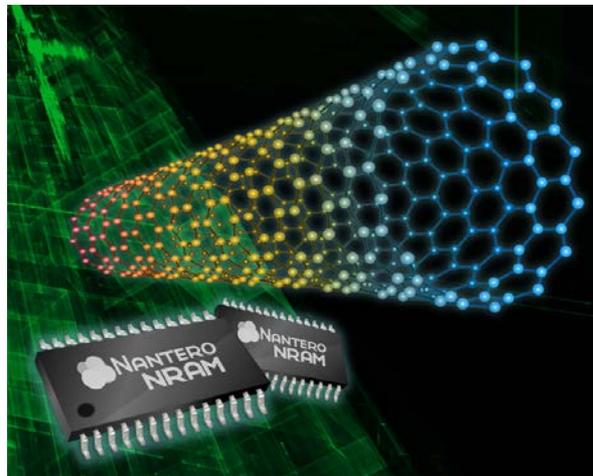




Direct Office Communication and Its Effect on Prosecution

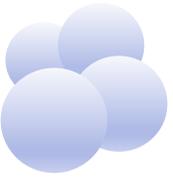
USPTO Semiconductor Customer Partnership Meeting



August 22, 2017

Presented by: **Jason Toomey** Senior Patent Agent jason@nantero.com

Brett Squires Patent Counsel bsquires@nantero.com



Agenda

- About Nantero
- What is in the Box?
- Office Interaction Examples (“Case Studies”):
 - The Case of the New Device
 - The Case of the Relative pH
 - The Case of Too Many Cases
 - The Case of Don’t Call Us, We’ll Call You
- Summary
- Q&A



About Nantero – Company Overview

Nantero is a nanotechnology company using carbon nanotubes for the development of next-generation semiconductor products (NRAM[®]).



- Founded in 2001
- Approx. 80 employees worldwide
- Facilities in Woburn, MA and Sunnyvale, CA
- Also teams in Texas, Japan, and China
- More than 330 Issued Patents and Pending Application worldwide



About Nantero – Legal Department

Nantero has a small in house legal team that manages patent and trademark activity

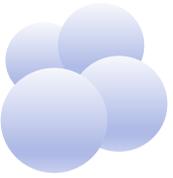
Nantero's seven person legal department includes:

- **General Counsel / Chief Patent Counsel**
Robert Lindefjeld
- **Two full time, in-house patent practitioners**
Brett Squires
Jason Toomey
- **One Technical Specialist**
David Allemeier
- **One Legal Assistant**
Elsie Saraglow
- **Two Technical Advisors**
Dr. Claude Bertin, Fellow
Dr. Rinn Cleavelin



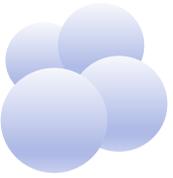
***US Patent Prosecution done
in house since 2011***





What's In the Box?

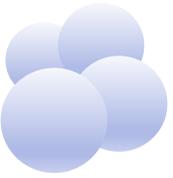




An Explanation Accompanying Element Matching

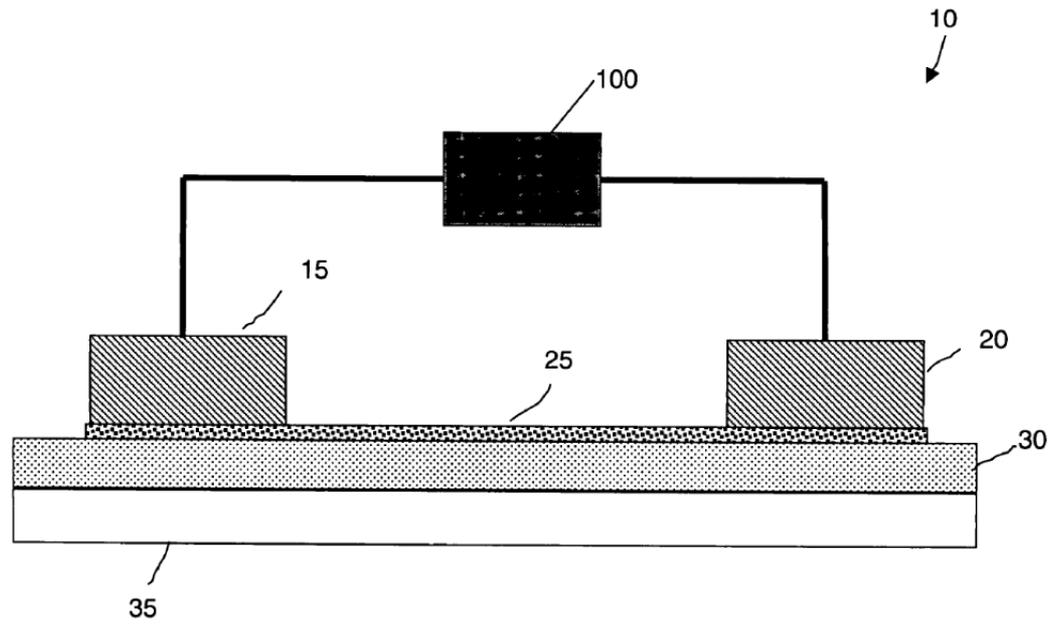
- Element matching without further explanation often illustrates the Office's position, for example, reading a transistor on a transistor
- However, element matching involving multiple elements can create misunderstandings of the Office's position, for example drawing a large box around a large portion of a circuit
- Answering the question of what is in the box through additional explanation can advance prosecution of an application by reducing misunderstandings of the Office's position

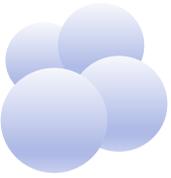




Example #1:

The Case of the New Device



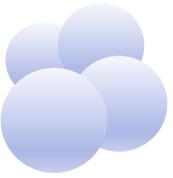


Example #1 – The Case of the New Device

Initial Prosecution

- **Nov 2005:** Case Filed
- **June 2007:** First Office Action
- **Oct 2008:** After two rejections and responses, in-person interview held
- Inventor and Counsel left interview feeling positive (Examiner did indicate a new search and further consideration would be required)
- **Dec 2008:** New Rejection issued



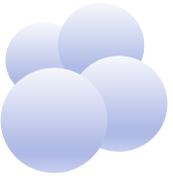


Example #1 – The Case of the New Device

Prosecution After Interview

- The Dec 2008 rejection did allow a few claims, but still included rejections over the reference discussed during the in-person interview
- **April 2009:** Response filed; Applicants elected to take the allowed claims
- **July 2009:** Double Patenting rejection issued (Terminal Disclaimer filed Dec 2009)
- **Dec 2009:** Another rejection is issued, this time to a brand new reference



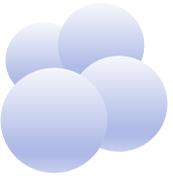


Example #1 – The Case of the New Device

Second Round of Interviews

- **Feb 2010:** Two telephonic interviews held to discuss new reference
- **Mar 2010:** Response filed with amended claim language based on Feb 2010 interview (CONT applications planned)
- **June 2010:** Notice of Allowance Issued





Example #1 – The Case of the New Device

Results / Takeaways

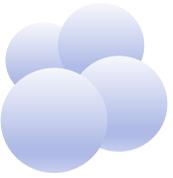
- The multiple interviews (and especially the in person interview) were very helpful in distinguishing the new device over the cited art
- Appreciated the amount of explanation required for such a new device
- This case (and subsequent child cases) all successfully allowed, with prosecution facilitated by additional interviews



Example #2:

The Case of the Relative pH



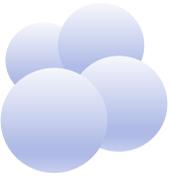


Example #2 – The Case of the Relative pH

Prosecution Overview

- Two non-final rejections, followed by a final rejection
- RCE, which was followed by a non-final rejection, then a Notice of Allowance
- Prosecution include three telephonic interviews, the first two applicant initiated, and the last one examiner initiated
- Office Actions and Responses mostly substantive, and prosecution included a 1.132 declaration being filed

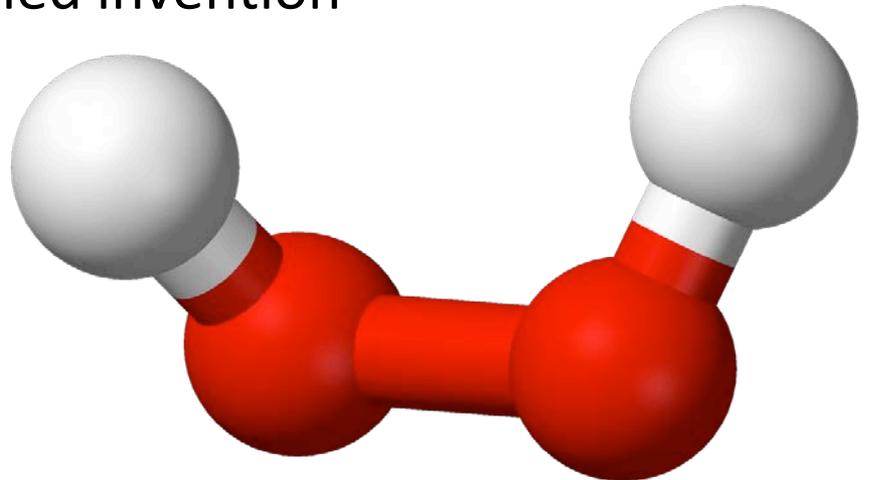


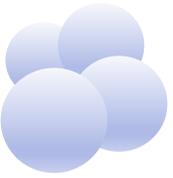


Example #2 – The Case of the Relative pH

Prosecution Overview (cont.)

- Prosecution focused, in part, on using an acid to treat our nanotube solutions
- At one point, we were in the position of arguing that hydrogen peroxide (used in a cited reference) would not *act* as an acid within our claimed invention
- We initiated an interview to expedite prosecution



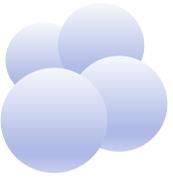


Example #2 – The Case of the Relative pH

Interviews Were Very Successful

- Examiner understandably guarded at first
- However, once he understood our position, the conversation became much more open—switched from “arguing” our case to working together to develop claim language
- Examiner suggested claim amendments that our inventor was very pleased with





Example #2 – The Case of the Relative pH

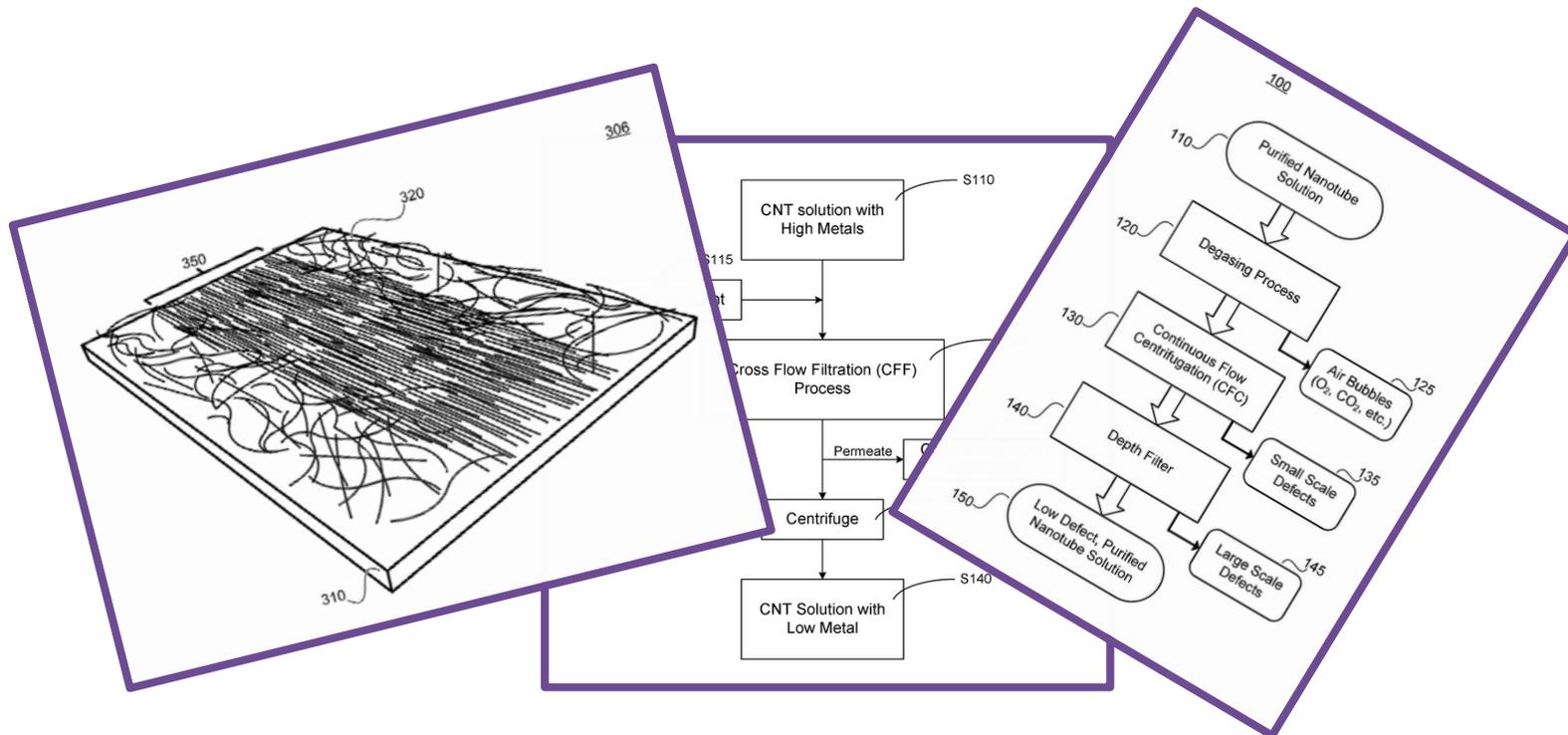
Takeaways

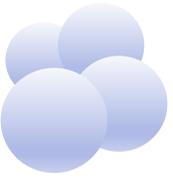
- This was a typical prosecution case for Nantero, but had a relatively low number of office actions and responses due in large part to the three interviews
- Great example of working together with the office to get to the right claim set



Example #3:

The Case of Too Many Cases



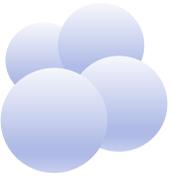


Example #3 – The Case of Too Many Cases

Overview

- August 2016: We are working three relatively complicated substantive Office Actions on three separate cases
- All three cases are, coincidentally, with the same examiner
- All three cases, less coincidentally, with the same inventor
- All three cases are good candidates for an interview



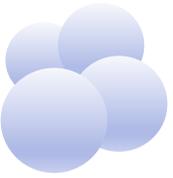


Example #3 – The Case of Too Many Cases

Addressing all Three Together

- Arranging all three interviews would mean likely tying up our inventor for several days within a single month
- We decided to call the Examiner, explain the situation, and propose a multi-case interview on a single day
- Examiner was all for it!





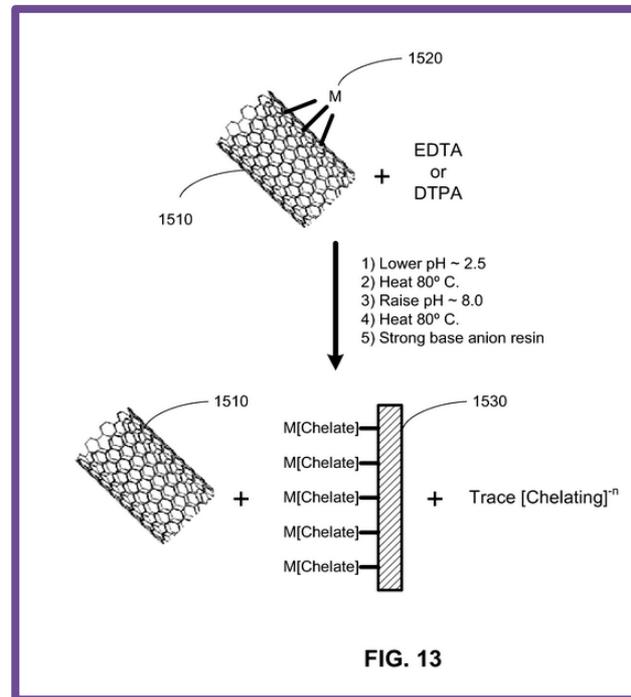
Example #3 – The Case of Too Many Cases

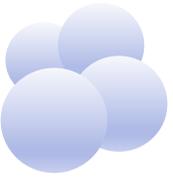
Results/Takeaways

- Productive discussions on all three cases
- Reduced time impact (on both sides, we hope!)
- Opened communication and developed rapport for continued prosecution (additional interviews, etc.)
- Two of the cases have issued, one still pending
- On still pending case, feel like we have a good working relationship with the Examiner even though we are not at the finish line yet



Example #4: The Case of Don't Call Us, We'll Call You

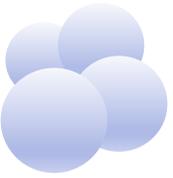




Prosecution Overview

- Case Filed March 2012, First Office Action April 2013
- Three full “rounds” or prosecution (non-final, final, RCE) between April 2013 and January 2016
- Mix of substantive (multiple references) and non-substantive rejections (support, claim language, etc.)
- Steady progress made throughout prosecution
- New non-final rejection made July 2016, argument only response made November 2016





Examiner Initiated Interview

- Instead of issuing a final rejection (which would have possibly necessitated us filing another RCE), the Examiner called us to discuss the case

VIII. Conclusion

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims. If after reviewing the foregoing remarks, the examiner is of the opinion that the present application is not in condition for allowance, the examiner encouraged to contact the undersigned at the phone number listed below.





Example #4 – The Case of Don't Call Us, We'll Call You

Results / Takeaways

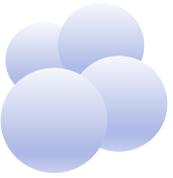
- Able to discuss the Examiner's concerns before he made a rejection
- Moreover, able to agree on claim language that avoided the rejection altogether and put the case in condition for allowance
- Interviews in general are “very constructive”

Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The interview was directed towards the rejections in the OA of 07/11/2016, the remarks advanced in the applicants' reply of 11/17/2016 and a clarification of the claimed invention. In particular, it is noted that the role and function of the polymers and surfactants in the dispersion were discussed. It is noted that the interview was very constructive regarding the advancement of the prosecution. An authorization for an Examiner's Amendment was granted by Applicant's Representative to amend claim(s) 70 and 81./nt/.

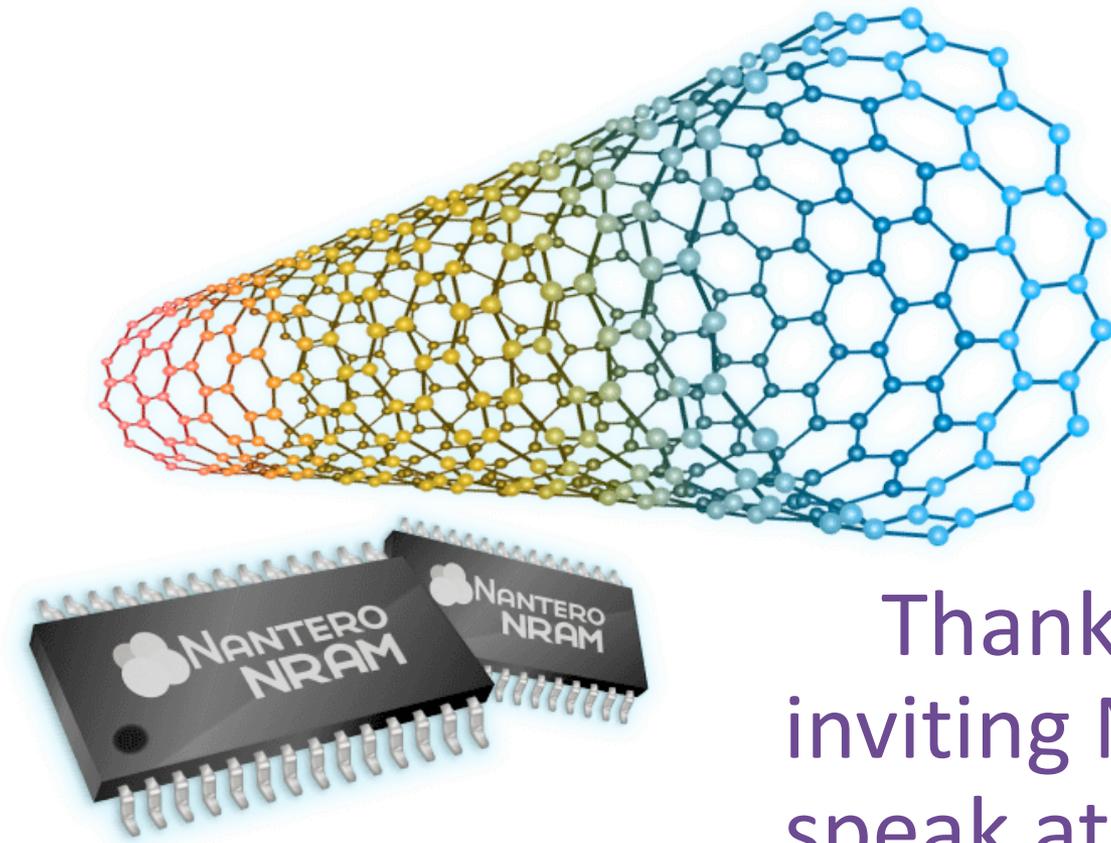




Summary

- Direct Office Communication can, in many cases, expedite, facilitate, uncomplicate the patent prosecution process
- Both Applicants and Office share same goal: Arrive at the best claim set
- Examiners reaching out to us with questions, concerns, or ideas is always welcome, and (in our experience) extremely productive
- We have seen the frequency Direct Office Communication increasing in the last few years, and hope to see that trend continue





Thank you for
inviting Nantero to
speak at this event

