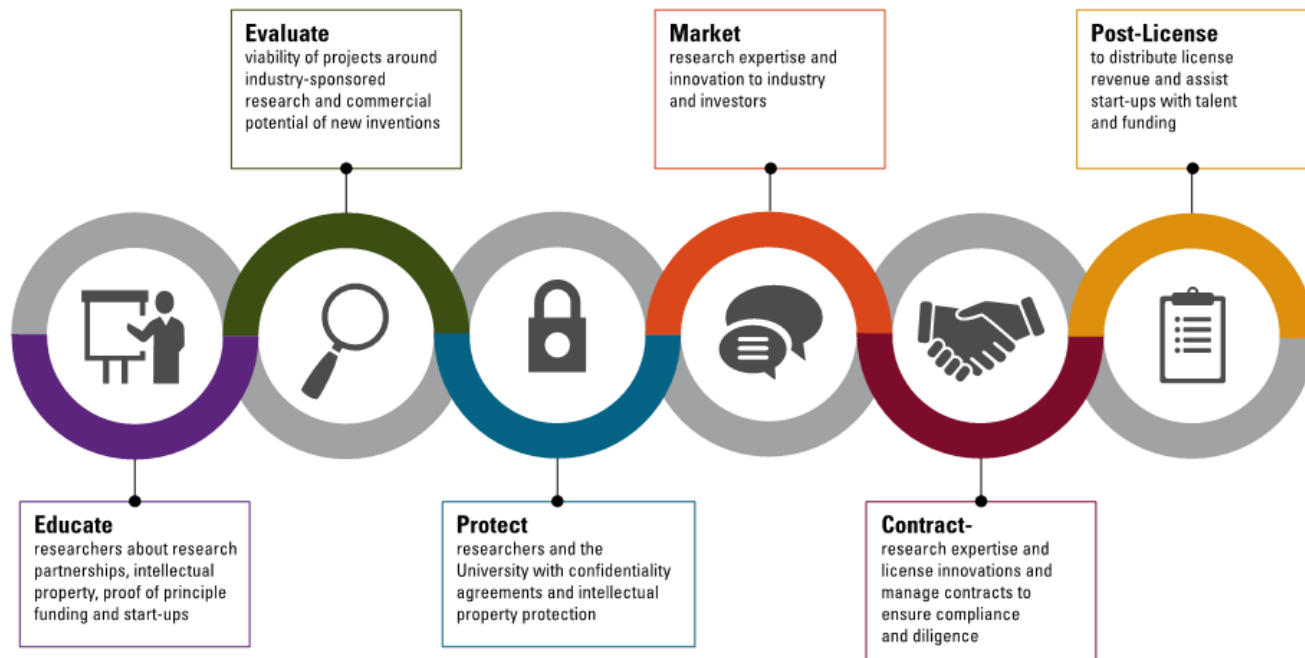
	Utility/Plant patent	Design patent	Trade secret	Copyright	Trademark
What's protected?	Inventions — process, machine, or composition of matter	Ornamental characteristics embodied in, or applied to, an article of manufacture.	Commercially valuable information (e.g., formulas, techniques, processes)	Art, in an all-encompassing sense — original works fixed in a tangible medium	Marks in commerce that indicate the source or origin of goods or services.
Protects against...	Making using, selling, offering for sale, and importing into the U.S.	Making using, selling, offering for sale, and importing into the U.S.	Stealing or unauthorized disclosure	Copying, performing, displaying, and creating derivative works	Using a mark in a way that causes likelihood of confusion
Endures until...	Generally, from the patent grant date to 20 years from the earliest effective U.S. filing date.	15 years from issuance of patent for applications filed on or after May 13, 2015	Publicly disclosed	The life of the author + 70 years for works created on or after January 1, 1978	Abandoned or loss of distinctiveness or secondary meaning
Rights of independent third party creators	None	None	Full	Full	None



uspto



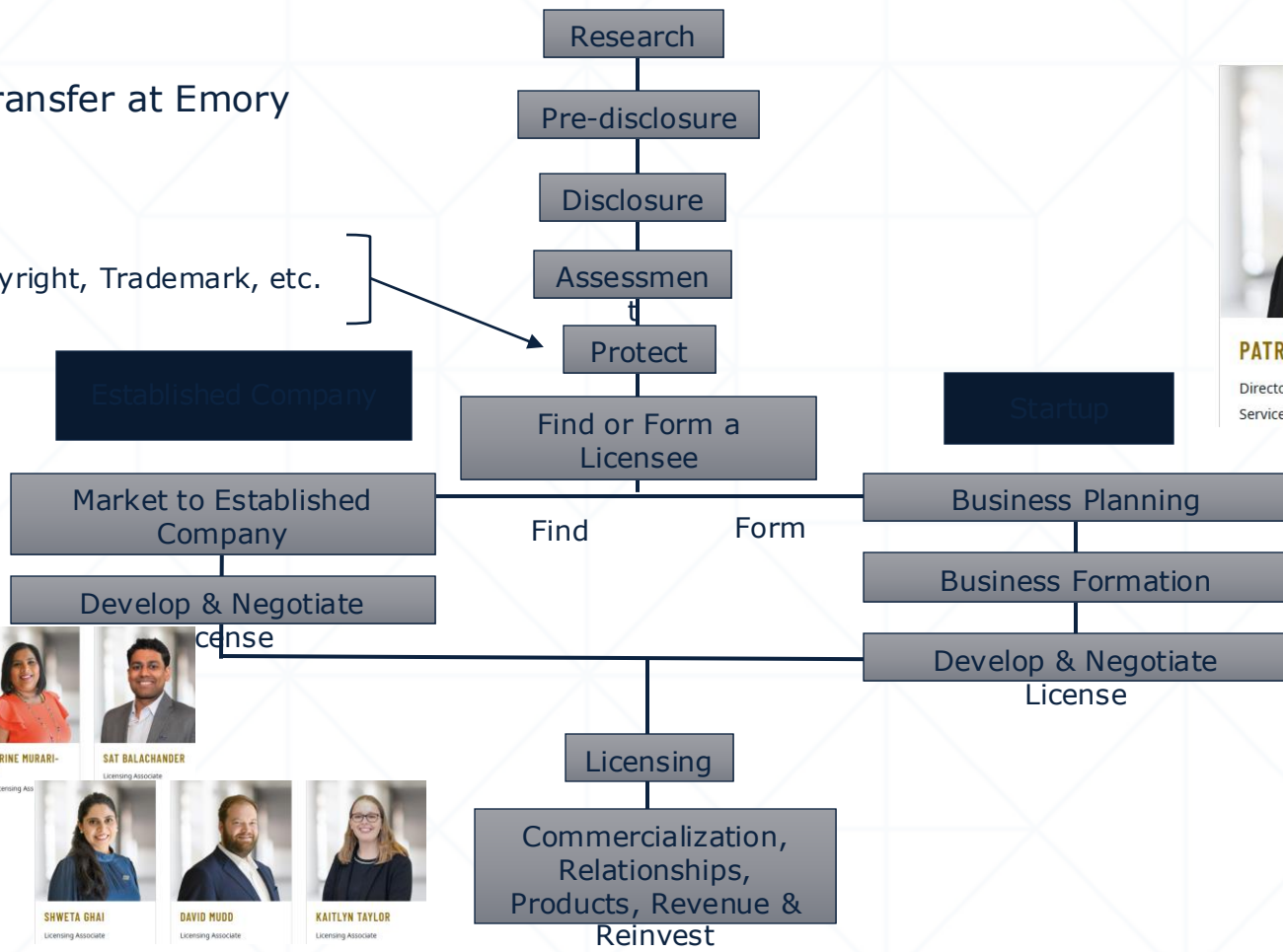
Typical tech transfer process





Tech-transfer at Emory

Patent, Copyright, Trademark, etc.



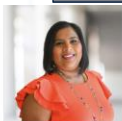
PATRICK REYNOLDS
Director, Faculty and Start-up
Services



MARK COBURN
Director, Licensing



**RAJSEKHAR
GUDNEPPANAVAR**
Assistant Director, Licensing



**CATHERINE MURARI-
KANTI**
Senior Licensing Ass



SAT BALACHANDER
Licensing Associate



SHWETA GHAI
Licensing Associate



DAVID MUDO
Licensing Associate



KAITLYN TAYLOR
Licensing Associate



Start-ups et al



Start-up's are cool...but;

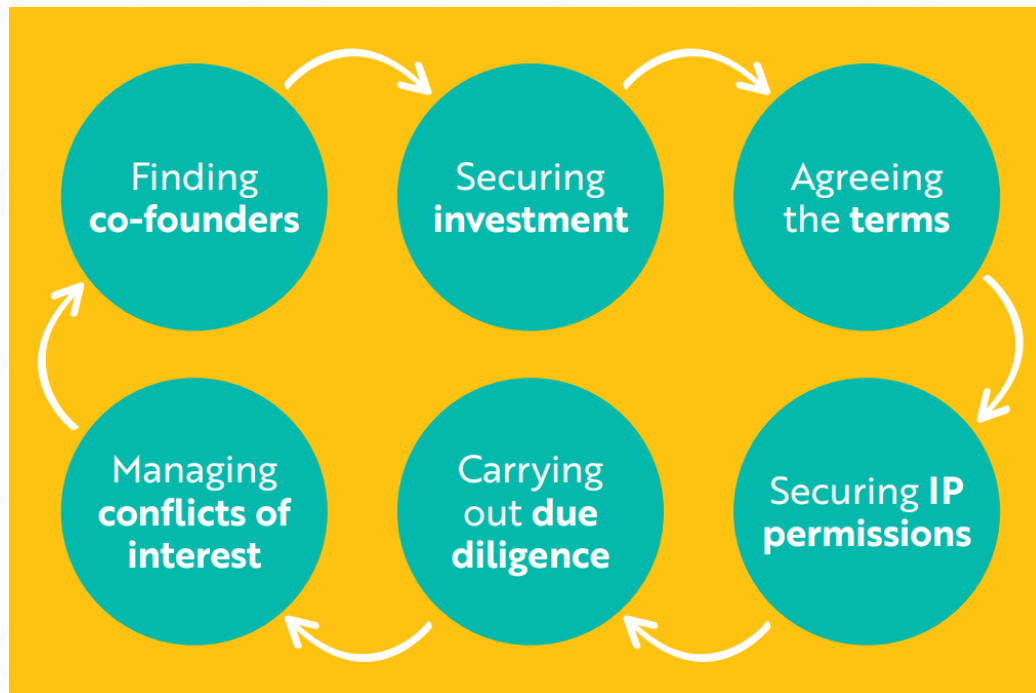
- Is your idea strong?
- Are you certain you want to create a start-up?
- Is the timing right?
- Are you willing to commit your time towards the start-up?
- Are you resilient?



How long will it take?

Market fit
Technology ownership
Conflicts of interest

Source: [H2G-3-Spinouts_V2_ISSUU.pdf](#)





What does funding look like?

SEED, SERIES A, B, C FUNDING



Family and Friends Round

An easy and fast way of raising initial funds in exchange for equity to family and friends.



Seed Round

A seed round is often used to inject capital to cover expenses and build traction until a startup can start earning revenue.



Series A

The first round of shares offered to external investors during early-stage investment. Startups are likely to have a product and user base.



Series B

The second stage is focused on continuing to scale the company. It is likely that its business model has been established and there is traction with customers.



Series C onwards

Subsequent venture rounds are used to scale the company, make acquisitions, maximise market share, grow internationally and prepare the company for an acquisition or public listing.

EMORY UNIVERSITY VLP PARTNERS				
TYPES OF FUNDING ROUNDS FOR YOUR STARTUP				
Funding Round	Pre-Seed	Series A	Series B	Series C
Stage Focus	Proof of concept/ prototype	Revenue growth	Growth	Large scale expansions
Common Elements of Growth	Hiring	Development, Operations, Branding & marketing	Hiring, Market expansion, Buying businesses	Acquiring businesses, International markets
Amount of Investment	\$10K - \$1MM	\$10MM	\$15 - 25MM	~\$50MM



Some other thoughts...

Do you have a business plan summary?

What about a compelling pitch?

What skills do you need for a successful start up?

What is your exit plan?



So...
What does this
mean to CCTR?



EMORY
UNIVERSITY

Office of Technology Transfer



Catherine Murari-Kanti, PhD
Sr. Licensing Associate – Emory OTT

Email: cmurari@emory.edu

LinkedIn:





Table 1 – Distribution of Cumulative Net Revenue

	CUMULATIVE NET REVENUE	CUMULATIVE NET REVENUE	CUMULATIVE NET REVENUE
	UP TO \$25,000	UP TO \$4 MILLION	\$4 MILLION AND OVER
CONTRIBUTOR SHARE	100%	33%	25%
DEPARTMENT SHARE	0%	33%	33%
SCHOOL/CENTER SHARE	0%	10%	17%
GENERAL UNIVERSITY SHARE	0%	24%	25%

K Club

Steven Goudy MD, MBA

Pediatric Otolaryngology

10/13/2025



Candidate Background Information

- BS Centre College, MD U of Louisville, MBA Emory
- MD, MBA
- Pediatric ENT
- Vanderbilt 2005-2015; CHOA/Emory 2015-present
- Division Director Pediatric ENT, President-elect American Cleft Palate Association, Vice-Chair of Research of Otolaryngology Department, Senior Board Examiner American Board of Otolaryngology, SBDD Study Section Member
- Co-Founder of Emory Innovation Certificate

Relevant Experience and Interests

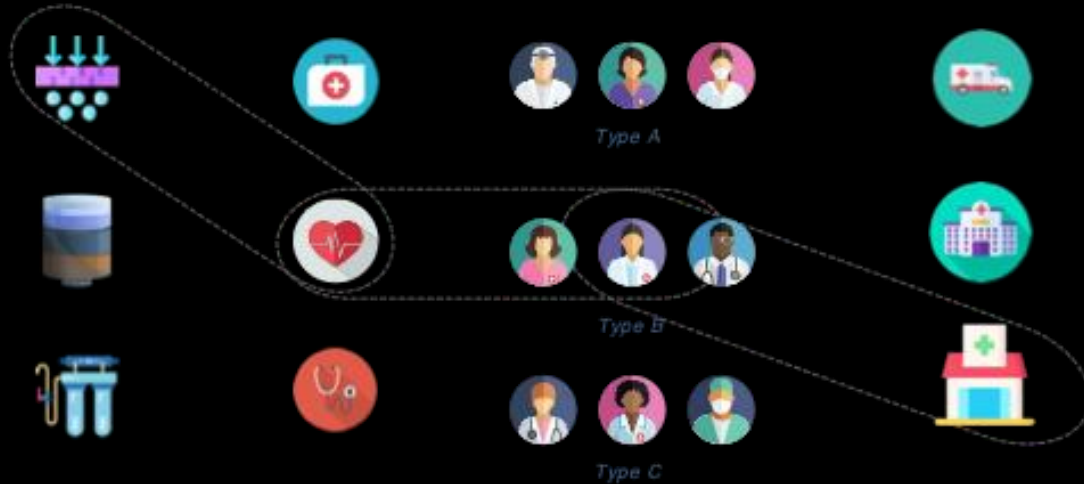
- Surgeon Scientist with experience in basic and translational research (K08, R21, R01 x 2, STTR)
- Active collaboration between Emory and GaTech on research
- Multiple patents leading to commercialization
- Founder of Dr. Noze Best, a company focused on respiratory health and wellness solutions. Leveraged the ATL ecosystem (GRA, Biolocity, ATDC, ATV, GBS, etc) to develop and scale.
- Co-Founded Emory Innovation Certificate to develop and curate new technologies from faculty (many CHOA faculty have participated). Currently this is partnered with Portal.

TAKEAWAY

**Identify which
customers
struggle most
... and why**



Customer *Needs* are *Multilayered & complex*



What are the real *unmet* needs of customers when getting a specific job done?

Can we *really* help?



What are their challenges with the you would be targeting?

Mapping a workflow will give you a better understanding of the customer problem, and their intended outcomes.



... to
categorize, organize,
and define the
Customer Need

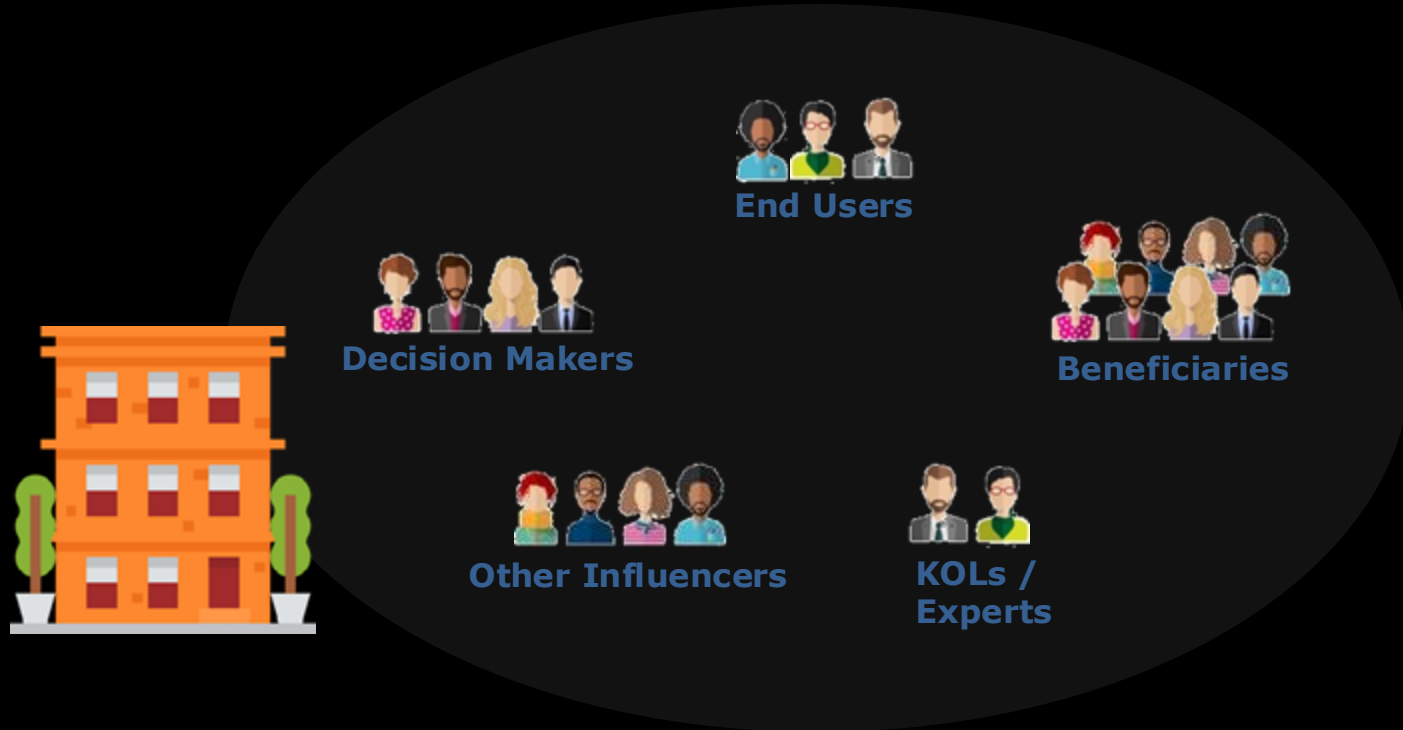
... and ultimately evaluate
*"will our solution be judged
better?"*



Define
the *segment* with
a unique set of
NEEDS

*... where your solution will
“win”*

*How do we **describe** them?*





**Competing *priorities* are
the first type of
competition to uncover**

Demographics & Psychographics

... also a *misleading* way to segment a market



*“People
don’t want a
quarter inch drill ...
they want a quarter
inch hole.”*

Theodore Levitt



Total Pet Expenditures (US)	\$60B
% “Other” Category	8%
Total Available Market	\$4.8B
Households with dogs	42,000,000
Annual spend on toys	\$50
Total Market	\$2.1B



Market Sizing

... can be a *misleading* way to segment a market

Why?

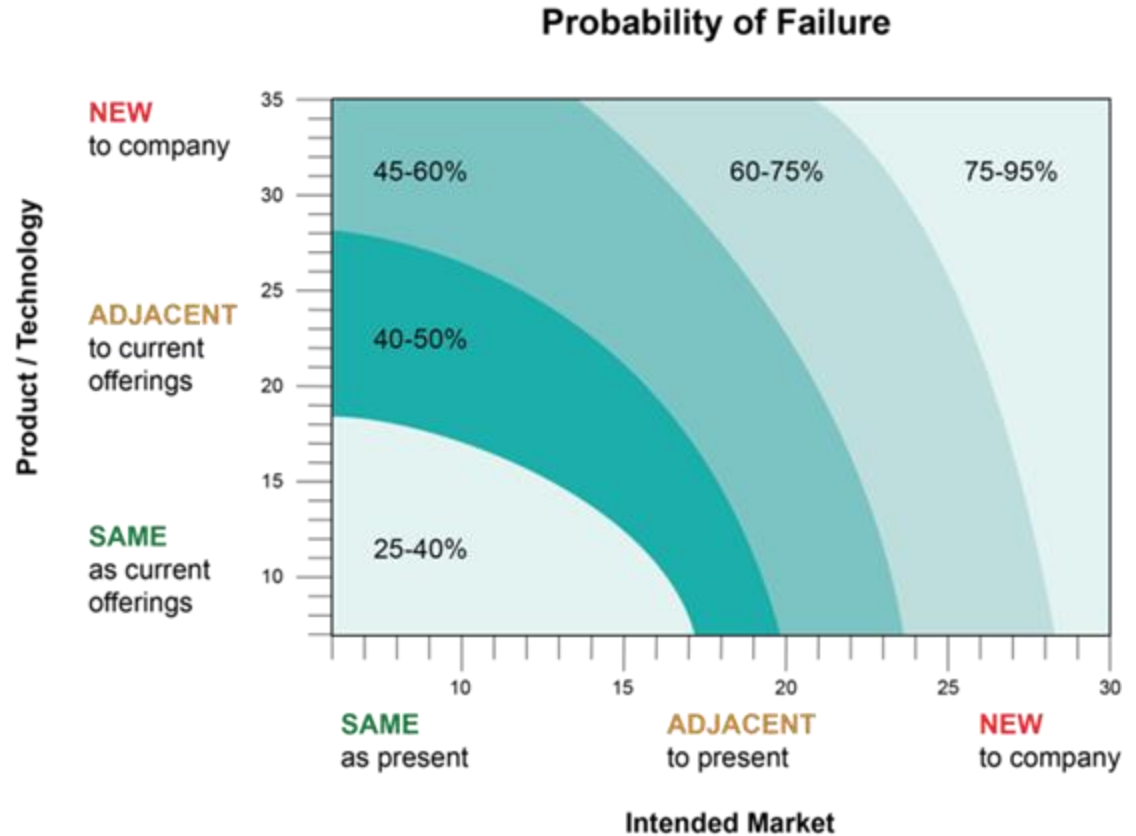
Fail to Understand ALL the

Customer needs

Prior to Building & Launching the Solution

Innovation Failure Rates

Why?
*And, can we
do better?*





Pharmaceutical Industry Partnerships

K Club

Vivien Sheehan, MD, PhD

2025

Professor
of
Pediatrics

2020

Associate
Professor of
Peds,
division of
Heme Onc,
Emory
University
School of
Medicine

2012

Assistant
Professor of
Peds,
division of
Heme Onc,
BCM

2008

Peds Heme
Onc
Fellowship
St Jude/
Internal
Medicine
Hematology
Fellowship
UT

2004

Med Peds
Residency
Cincinnati

2000

MD Emory
University
School of
Medicine

1997

BS
Biochemistry
Texas A&M

PhD
Biochemistry
Texas A&M



My Career Timeline

My Post-Fellowship Career Path

Year 1-2

Clinical trials
Genomics analysis/DNA collection
Beginning functional studies of genomics hits

Year 3-4

ASH Scholar award
K08

Year 5-6

Growing lab
Academic collaborations
Industry funding
Building national reputation
Publishing
Clinical trial based on translational research



Year 7-8

Device collaboration with engineers
Expansion into red cell function testing
Drug discovery/development in mouse models

Year 9-10

Move to Emory
Rapid growth of lab
R01 in pain transcriptomics
P-grant in the omics of alloimmunization
Preclinical gene therapy mouse work and red cell function testing of gene therapy product

Present

More ideas than time, space and personnel
What areas should I focus on?



Companies I've worked with



Sancilio Pharmaceuticals Company, Inc.





- 2016 consulting for Guidepoint
- Beam reaches out to me, saying they were a client, interested in what I said
- I was concerned about the impact of a base editor created hemoglobin, Makassar, in combination with HbS
 - Could it be like HbSC?

[nature](#) > [nature communications](#) > [articles](#) > [article](#)

Article | [Open access](#) | Published: 07 February 2025

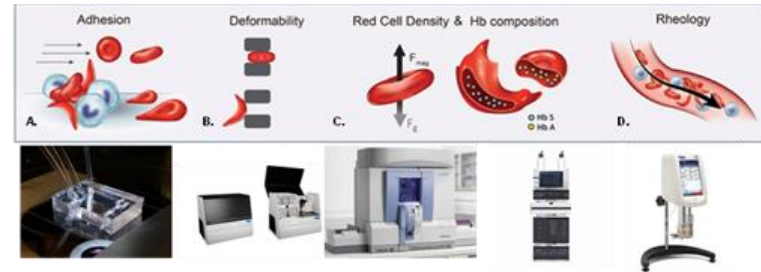
Base editing HbS to HbG-Makassar improves hemoglobin function supporting its use in sickle cell disease

Zachary Kostamo, Manuel A. Ortega , Chavonna Xu, Patricia R. Feliciano, Elizabeth Budak, Daisy Lam, Valerie Winton, Rebecca Jenkins, Archita Venugopal, Margaret Zhang, John Jamieson, Brent Coisman, Kennedy Goldsborough, Britney Hernandez, Celeste K. Kanne, Erica N. Evans, Jordan Zgodny, Yankai Zhang, Jawa Darazim, Ashwin Patel, Michael A. Pendergast, John Manis, Adam J. Hartigan, Giuseppe Ciaramella, ... Vivien A. Sheehan  [+ Show authors](#)

[Nature Communications](#) **16**, Article number: 1441 (2025) | [Cite this article](#)

6384 Accesses | 1 Citations | 2 Altmetric | [Metrics](#)

I also serve as the reference lab for their HbF inducing gene therapy trial





- I expressed concerns about the effect of stopping a SCD drug suddenly on blood thickness.
- GBT contacted me asking to test a Oxbritya analog in the sickle mouse

**Rheological Impact of GBT1118
Cessation in a Sickle Mouse Model**

*Celeste K. Kanne^{1,2†}, Danitza Nebor^{2†}, Mira Pochron², Donna Oksenberg² and
Vivien A. Sheehan^{1,2*}*

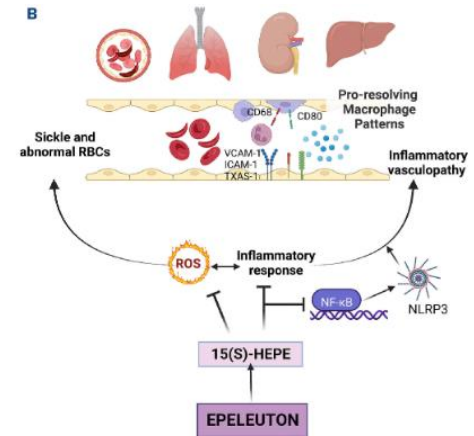
- I moved to Emory, and GBT reached out wanting to work with me further
 - \$600k for further studies in the mouse model; two papers in preparation
 - \$2.4 million to do omics research on why some patients have complications and others do not
- Then, Pfizer bought GBT.....



- Invited me to headquarters telling me they had some data to share on a pathway I was studying to induce fetal hemoglobin
- Was a stealth interview; they wanted me be their Translational Hematology Expert, choosing early-stage projects for development
- I hated the open concept desks, and they said no to my ask of a small lab
- I shared patient stem cells with them, and I was the reference lab for their brief SCD gene therapy trial



- Wonderful small Dublin-based company
- I'm the reference lab for their pilot clinical trial
- Let me demonstrate the power of using red cell function testing for patient selection
 - Drugs from Novartis and Pfizer have failed because they assume all SCD patients are the same
 - Different mechanistic drivers for pain events across individuals
- When the budget proved to be insufficient, they approved another \$85k recently



Blood Rheology Solutions



Mapillar Dahn

Chief Executive Officer



Vivien Sheehan, MD, PhD

Chief Scientific Officer
& Co-founder



Children's
Healthcare of Atlanta



Wilbur Lam, MD, PhD

Chief Technology Officer
& Co-founder



Children's
Healthcare of Atlanta





EMORY
UNIVERSITY
SCHOOL OF
MEDICINE



Af^{ac}.
Cancer & Blood
Disorders Center

Sheehan Lab

Ashwin Patel
Justin Yoo
Megan Merritt-Garza
Sammi Kim
Anupama Priyadarshini
Kennedy Goldsborough
Alex Pendergast
Rachel Choi
Zak Kostamo
Kathleen Romero
Mary Aliche
Jedidah Titus
Srija Poona
Eli Martin
Nav Pasupuleti



**CURE
SICKLE
CELL.**

R01 HL164583-01
P01 HL169552-01
R56HL165946-01