PPMI

Ken Marek

PPMI Annual Meeting
May 2, 2018
New York, NY
PD patient

MAY 2011

- 67 yo right handed WF in excellent general health
- History
  6 month history of poor tennis play
  Note 1-2 years – mild constipation
  2 months intermittent R UE tremor while reading the newspaper, or if in stressful situation
- Exam
  Mild R UE resting tremor
  Reduced R arm swing
- PD DIAGNOSIS – 1 MONTH AGO

• “IF THE SYMPTOMS REMAIN AS THEY ARE NOW – I COULD DEAL WITH THIS”

MAY 2013

- Two years progression
- History
  Continue to work, all activities
  Requires sinemet 100 mg tid
  Worried about future
- Exam
  Mild R UE> L UE resting tremor
  R brady UE>LE
- PD DIAGNOSIS – 24 MONTHS AGO

- Seven years progression
- History
  Continue to work, increasing difficulty with keyboards, gait etc
  Requires sinemet 150 mg tid, DA, SSRI – not working as reliably
- Exam
  Mod R UE> L UE resting tremor, R brady UE>LE
- Noting off periods
  Gait stiff, subtle balance
- PD DIAGNOSIS – 84 MONTHS AGO

“THESE SYMPTOMS ARE ANNOYING AND I WORRY THAT THEY ARE GETTING WORSE.”

“HOW CAN I STOP THIS FROM GETTING WORSE.”
Natural History of PD

Prodromal

Neuron Function

Symptomatic

Diagnosis

Clinical Ratings

Time

-15yr -2yr -1yr 0 1-2yr 5yr 10yr 15yr

Motor symptoms
Motor fluctuations
ADLs, Work effected
Gait/balance
Cognition

Rx with DA

DA Degen PD range
Early clinical markers
DA Degen
RBD

Motor/non-motor Disability

Motor symptoms
Diagnosis

Rx with DA

ADLs, Work effected
Gait/balance
Cognition

Motor/non-motor Disability

Motor symptoms
Diagnosis

Rx with DA

ADLs, Work effected
Gait/balance
Cognition

Motor/non-motor Disability
Parkinson’s Progression Markers Initiative

Specific Data Set
- Appropriate population (early stage PD and controls, prodromal, genetic PD subjects)
- Clinical (motor/non-motor) and imaging data
- Corresponding biologic samples (DNA, blood, CSF)

Standardization
- Uniform collection of data and samples
- Uniform storage of data and samples
- Strict quality control/quality assurance

Access/Sharing
- Data available to research community → data mining, hypothesis generation & testing
- Samples available for studies
- www/ppmi-info.org
Goals for PPMI – to inform clinical trials

- Develop tools to assess disease progression throughout the course of PD
  - Motor disease onset
  - Later disease - cognition, gait, dyskinesia
  - Prodromal disease - prevention

- Identify subsets of PD subjects
  - Clinical
  - Biomarker
  - Data Driven

- Phase 2 - provide an efficacy signal to increase confidence for subsequent Phase 3

- Phase 3 studies - enrich the study sample and provide objective outcomes of that reflect clinical benefit
### STUDY POPULATION
- 423 de novo PD subjects (newly diagnosed and unmedicated)
- 196 age-and gender-matched healthy controls
- 64 SWEDD subjects
- 67 individuals with prodromal PD (hyposmic, RBD)
- 550 LRRK2 or GBA (PD manifest and non-manifesting family members)
- 50 Synuclein (PD manifest and non-manifesting family members)
- Subjects followed for 5 to 13 years

### ASSESSMENTS/CLINICAL DATA COLLECTION
- Motor assessments
- Neuropsychiatric/neurobehavioral testing
- Autonomic, olfaction, sleep
  - DaTSCAN, AV133, Amyloid, DTI/RS MRI
- Sensor Data

### BIOLOGIC COLLECTION
- DNA, RNA
- Serum, whole blood and plasma collected at each visit; urine annually
- CSF collected at baseline, 6mo 12 mo and then annually
- IPSC in subset
- Samples aliquotted and stored in central biorepository
- Post mortem tissue

### Shared Data and Biosamples
- > 1,700,000 Data downloads
- > 100 Sample requests via BRC
- Ancillary study development
### PPMI ENROLLMENT - 2018

<table>
<thead>
<tr>
<th>GROUP</th>
<th>Consented</th>
<th>Enrolled</th>
<th>Withdrawn</th>
<th>Active</th>
<th>Completed</th>
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<tbody>
<tr>
<td>PD Subjects</td>
<td>489</td>
<td>423</td>
<td>72</td>
<td>337</td>
<td>14</td>
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<tr>
<td>Healthy Controls</td>
<td>241</td>
<td>196</td>
<td>31</td>
<td>158</td>
<td>7</td>
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<tr>
<td>SWEDD Subjects</td>
<td>81</td>
<td>64</td>
<td>10</td>
<td>3</td>
<td>51</td>
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<tr>
<td>Prodromal - Hyposmic</td>
<td>119</td>
<td>26</td>
<td>4</td>
<td>22</td>
<td>0</td>
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<tr>
<td>Prodromal-RBD</td>
<td>96</td>
<td>39</td>
<td>3</td>
<td>36</td>
<td>0</td>
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<tr>
<td>LRRK2 PD Cohort</td>
<td>155</td>
<td>141</td>
<td>6</td>
<td>135</td>
<td>0</td>
</tr>
<tr>
<td>LRRK2 UA Cohort</td>
<td>196</td>
<td>190</td>
<td>10</td>
<td>180</td>
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<tr>
<td>SNCA PD Cohort</td>
<td>19</td>
<td>19</td>
<td>1</td>
<td>18</td>
<td>0</td>
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<tr>
<td>SNCA UA Cohort</td>
<td>7</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>GBA PD Cohort</td>
<td>77</td>
<td>73</td>
<td>3</td>
<td>70</td>
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<tr>
<td>GBA UA Cohort</td>
<td>135</td>
<td>129</td>
<td>3</td>
<td>126</td>
<td>0</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1615</strong></td>
<td><strong>1306</strong></td>
<td><strong>143</strong></td>
<td><strong>1091</strong></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>
PPMI MILESTONES - 2018

- **2011**: Enrollment PD/HV
- **2012**: Add DTI
- **2013**: Add SWEDD
- **2014**: Enrolled PD/HV, Add Amyloid, Enrolled Prodomal
- **2015**: Enrolled Genetic
- **2016**: Add GBA, Enrolled LRRK2
- **2017**: 3000 DaTscan, 16000 WRI, >1,000,000 Genotypes
- **2018**: 1,700,000 Downloads, 100 BRC Applications, Add AMP, Add Wearables, Therapeutic studies

- **Enrolled in 2018**:
  - 100 Publications
  - 100 BRC applications
  - Add AMP
  - Add Wearables

- **Total**:
  - 1500 subjects
  - 5000 LPs
  - 25000 Biospecimen
  - 1,700,000 Downloads
  - >1,000,000 Genotypes

**PPMI Timeline**

- **2011**: Enrollment PD/HV
- **2012**: Add DTI
- **2013**: Add SWEDD
- **2014**: Enrolled PD/HV, Add Amyloid, Enrolled Prodomal
- **2015**: Enrolled Genetic
- **2016**: Add GBA, Enrolled LRRK2
- **2017**: 3000 DaTscan, 16000 WRI, >1,000,000 Genotypes
- **2018**: 1,700,000 Downloads, 100 BRC Applications, Add AMP, Add Wearables, Therapeutic studies

**PPMI Themes**

- Therapeutic studies
- Add AMP
- Add Wearables
- Genomic
- Biomarkers
- 1,700,000 Downloads
- 100 Publications
- 100 BRC applications

**PPMI Progress**

- Enrolled in 2018:
  - 100 Publications
  - 100 BRC applications
  - Add AMP
  - Add Wearables

- **Total**:
  - 1500 subjects
  - 5000 LPs
  - 25000 Biospecimen
  - 1,700,000 Downloads
  - >1,000,000 Genotypes
PPMI Deliverables

- Operational – SOPs, Enrollment/retention, CSF, DAT, DTI
- Tools to establish biomarker-defined PD cohorts – IPD, prodromal, genetic
- Data to inform study design – longitudinal assessment, sample size
  
  3 studies underway//at least 5 more in planning

- Data to examine baseline and early change predictors of progression
- Data to develop clinical outcomes - phenoconversion, cognition
- Data to develop biomarker outcomes – imaging, biofluids, genetic risk
- Data to establish PD subsets who
  - Develop clinical outcomes (cognition, gait, autonomic)
  - Progression at different rates (fast vs slow)
  - May respond to specific therapy
PPMI – Infrastructure/Operations

• Operational – SOPs, Enrollment/retention, CSF, DAT, DTI

• PPMI infrastructure - sites, biorepository, data repository

• Subject retention (as of 4/1/2018) –
  • 1142/1306 all subjects (87.4%) retention
  • 495/619 PD/HV (80.0%) retention
PPMI - Enrollment of selected cohorts

- Untreated PD - enrollment - 1 subject/site/month
- RBD/Olfaction - Central standardized enrollment
- LRRK2/GBA - Widespread recruitment initiative
- Synuclein – Geographic focus
HOW DOES GENETIC RECRUITMENT WORK?

The WRI process can be scaled and customized

<table>
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<tr>
<th>Mutation</th>
<th>Number</th>
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<tr>
<td>LRRK2 (G2019S)</td>
<td>689</td>
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<tr>
<td>GBA (N370S*)</td>
<td>811</td>
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<tr>
<td>LRRK2 + GBA</td>
<td>46</td>
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<tr>
<td>Totals</td>
<td>1546</td>
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<tr>
<td>Referred to PPMI</td>
<td>1457*</td>
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# PPMI – Key Outcomes

<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Definition and/or Comments</th>
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<tbody>
<tr>
<td>Global</td>
<td>Absolute total MDS-UPDRS score</td>
<td>Examine absolute total OFF MDS-UPDRS score and separately absolute ON total MDS-UPDRS score</td>
</tr>
<tr>
<td></td>
<td>Time to withdrawal from study</td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>Absolute MDS-UPDRS III total score</td>
<td>Examine absolute total OFF MDS-UPDRS part III score and separately absolute ON total MDS-UPDRS part III score</td>
</tr>
<tr>
<td>DaT</td>
<td>% change in mean striatal SBR</td>
<td>Percent change from Baseline</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Absolute change in MoCA score</td>
<td></td>
</tr>
<tr>
<td>Medication</td>
<td>Time to any PD med</td>
<td>(any PD med includes amantadine, azilect, artane)</td>
</tr>
<tr>
<td></td>
<td>Absolute LED</td>
<td>exclude those who have 0 LED at a given follow-up time point</td>
</tr>
<tr>
<td>CSF Biomarker</td>
<td>Absolute CSF alpha-synuclein</td>
<td></td>
</tr>
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</table>
PPMI Longitudinal outcomes

Figure 1a. MDS-UPDRS Total Score over Time in All PD Subjects

Figure 1b. DaTSCAN over Time in PD Subjects

CSF Alpha-Synuclein over Time

NOTE: Points are only plotted if 5 or more subjects have data at that visit.
• Enrichment of study cohorts
  • SWEDD
  • Genetic risk

• Sample Size Estimate based on UPDRS, DAT, synuclein, other measures

• Phenoconversion
  • Prodromal cohorts
  • Genetic cohorts
PPMI - Biospecimen Initiative

- Genetic data –
  - Whole genome sequencing/RNAseq
- AMP- PD – Discovery platforms
- Synuclein focus
- Numerous PD relevant analytes
• US – Sites and subjects consenting - led by IU and tissue to Stanford
• EU/Israel/Aus – Specific processes will be further developed
• Goal for complete participation
PPMI – Imaging Initiatives

- Novel DAT analyses
- VMAT focus
- When will we have synuclein
- Synaptic density – SV2a
- MR initiatives
PPMI – Follow-up through 2023

- **FOUND -**
  - Goal for all subjects to enroll
  - Opportunity to continue to communicate with subjects and acquire follow-up information
  - Environmental questionnaire

- **Path core**
  - Goal for all subjects to enroll
  - Path core will continue contact subjects to plan for post-mortem

- **Novel assessments**
  - Wearables/Sensor technology
  - Ongoing phone/home visits
PPMI Data Sharing

Downloads by Country
- >10,000
- 1,001-10,000
- 501-1,000
- 101-500
- 1-100

<table>
<thead>
<tr>
<th>Number of Downloads</th>
<th>Number of Specimen Requests</th>
<th>Downloads By Sector</th>
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<tbody>
<tr>
<td>1,748,425</td>
<td>107</td>
<td>2% Biotech, 1% Government, 4% Other, 9% Pharmaceutical, 88% University/Research</td>
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## PPMI SC and Study Cores

<table>
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<th>Core</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Exec Steering Committee</strong></td>
<td>PI-K Marek, Co-PI A Siderowf, C Tanner, T Foroud, L Chahine, K Kieburtz,</td>
</tr>
<tr>
<td></td>
<td>B Mollenhauer, T Simuni, D Galasko, N Daegele</td>
</tr>
<tr>
<td><strong>Clinical Coordination Core</strong></td>
<td>University of Rochester’s Clinical Trials Coordination Center</td>
</tr>
<tr>
<td></td>
<td>• PI: Karl Kieburtz, Ray Dorsey, Renee Wilson</td>
</tr>
<tr>
<td><strong>Imaging Core</strong></td>
<td>Institute for Neurodegenerative Disorders;</td>
</tr>
<tr>
<td></td>
<td>• PI: John Seibyl, Duygu Tosun, Kathleen Poston</td>
</tr>
<tr>
<td><strong>Statistics Core</strong></td>
<td>University of Iowa</td>
</tr>
<tr>
<td></td>
<td>• PI: Chris Coffey</td>
</tr>
<tr>
<td><strong>Bioinformatics Core</strong></td>
<td>Laboratory of Neuroimaging (LONI) at UCLA</td>
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<tr>
<td></td>
<td>• PI: Arthur Toga, Karen Crawford</td>
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<tr>
<td><strong>BioRepository</strong></td>
<td>Indiana University/Biorep/Tel Aviv</td>
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<tr>
<td></td>
<td>• PI: Tatiana Foroud</td>
</tr>
<tr>
<td><strong>Biofluid</strong></td>
<td>PI: Brit Mollenhauer, Doug Galasko</td>
</tr>
<tr>
<td><strong>Genetics Core</strong></td>
<td>National Institute on Aging/NIH</td>
</tr>
<tr>
<td></td>
<td>• PI: Andy Singleton</td>
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<tr>
<td><strong>RBD Core</strong></td>
<td>Hephata Hessisches Diakoniezentrum e. V.</td>
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<tr>
<td></td>
<td>• PI: Geert Mayer</td>
</tr>
<tr>
<td><strong>Pathology Core</strong></td>
<td>Indiana University/Stanford University</td>
</tr>
<tr>
<td></td>
<td>• PI: Tatiana Foroud, Tom Montine</td>
</tr>
<tr>
<td><strong>Genetics Coordinating Core</strong></td>
<td>Indiana University</td>
</tr>
<tr>
<td></td>
<td>• PI: Tatiana Foroud</td>
</tr>
</tbody>
</table>
PPMI MJFF team

Vanessa Arnedo, Mark Frasier, Tara Hastings, Alyssa Reimer, Samantha Hutten, Luba Smolensky, Anna Naito, Addie Clark, Jamie Eberling

Sohini Chowdhury
Todd Sherer
Debi Brooks
PPMI is sponsored and partially funded by The Michael J. Fox Foundation for Parkinson’s Research. Other funding partners include a consortium of industry players, non-profit organizations and private individuals.
PPMI Committees

- **Biologics**
  - Brit Mollenhauer
  - Doug Galasko

- **Imaging**
  - John Seibyl

- **Neuropsych /Neurobehavior**
  - Dan Weintraub

- **Sleep**
  - Wolfgang Oertel

- **Genetics**
  - Andrew Singleton

- **LRRK2**
  - Tatiana Foroud
  - Susan Bressman

- **Wearable/Sensors**
  - Ray Dorsey

- **Statistical/Data**
  - Chris Coffey

- **ISAB**
  - Maurizio Facheris

- **Biospecimen review**
  - Kalpana Merchant

- **Data and publication**
  - David Standaert

- **Ancillary study**
  - Carlie Tanner

- **Recruitment/Retention**
  - Lana Chahine

- **Patient Advisory**
  - Lana Chahine

- **Website**
  - Carlie Tanner
### PPMI Sites

#### PPMI SITES IN THE UNITED STATES:
- Arizona PD Consortium (Sun City, AZ)
- Beth Israel Medical Center (NY, NY)
- Baylor College of Medicine (Houston, TX)
- Boston University (Boston, MA)
- Cleveland Clinic (Cleveland, OH)
- Columbia University (NY, NY)
- Emory University (Atlanta, GA)
- Institute of Neurodegenerative Disorders (New Haven, CT)
- Johns Hopkins University (Baltimore, MD)
- Northwestern University (Chicago, IL)
- Oregon Health and Science University (Portland, OR)
- The Parkinson’s Institute (Sunnyvale, CA)
- PD & Movement Disorders Center at Boca Raton (Boca Raton, FL)
- University of Alabama at Birmingham (Birmingham, AL)
- University of California at San Diego (San Diego, CA)
- University of California at San Francisco (San Francisco, CA)
- University of Cincinnati (Cincinnati, OH)
- University of Pennsylvania (Philadelphia, PA)
- University of Rochester (Rochester, NY)
- University of South Florida (Tampa, FL)
- University of Washington (Seattle, WA)

#### PPMI SITES IN EUROPE:
- Foundation for Biomedical Research of the Academy of Athens (Athens, Greece)
- Imperial College (London, UK)
- Innsbruck University (Innsbruck, Austria)
- King’s College Hospital (London, UK)
- Norwegian University of Science and Technology (Trondheim, Norway)
- Paracelsus-Elena Clinic Kassel/University of Marburg (Kassel and Marburg, Germany)
- Pitié-Salpêtrière Hospital (Paris, France)
- University of Barcelona (Barcelona, Spain)
- University of Donostia (San Sebastien, Spain)
- University of Salerno (Salerno, Italy)
- University of Tübingen (Tübingen, Germany)

#### PPMI SITES IN AUSTRALIA:
- Macquarie University (Sydney, Australia)

#### PPMI SITES IN Israel:
- Tel Aviv Sourasky Medical Center (Tel Aviv, Israel)
Meeting Goals - Review study Success/Challenges

- Continued outstanding retention
- Continued compliance clinical, imaging, biofluid data
- Add to robust biofluid biorepository
- Report on longitudinal analysis of progression data
  - PD subsets, prediction of progression
  - Integrate data sets
- Develop tools for Prodromal assessments – phenoconversion, pre-motor progression
- Pathology core
- Longterm PPMI follow-up – FOUND
- Wearable/sensor technology
- How can PPMI inform clinical trials
Goals for PPMI – Think BIGGER

• Can we assess a Prodromal/Preventive Cohort

• How to genotype thousands and PD patients and potential at-risk subjects

• How to develop biofluid biomarkers that can inform disease progression – AMP

• How to assess imaging tools focused on disease pathology

• How to use sensor technology to better assess study subjects
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Chair(s)</th>
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<tbody>
<tr>
<td>10:30-10:45 am</td>
<td>Welcome and Introductions</td>
<td>Marek, Siderowf,</td>
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<tr>
<td></td>
<td></td>
<td>Sherer, All</td>
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<tr>
<td>10:45-11:00 am</td>
<td>PPMI Enrollment Update</td>
<td>Coffey, Wilson</td>
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<tr>
<td>11:00-11:25 am</td>
<td>PPMI Deliverables</td>
<td>Marek</td>
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<tr>
<td>11:25-12:45 pm</td>
<td>PPMI Data Blitz</td>
<td>Simuni, Weintraub,</td>
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<tr>
<td></td>
<td></td>
<td>Mollenhauer, Seibyl,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coffey, Kieburutz,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Siderowf</td>
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<tr>
<td>12:45-1:40 pm</td>
<td>Lunch</td>
<td>All</td>
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*Riverview Dining Area*
# PPMI Annual Meeting Agenda 2018 - Day 1

## Chairs - Mollenhauer, Tanner

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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</thead>
<tbody>
<tr>
<td>1:40-2:30 pm</td>
<td>Biologics Data</td>
<td>Hutten, Mollenhauer, Craig, Singleton, Taylor, Foroud, Reimer</td>
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<tr>
<td>2:30-3:15 pm</td>
<td>PPMI Beyond 2018</td>
<td>Siderowf</td>
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<tr>
<td></td>
<td>FOUND</td>
<td>Tanner</td>
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<tr>
<td></td>
<td>Integrating Digital/Wearable Technology</td>
<td>Marek, Dorsey</td>
</tr>
<tr>
<td>3:15-3:30 pm</td>
<td>Break</td>
<td>All</td>
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## Chairs - Simuni, ISAB Chair

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>3:30-4:15 pm</td>
<td>Guest Speaker – Eric Siemens</td>
<td>Siemens</td>
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<tr>
<td>4:15-5:30 pm</td>
<td>Discussion Panel</td>
<td>ISAB Panel</td>
</tr>
<tr>
<td></td>
<td>&quot;How PPMI data informs clinical studies&quot;</td>
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<tr>
<td>5:30-6:00 pm</td>
<td>Site Awards</td>
<td>Wilson/Coordinators</td>
</tr>
<tr>
<td>6:00-6:05 pm</td>
<td>Closing Remarks</td>
<td>Marek</td>
</tr>
<tr>
<td></td>
<td>• Preparation for Thursday May 3rd- Day 2</td>
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<tr>
<td>6:30 pm</td>
<td>Cocktails &amp; Dinner at: The Down Town Association</td>
<td>All</td>
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60 Pine Street, between William & Pearl St.  
(walking distance from conference center)
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Chairs</th>
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<tbody>
<tr>
<td>7:00-8:00 am</td>
<td>Breakfast</td>
<td>All</td>
<td>Chairs - Kieburtz, Chahine</td>
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<tr>
<td>8:00-8:15 am</td>
<td>Participation in Clinical Trials</td>
<td>Siderowf</td>
<td></td>
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<tr>
<td>8:15-9:00 am</td>
<td>Phenocconversion Update</td>
<td>Chahine, Kieburtz</td>
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<tr>
<td>9:00-9:15 am</td>
<td>Pathology Core Update</td>
<td>Foroud, Montine</td>
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<tr>
<td>9:15-10:00 am</td>
<td>BREAKOUT 1 (Pick 1 topic)</td>
<td>All</td>
<td>Marks, Foroud, Taylor, Arnedo, Caspell-Garcia</td>
</tr>
<tr>
<td>10:00-10:15 am</td>
<td>Break</td>
<td>All</td>
<td></td>
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<tr>
<td>10:15-11:00 am</td>
<td>Genetic Data Blitz</td>
<td>Foroud, Mirelman, Singleton, Stefanis</td>
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<tr>
<td>11:00-12:00 pm</td>
<td>BREAKOUT 2 (Pick 1 topic)</td>
<td>All</td>
<td>Mollenhauer, Galasko, Frasier, Taylor, Shaw, Seibyl, Tosun, Poston, Weintraub, Simuni, Singleton, Foroud, Oertel, Chahine, Iranzo</td>
</tr>
</tbody>
</table>
### PPMI Annual Meeting Agenda-2018- Day 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00-1:00 pm</td>
<td><strong>Lunch</strong>&lt;br&gt;Riverview Dining Area</td>
<td><strong>All</strong></td>
</tr>
<tr>
<td>1:00-1:15 pm</td>
<td><strong>Report from Breakout Groups/Coordinators/Patient Committee</strong></td>
<td>Breakout Chairs</td>
</tr>
<tr>
<td>1:00-1:30 pm</td>
<td><strong>ISAB Breakout – meeting debrief</strong>&lt;br&gt;Water Studio</td>
<td>ISAB only</td>
</tr>
<tr>
<td>1:45-2:00 pm</td>
<td><strong>PPMI Data Use</strong></td>
<td>Toga</td>
</tr>
<tr>
<td>2:00-2:15 pm</td>
<td><strong>AMP PD Overview</strong></td>
<td>Sherer</td>
</tr>
<tr>
<td>2:15-3:00 pm</td>
<td><strong>Data Sharing – related cohorts</strong></td>
<td>Stephenson, Bloem</td>
</tr>
<tr>
<td>3:00-3:15 pm</td>
<td><strong>ISAB meeting recap and future plans</strong></td>
<td>ISAB Chair</td>
</tr>
<tr>
<td>3:15-3:40 pm</td>
<td><strong>PPMI in the Literature</strong></td>
<td>Siderowf</td>
</tr>
<tr>
<td>3:40-4:00 pm</td>
<td><strong>Goals/Plans 2018/9/Closing remarks</strong></td>
<td>Marek</td>
</tr>
</tbody>
</table>
PPMI - Biospecimen repositories

- Coordinated worldwide repository
- Robust biofluid collection
- BRC - independent review of applications
- Distribution of samples
PPMI Future

• Analysis of prodromal and genetic cohorts
• Continued assessment of entire PPMI cohort post 2018 to 2023
• Wearables
• Found
• Pathology
• Assessment of moderate PD milestones
• Assessment of Prodromal cohorts
  • Novel Imaging – Synuclein, SV2a, Inflammatory
  • AMP
  • Genetics