School of Medicine & Health Sciences

THE GEORGE WASHINGTON UNIVERSITY



From Creativity to Cream: Navigating the Inventor's Path in Dermatology

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Professor and Chair of Dermatology
Residency Program Director
Director of Translational Research
Director of Supportive Oncodermatology



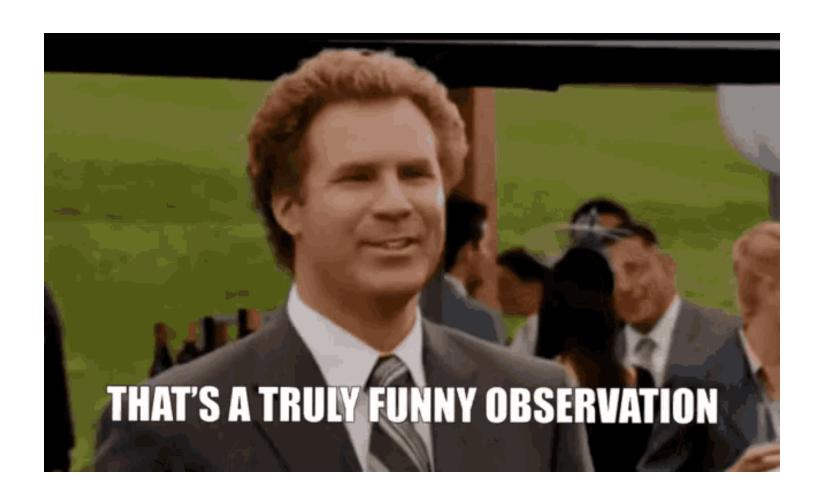
1. HMM THAT'S WEIRD







More like....





And then....





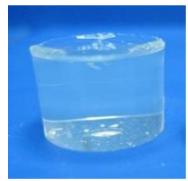


IN THE BEGINNING...

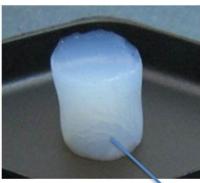




SOL-GEL



Porous glass from classical sol-gel

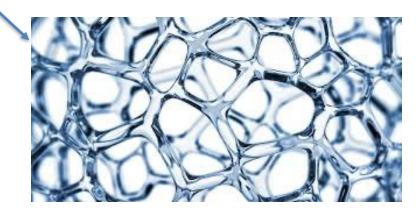


Glass foam (aerogel)



Hybrid glass (organic-inorganic) made by fast sol-gel process











Next door...





What's the Gap?











Connect skill with goal

a.



b.



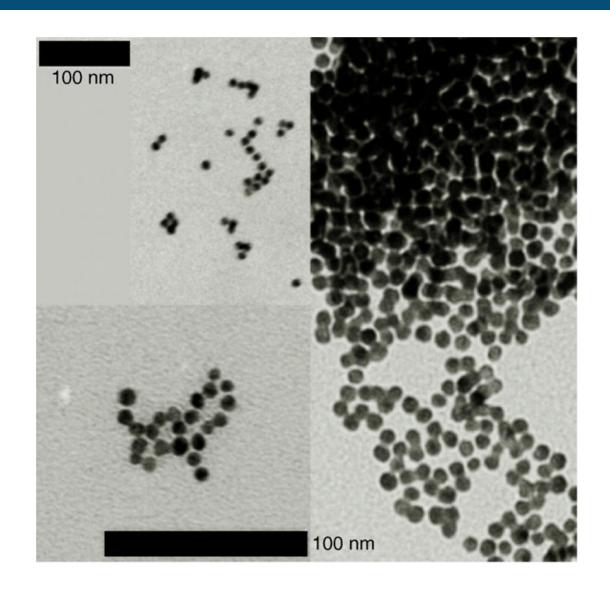




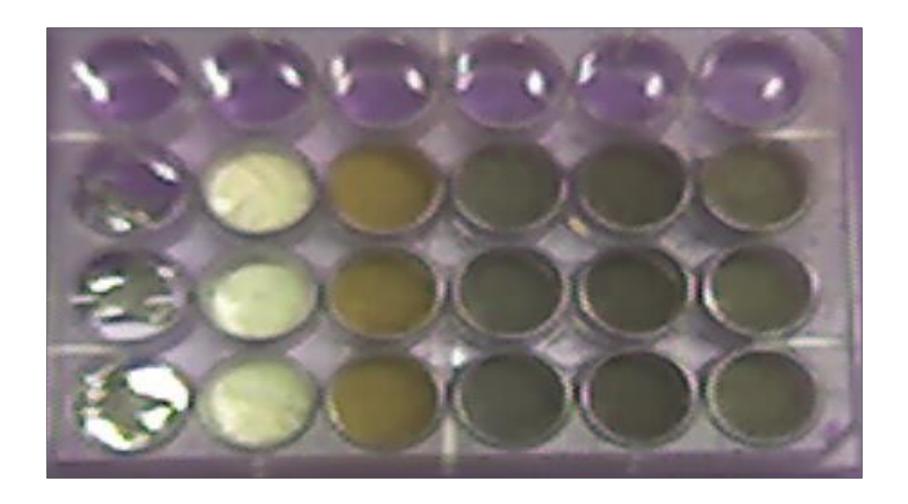












Picture is from 2005 so give me a break!



2. UN/ORIGINAL







STFU...FOR NOW







• Academic Patent

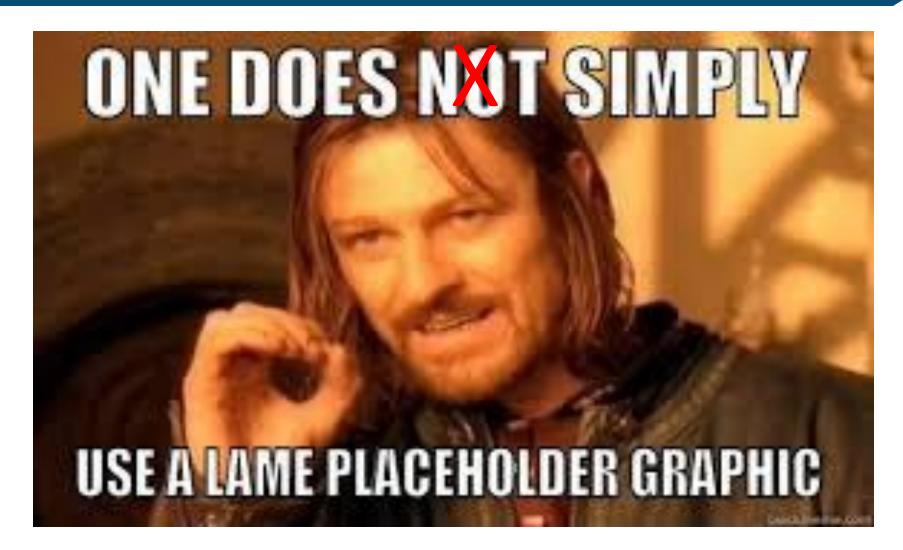
Flying Solo Patent



Provisional Patent











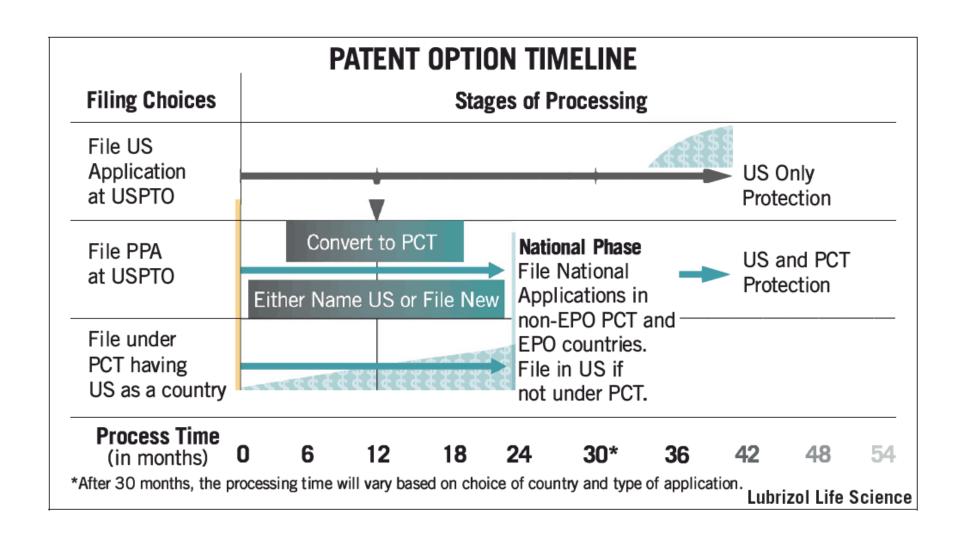


Next steps

- Transition to a utility patent for full protection
 - Must be filed within 12 months of the provisional
 - Includes formal claims, abstract, drawings (if applicable), and an oath or declaration
 - Formulations vs delivery systems vs methods of use
 - The utility application must explicitly reference the provisional
 - Claims in the utility patent must be <u>supported by the disclosure</u> in the provisional
 - I want to protect these specific aspects of my invention (the claims), and I first disclosed them in my provisional."



Patent Pathway







File a PCT Application:

- Within 12 months of the earliest application
- Placeholder for 156 member countries.
- Filed through WIPO or the USPTO.

International Phase:

- International Search Report (ISR) is issued (\sim 3 months).
 - Optional: Request International Preliminary Examination (IPE) for better clarity on patentability.
- You do not get an "international patent"
- National Phase Entry (~30 or 31 months from the earliest filing date):
 - Must file in each country or regional office (e.g., EPO, Japan, Canada).
 - Each jurisdiction examines the application independently.
 - Costs and legal representation vary by country.

Advantages:

- Buys time (up to 30-31 months) to assess market potential and secure funding.
- Provides early international recognition of filing date and novelty.



W Protection Money



Stage:	USPT0 Fees	Average Patent Attorney Fees
Pre-filing professional patent search	_	\$1,500-4,000
Drafting and filing — biotechnology/chemistry	\$660	\$11,400
Drafting and filing — electrical/computer	\$660	\$10,923
Drafting and filing — mechanical	\$660	\$9,500
Amendment/Argument after rejection	\$0-660	\$2,300-4,000
Examiner interview		\$1000-2000
Misc fees (assignments, information disclosure statements, declarations, power of attorney, etc.)		\$1500
Issue fee payment	\$480	\$1500



3. KNOW IT ALL (AND LET IT BE KNOWN)



- READ READ READ
- White papers vs Review papers
 - Either way you learn!
- Lectures
 - At home
 - Regional
 - National
 - International



Where matters...

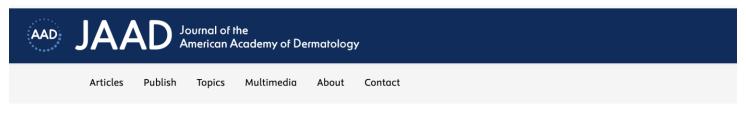


CONCISE COMMUNICATION

Curcumin nanoparticles as a photoprotective adjuvant

Nagasai C. Adusumilli, Breanne Mordorski, Joshua Nosanchuk, Joel M. Friedman, Adam J. Friedman 🔀

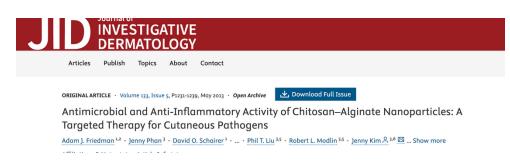
First published: 15 January 2021 | https://doi.org/10.1111/exd.14282 | Citations: 25



ORIGINAL ARTICLE · Volume 91, Issue 5, P855-862, November 2024 · Open Access



Topical nanoencapsulated cannabidiol cream as an innovative strategy combating UV-A—induced nuclear and mitochondrial DNA injury: A pilot randomized clinical study





4. THERE IS AN I (OR 2) IN "MAKE SURE ITS INTERESTING OR OF INTEREST"



Nano-scare??



New Products Bring Side Effect: Nanophobia

By NATASHA SINGER December 4, 2008



Nanotechnology in Dermatology Adnan Nasir Adam Friedman Steven Wang Editors ⚠ Springer



Oh I want something natural....



Vitiligo | Acne | Actinic Keratosis | Aesthetics | Atopic Dermatitis | COVID-19 | Drug Watch | Dry Cracked Skin | Hidradentitis Suppurativa | Impetigo | Inf

Curcumin Shows Promise as New Sunscreen Filter

Mary Scoviak, Managing Editor

Dermatology Times Dermatology Times, August 2021 (Vol. 42, No. 8) Volume 42 Issue 8



Awareness | Melanoma Awareness | Expert Perspectives



STYLE



Beauty's New High: CBD Oil

Skin Deep

By BEE SHAPIRO JAN. 30, 2018

ELLE

Q

How the Legalization of Marijuana Affects Your Skin

An emerging batch of cannabis-laced pain relievers and skin smoothers may prove to be more than just smoke and mirrors.





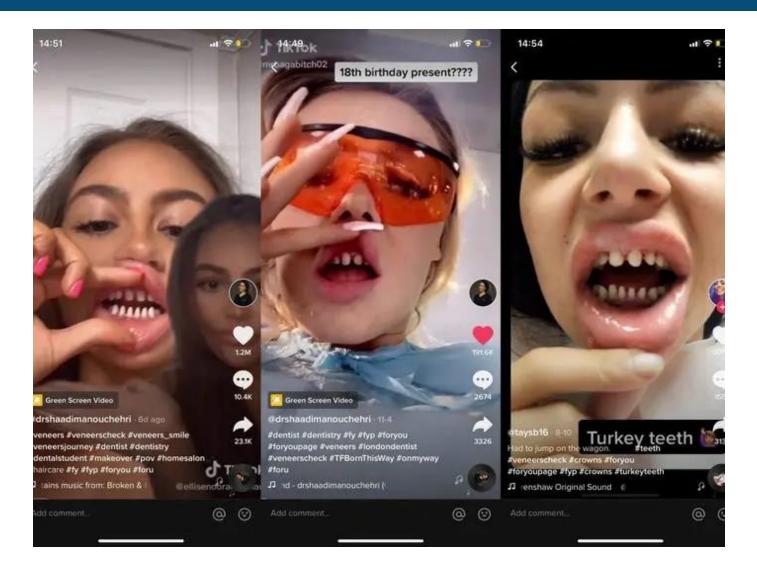




5. THERE IS AN I IN MEDIA



Not this....





The B's of Makin it with Media

Navigating Your Career

Dermatologists in the Media: A Q&A on Becoming a Trusted Source



- a. Be the Expert
- b. Be Responsive
- c. Be Accommodating
- d. Be Honest
- e. Be Fair Balanced

MAY 7, 2025 NEXT STEPS IN DERM TEAM

https://nextstepsinderm.com/navigatingyour-career/dermatologists-in-the-mediaa-qa-on-becoming-a-trusted-source/



Opportunity to set the Record

allure







CBD Skin Care May Protect Against Sun Damage—and Skin Cancer—According to a New Study

It just might reignite a category that's, er, lost its buzz.



2023

2024



Phone a Friend

Can CBD oil prevent damage from the sun? Researchers tried it out on this intimate area — and the results were surprising

Mike Murillo | mmurillo@wtop.com July 17, 2024, 6:30 PM





IN THE LAB WITH ADAM FRIEDMAN, MD (AND HIS FATHER)

From the Bench to the Bottle: The Invention, Validation, and Introduction of a Nanoparticleencapsulated Delivery System in Dermatology



dam Friedman, MD, Professor and Chair it feels to see a produ of Dermatology at the George Washington 20 years of research. University School of Medicine & Health Sciences in Washington, DC, is busy. In addition to his role as Department Chair, he sees patients,

ADAM FRIEDMAN, MD: "We all have the ability organizes (and speaks at) multiple medical meetings, publishes regularly, and hosts several podcasts. And that's not all. Dr. Friedman is also a consumer and trade media darling and an inventor with two products on the market, and

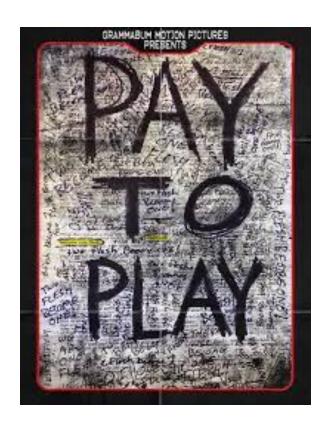
He sat down with The Dermatology Digest® to talk

TDD: What does inventorship mean to you?

to be inventors, and chances are we are already functioning as inventors without realizing it. When we think about scientific research, it really comes down to three simple things: knowing how to ask a question, being observant, and doing something about it. This is really the foun-







- 1. Allure Best of Beauty Awards
- •Submission fee? Yes
- •Licensing fee to use logo? Yes
- 2. Cosmopolitan / Women's Health / Men's Health Beauty Awards
- •Submission fee? Often
- •Licensing fee? Yes, to use the logo in marketing
- 3. CEW (Cosmetic Executive Women) Beauty Awards
- •Submission fee? Yes (can be hundreds of dollars)
- •Licensing fee? Yes, if you win
- 4. NewBeauty Awards
- •Submission fee? Not always public, but advertising with the publication is often linked to features and awards
- •Licensing fee? Required to use "award winner" logos
- 5. Shape / InStyle / Byrdie Awards
- •Submission fee? Yes in most cases
- •Licensing fee? Common
- 6. GQ / Esquire Grooming Awards
- •Submission fee? Often
- •Licensing fee? Required to use the seal

.



CielementsMD® Named Best Skin Care Innovation by2025 Marie Claire Skin & Hair Awards





6. There is a ME in Messaging







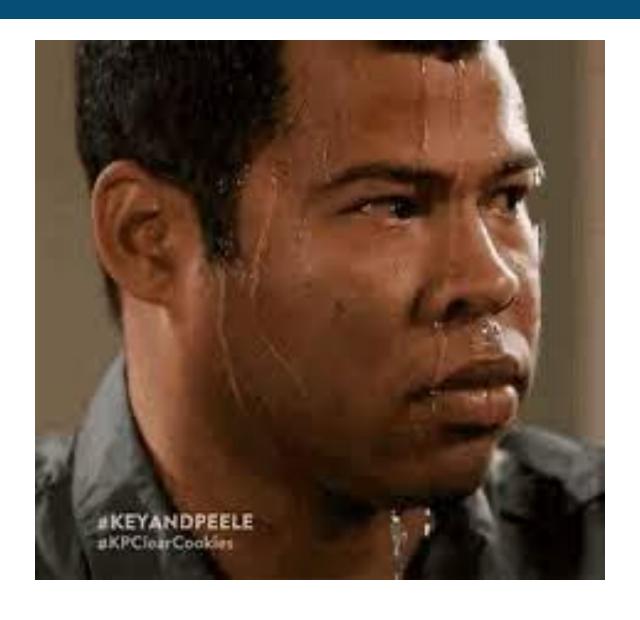
THE INVENTOR



THE TEAM



Remember #3





WHY??????

- Why:
 - -You
 - -Now
 - -Care

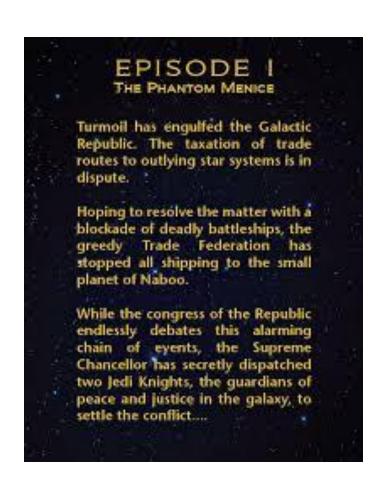




The Set Up

The Confrontation

The Resolution





6.THERE IS AN I IN CAPITAL



- Grants: DF, WDS, LRP, ASDS, ASA, AVEENO
- Angel investors
- Funding rounds
 - Series A Funding
 - Once achieved some level of **operational stability**: a stable user base, consistent revenue statistics)in order to enhance its user base and product offerings.
 - Developing a long-term business model is essential.
 - Investors are looking for start-ups with innovative concepts and a clear plan

Series B Funding

- All about taking businesses to the next level
- Helps grow the company to meet the large-scale demand levels.
 - Building a mature product and growing a team
 - Bulking up on sales, advertising, tech, support, and employees

Series C Funding

• The companies are looking for additional funding to help them **develop new products**, expand into new markets, or acquire other companies.



7. THERE IS NO I IN TEAM...SO WHAT?



**TEAMS CAN MAKE OR BREAK



Scientific Team

Mentors

- Joel Friedman, MD, PhD
- Joshua Nosanchuk, MD

Collaborators

- Chaim Putterman, MD
- Brian Berman, MD, PhD
- Brett Shook, PhD
- Bao Nguyen, MD
- Liquang Zhang, PhD
- Jenny Kim, MD, PhD
- Robert Modlin, MD
- Sara Brenner, MD
- Pedro Cabrales, PhD
- David Sharp, PhD

Research Fellows

- Manju Dawkins, 7/2008-6/2009
- Karin Blecher, 7/2010-6/2011
- David Schairer, 7/2011-6/2012
- Jason Chouake, 7/2011-6/2012
- Allison Kutner, 7/2012 6/2013
- Joy Makdisi, 7/2012 6/2013
- Brandon Adler, 7/2013 6/2014
- Aimee Krausz, 7/2013 6/2014
- Jamie Rosen, 7/2014 6/2015
- Angelo Landriscina, 7/2014 6/2015
- Jessica Daumer, 2013- 4/2016
- Breanne Mordorski, 6/2015 5/2017
- Stephanie Kao, 5/2017–8/2017
- Rose Milando, 5/2018 8/2018
- Emily Murphy, 6/2018 5/2019
- Chapman Wei, 5/2019 6/2020
- Sammy Yeroulshami,, 5/2019- 6/2024
- Sarah Milan, 5/2019 6/2022
- Nagasai Adusumilli, 5/2020 6/2021
- Cleo Whitting, 1/2021 6/2024
- Dillon Nussbaum, 7/2021-6/2022
- Erika, McCormick, 7/2022-6/2023
- Sapana Desai, 4/2021-present
- Alicia Edwards, 7/2022 present
- Eric Sanfillipo, 7/2022 6/2024
- Sara Azim, 7/2023- 6/2024
- Savanna Vidal, 7/2024 6//2025
- Nikita Menta, 7/2024 6/2025
- Mina Farah, 6/2025 present
- Nikkia Zarabian, 6/2025 present
- Christina Toulete, 6/2025 present



IT DOESN'T MATTER



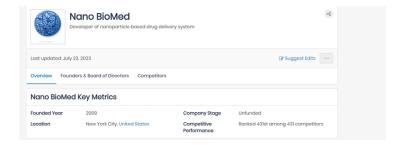
The Path is Arduous

2009

Makefield Therapeutics Inc

Makefield Therapeutics Inc. operates in the biotechnology industry. The Company commercializes proprietary pharmaceutical products to treat for erectile dysfunction and drug resistant skin infections.

2013



2017



2024





Closed series b



2025







