Program Description

In response to recommendations from the President’s Commission on Combating Drug Addiction and the Opioid Crisis, the National Institute of Drug Abuse (NIDA) and the FDA have called upon the medical device industry to step forward with technology that can prevent use, detect drug diversion and save the lives of those who have overdosed on opioids. This request is backed by abundant funding for R&D in both contracts and grants.

As opioid addiction grew and permeated the country over the last 15 years, government, press, pharma, the medical profession, and others, with some notable exceptions, were caught unaware, and in some ways even facilitated this epidemic.

Finally, death rates in 2017 rose to 72,000, exceeding the entire Vietnam War total.

With longevity statistics declining for the first time in decades, and with so many Americans feeling the loss of young, otherwise healthy people, the curse of opioids can no longer remain unaddressed.

We welcome you to join us in this vital conversation.

Who Should Be Here:

- Managers in companies with potential applications to help in drug use or abuse
- Physicians looking for developments in opiate prescribing, pain management, or emergency room treatments
- Scientists and engineers exploring the means of furthering the development of their ideas for addressing this epidemic
- Academics researching combatting drugs
12th Annual Event
Transitioning Into and Within the Medical Device Industry
Are you now working in the industry and have considered moving to another company or using your skills in an entirely new area?
The medical device industry is ripe with opportunities for people who want to help bring new medical products to market.

Oct 30 MDG Boston FORUM
Tuesday
5:30 PM – 8:30 PM
New Advances and Opportunities in Combination Products:
Addressing the Unmet Needs to Develop Drug Delivery Innovation Strategies in Preclinical Drug Discovery & Development
Given product diversity, it takes cross-functional talent to bring novel therapeutics into clinical practice. The objective of this session is to present a point of view on combination products covering topics that include:
- The opportunity
- The range of therapies under investigation
- The challenges associated with their delivery—targeting, binding
- Drug delivery platforms and controls
- Measuring post administration pharmacokinetics
- Thoughts on regulatory pathways
- Engaging in pre-clinical settings
- Business model considerations

Dec 3 MDG Boston FORUM
Monday
5:30 PM – 8:30 PM
Technologies and Approaches for Monitoring and Improving Health and Aging in Place
Medical Devices Needed for Senior In-Home Health Care
The marketplace for technology to assist aging adults in the Longevity Economy is expected to grow to more than $30 billion in the next few years, according to the updated report by Aging in Place Technology Watch.

For more information go to mdgboston.org
Presenters

Peter R Chai, MD  
*Brigham and Women’s Hospital*  
*Harvard Medical School*  
**“Using Digital Pills to Advance our Understanding of Safe Opioid Use”**

Dr. Chai currently collaborates with eTectRx in developing the ID Cap, a digitized gelatin capsule that overencapsulates any medication to measure real time medication ingestion events. He has used the ID Cap as a novel method to detect opioid ingestion patterns in individuals discharged from the emergency department with acute fracture pain, and is working on developing smartphone interventions that respond to real-time opioid ingestion patterns detected by the ID Cap.

Howard Levin, MD  
*Managing Partner, President, and CSO*  
*Coridea*  
**“Respiratory Muscle Pacing to Combat Opioid Overdose”**

Dr. Howard Levin, MD is a former heart transplant cardiologist at Johns Hopkins University is now an investor in medical startup companies, one of which, Coridea, has funding from NIDA to stimulate breathing in people at risk from, or who have overdosed. This stimulator may be permanently implanted or used externally in an emergency. In 2003, with Mark Gelfand, Dr. Levin co-founded Coridea, an idea generator that translates ideas into novel therapeutic solutions for clinical practice.

His inventions and co-inventions have successfully launched or their patents helped launch companies including Aridian (Medtronic), CHF Solutions (Gambror), Respircardia (formerly, Cardiac Concepts), eValve (Abbott) and RenalGuard (PLC Medical), Cibiem and Sofio Medical.

Alejandro Zamorano  
*VP of Business Development*  
*PainQx*  
**“Objective, Quantifiable, Non-invasive Pain Evaluation”**

PainQx is an A.I. powered diagnostic company that has developed a method to objectively measure pain. The PainQx platform achieves this by assessing neural activity using EEG from a patient’s brain and processing and decoding the data through proprietary algorithms. The output is a scaled pain biomarker correlates to a patient’s pain state. The PainQx platform will be used by physicians as a biomarker to gauge the dosage of medication and the efficacy of a treatment regimen. This is an especially pressing need given the opioid epidemic which in 2017 claimed 49,068 Americans.

Alejandro has 10 years’ experience in business development finance, marketing, and fundraising in the life sciences. He handles all strategic and partnering opportunities for PainQx.

Mariana Matus, PhD  
*CEO and Cofounder*  
*Biobot Analytics*  
**“Tracing the Opioid Epidemic by Sewage Analytics”**

Dr. Matus  leads scientific and technological development. She holds a PhD in Computational and Systems Biology from MIT, and her doctoral dissertation explored how to build a smart sewage platform to collect public health data with sub-city level resolution.

MIT researchers Dr. Mariana Matus and Newsha Ghaeli founded Biobot Analytics to bring wastewater epidemiology to cities. Sewage is a rich anonymous source of human health information. Biobot analyzes opioid metabolites in sewage to estimate consumption trends in communities.

Biobot is building a new metric to assess the opioid epidemic near real-time with data that is anonymous, representative, and non-regulated. With this information, public health officials can customize their strategy to curb the epidemic.

Bertha Madras, PhD  
*Harvard Medical School*  
**“Using Digital Pills to Advance our Understanding of Safe Opioid Use”**

Bertha Madras, PhD is a Harvard Medical School professor currently funded by NIDA to understand drug induced brain changes. She was the only non-government official to be appointed to the President’s Commission on the opioid crisis, and had a lead role in formulating the recommendations, the majority of which are being implemented. Bertha had served as deputy drug czar in the Second Bush administration.

Co-Champions

Peter Madras, MD  
*Lecturer, Sloan School of Management, MIT*  
*President, MDG Boston*  

Mark Ventresco  
*New Business Development Manager*  
*Milstone Medical*  

If you have any comments regarding this forum, please send them to MDGforums@MDGboston.org
### 2018–2019 MDG Boston Forums

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>Event Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep</td>
<td>5</td>
<td>Artificial Intelligence (AI) in Healthcare</td>
</tr>
<tr>
<td>Oct</td>
<td>3</td>
<td>The Medical Device Communities Response to the Opioids Crisis - How to Improve the Social Impact</td>
</tr>
<tr>
<td>Oct</td>
<td>16</td>
<td>12th Annual: Transitioning Into and Within the Medical Device Industry</td>
</tr>
<tr>
<td>Oct</td>
<td>30</td>
<td>New Advances and Opportunities in Combination Products</td>
</tr>
<tr>
<td>Dec</td>
<td>3</td>
<td>Technologies for Monitoring and Improving Health and Aging in-Place</td>
</tr>
<tr>
<td>Jan</td>
<td>9</td>
<td>Bionics and Exoskeletons</td>
</tr>
<tr>
<td>Feb</td>
<td>6</td>
<td>Advances in Brain Stimulation</td>
</tr>
<tr>
<td>Mar</td>
<td>6</td>
<td>Medical Imaging and Diagnostic Innovations - What's New in Imaging?</td>
</tr>
<tr>
<td>Apr</td>
<td>17</td>
<td>The Troubling Economics of the US Health Care System</td>
</tr>
<tr>
<td>May</td>
<td>1</td>
<td>Practical Tips for Early Stage Companies</td>
</tr>
<tr>
<td>Jun</td>
<td>3</td>
<td>Advances in Diabetes Care</td>
</tr>
</tbody>
</table>

“The Driving Principle behind MDG is that progress and innovation are driven by collaboration, cooperation and an open, free exchange of knowledge and ideas between individuals from all levels, across different functions and many disciplines, including but not limited to basic sciences, engineering, clinical science, finance, investing, administration, academia and business.”

**Peter Madras**, President MDG Boston