IP and Opportunities
Tomas Isakowitz
Penn Center for Innovation
University of Pennsylvania
tomas@upenn.edu
Tomás Isakowitz, Ph.D.
Tech Transfers and IP

- From the lab to the benefit of society
- IP has significant Value
- Research => Protect => License
### Types of Intellectual Property

Grant exclusive rights to the owner.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Secret</td>
<td>formula, practice, process, design, instrument, pattern, commercial method, or compilation of information which is not generally known, and by which a business can obtain an economic advantage over competitors or customers.</td>
</tr>
<tr>
<td>Copyright</td>
<td>Protects original work; expression: literary works, music, software, photographs, paintings.</td>
</tr>
<tr>
<td>Patent</td>
<td>Protects inventions: solution to specific technological problems: composition, process, machine, article, plant, design</td>
</tr>
<tr>
<td>Trademark</td>
<td>recognizable sign, design or expression which distinguishes products or services from similar products</td>
</tr>
</tbody>
</table>
Patents

- The right to exclude others from
  - making, using, selling, offering to sell or importing the invention
  - 20 years from earliest filing date
  - Limited geographically

- not automatic
OPTICALLY GUIDED SYSTEM FOR PRECISE PLACEMENT OF A MEDICAL CATHETER IN A PATIENT

Inventors: Daniel F. Wilson, Philadelphia, PA (US); Gregory J. Scheers, Rochester, MN (US)

Assignee: The Trustees of the University of Pennsylvania, Philadelphia, PA (US)

Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1266 days. This patent is subject to a terminal disclaimer.

Appl. No.: 11/242,688
Filed: Oct. 4, 2005

Prior Publication Data

Related U.S. Application Data
Continuation-in-part of application No. 10/482,190, filed on Nov. 2, 2004, now Pat. No. 7,273,056.

Provisional application No. 60/625,002, filed on Nov. 4, 2004.

Int. Cl.
A61B 5/00 (2006.01)
A61B 1/00 (2006.01)

U.S. Cl. 128/899; 600/407; 600/424; 600/473; 600/476

References Cited
U.S. PATENT DOCUMENTS
4,444,185 A 4/1984 Shingar 620/251 128/305
4,772,093 A 9/1988 Abele et al. 620/351 350/056
4,875,897 A 10/1989 Lee 620/351 604/283
4,900,933 A 2/1990 Nester et al. 620/351 250/458.1
4,945,895 A 8/1990 Takai et al. 620/351 128/6

FOREIGN PATENT DOCUMENTS
WO 02/03463 A2 12/2002

OTHER PUBLICATIONS

Primary Examiner — Charles A Marmor, II
Assistant Examiner — Catherine E. Burk
Attorney, Agent, or Firm — McCarter & English, LLP

ABSTRACT
A system is provided comprising an optically-guided catheter having a proximal end, a distal end, and at least one lumen. A light-emitting means is coupled to the catheter, the catheter is inserted into place in the patient, and light is emitted as a point or points from a selected location, usually the distal tip, of the catheter to which it is coupled. The system further comprises an external detection device that detects the transdermally projected light, emitted by the light-emitting point from within the patient, thereby indicating precise placement of the catheter within the patient.
USPTO has its Guide for Preparation of Patent Drawings.
PCI FELLOWS PROGRAM
PCI Fellows Work On

Intellectual Property
• Focus on Invention Assessments
• Identify invention
• Patentability
• Market size

Marketing
• Work with Licensing Officers
• Generate marketing materials
• Contact companies
Pre-Requisites

Penn affiliated

Advisor consent

Right to work at Penn

One year commitment required

2022 cohort application window closed
Application period for 2023 cohort opens Nov 2022
Shaina Oake

• Bioengineering Master student
• PCI Fellow - 2011

• UCLA Office of Intellectual Property and Industry Sponsored Research
Andrew Boodhoo

- Goldman Sachs
  - SEAS Master
  - PCI Fellow
  - Analyst
Pallab Singh

- Riverside Law LLP
  - Post-Doc - SEAS
  - PCI Fellow
  - Patent Agent
PCI Fellows Program

Paid internship for Penn Master’s, PhD and Post-Doctoral students focused on technology transfer

The PCI Fellows is an experiential education program that was launched in the Fall of 2008.

It is open to graduate students, postdoctoral fellows, and research staff at Penn. PCI Fellows get exposure to a wide range of emerging technologies and commercialization opportunities in the life sciences, physical sciences, nanotechnology, and more.

The program runs on an annual cycle. A new cohort starts each Spring and Fellows can participate in consecutive cohorts.

We accept applications at any time. The application deadline for 2022 is December 17, 2021

For information beyond what is on this page, see Overview of the PCI Fellows and the FAQ.
Penn I-Corps

1. Form an I-Corps team
2. Receive guidance and grants for customer discovery
3. Qualify to apply for the national NSF I-Corps Teams program

Get started | workshop | $50K
Maximizing Impact Through Integrated Behavioral Health

Physical and behavioral health are inextricably linked. Individual and population-level health and wellness require proper treatment of the whole patient, both physical and mental.

Optimizing the integration of behavioral health into your practice can be challenging, and SAMHSA recognizes that integrating holistic health initiatives occurs on a spectrum. This Integrated Behavioral Health Readiness Assessment is a diagnostic tool to help you hone in on where your organization stands today in your integration journey, and provides insights on critical areas of focus to address in order to maximize the impact of your integrated approach.
EEG is a powerful and proven technology, but has had limited use cases due to complicated and expensive hardware.

<table>
<thead>
<tr>
<th>Signal</th>
<th>Frequency</th>
<th>Amplitude</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta  (δ)</td>
<td>Less than 4 Hz</td>
<td>20 – 200 μV</td>
<td>Increased power during difficult conditions [11]</td>
</tr>
<tr>
<td>Theta (θ)</td>
<td>4 - 8 Hz</td>
<td>Around 20 μV</td>
<td>Power increases during the stress [11]</td>
</tr>
<tr>
<td>Alpha (α)</td>
<td>8 - 12 Hz</td>
<td>20 – 200 μV</td>
<td>Power suppresses during the stress [13]</td>
</tr>
<tr>
<td>Beta (β)</td>
<td>13 – 31 Hz</td>
<td>5 – 10 μV</td>
<td>Power varies according to task difficulty [11]</td>
</tr>
</tbody>
</table>
Wireless "plug-and-play" headsets are now available, allowing for **real-time quantification** of mental stress levels.

NeuroFlow helps doctors **objectively identify** concerns, **track** treatment progress, and **improve** patient care.
Penn I-Corps

150+ teams

300+ participants

$34 M + raised
How do we build a startup?
Customer Development

Customer Discovery

SEARCH

PIVOT
Benefits:

- Is there a market?
- How do we get started?
- How to position for fund raising?

Requirements

- Teams of 2+ members
- All Penn affiliated (actively)
- Technology: out of research
- Commitment:
  - Sessions
  - 20 interviews
  - ~10 hrs./week per person
Looking for a TA

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 18 or 25</td>
<td>Opening Workshop</td>
<td></td>
</tr>
<tr>
<td>April 15 or 22</td>
<td>Closing Workshop</td>
<td></td>
</tr>
<tr>
<td>Oct-9, 12-1 pm</td>
<td>Class 0: Pre-workshop</td>
<td>Course introduction&lt;br&gt;Get out of the building &amp; how to get interviews</td>
</tr>
<tr>
<td>Oct-16</td>
<td>Class 1: Opening Workshop</td>
<td>Team Introductions&lt;br&gt;Business Model Generation</td>
</tr>
<tr>
<td>Oct-23</td>
<td>Class 2: Interviewing Workshop I</td>
<td>Exploring the Ecosystem&lt;br&gt;Modeling workflow+</td>
</tr>
<tr>
<td>Oct-30</td>
<td>Class 3: Interviewing Workshop II</td>
<td>Articulating Value Propositions&lt;br&gt;Interviewing Techniques&lt;br&gt;Designing an interview guide</td>
</tr>
<tr>
<td>Nov. 6, 12-1 pm</td>
<td>Entrepreneurial Resources Panel</td>
<td>Discover local resources and influencers</td>
</tr>
<tr>
<td>Week of Nov. 13</td>
<td>Midpoint Review</td>
<td>Field Work and Office Hours</td>
</tr>
<tr>
<td>Nov-20</td>
<td>Class 4: Closing Workshop</td>
<td>Lessons learned&lt;br&gt;Applying for funding&lt;br&gt;Next steps</td>
</tr>
</tbody>
</table>

https://pci.upenn.edu/icorps/
tomas@upenn.edu