MISSION

- Transform CNS therapeutics through computational neuroimaging
CNS drug development is inefficient in large part due to clinical trials confronting high rates of late-stage failure.

The maturity of human neuroimaging technology presents high value to drug development.
CNS drug companies have not industrialized human neuroimaging technology due to challenges in reliability, scalability & speed.

Our team has pioneered a unified informatics system spanning:
- Patient neuroimaging data capture.
- Processing & QC.
- Neuroscience-informed analytics for CNS drug targets.

Provides a premier human neuroimaging platform for CNS clinical trials that is:
- Integrated
- Turnkey
- Powered by machine learning
OUR TEAM

INTERNATIONAL LEADERS IN COMPUTATIONAL PSYCHIATRY

Founders:
- Alan Anticevic, Ph.D.
  Co-founder & Key Advisor
  Associate Professor
  Psychiatry & Psychology
  Yale University
- John Murray, Ph.D.
  Co-founder & Key Advisor
  Assistant Professor
  Psychiatry & Physics
  Yale University
- Youngsun Cho, M.D., Ph.D.
  Clinical Trial Design
  Assistant Professor
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Research Team:
- Robert Berman, M.D.
  Strategic Advisor
  Co-Founder
  Biohaven Pharmaceuticals
- Markus Helmer, Ph.D.
  Director of Research
  Research Scientist
  Psychiatry
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Senior Advisors:
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  Scientific Advisory Board Chair
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Technical Consultants:
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  Director of Imaging Tech.
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- Robert Berman, M.D.
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  Clinical Trial Design
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  Informatics & Computing
  Director of Imaging Tech.
  Psychiatry
  Yale University

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Our science builds on over $85 million in NIH funding.

2012
$2 million NIH Director’s Award for translational computational neuroimaging research at Yale.

2015
Yale Computational Psychiatry Division formed via major university investment.

2016
Multiple commercial collaborations around clinical neuroimaging.

2018
Patent awarded with multiple pending around human clinical neuroimaging.

2019
$12 million NIMH grant to develop & deploy a multi-site human neuroimaging clinical trial and informatics platform.

2021
Collaborative $52 million NIMH grant to deploy neuroimaging solutions across 26 global sites.
OUR SCIENCE

ADDRESS KEY CNS DRUG DEVELOPMENT DOMAINS

Clinical

- Mapped neuroimaging biomarkers for dimensional symptom profiles grounded in neurobiology
  - Anticevic et al. (2014) Cereb Cortex
  - Yang et al. (2014) PNAS

Pharmacological

- Tested pharmacodynamic effects on brain circuits & neurocognitive functions of interest with compounds such as ketamine.
  - Anticevic et al. (2012) PNAS
  - Preller et al. (2018) eLife

Computational

- Simulated biophysical models to predict brainwide effects of pharmacology across levels of analysis
  - Demirtas et al. (2018) Neuron
  - Burt et al. (2020) NeuroImage

Translational

- Integrated molecular signatures from neural gene expression in humans to inform target engagement
  - Fulcher et al. (2019) PNAS
This multi-site clinical trial has stress-tested our tech using patient-specific brain-based translational targets.

Positioned our tech for human functional neuroimaging biomarker qualification, to be applied across CNS conditions.

TRANSCENDS Key Features
- NIMH-Industry partnership flagship initiative
- Testing of multiple doses
- Primary brain-based readout
- Linked to neurocognitive function

https://clinicaltrials.gov/ct/show/N2CT04457310
COMPANIES NEED SUPPORT ACROSS CNS CLINICAL TRIAL PHASES

Full-stack frictionless CNS clinical trial platform

Leverage neural data to inform target engagement for indication & patient selection, in early phases.

Leverage neural data to sharpen indication & patient selection via circuit mapping, in later phases.

Increased overall probability of success

Rx
INTEGRATED CLINICAL TRIAL TECHNOLOGY SOLUTION

Proprietary platform building on the exclusive tech transfer from Yale University

Electronic Data Capture
Integrated informatics pipeline for scanner-to-cloud data flow.

Multimodal Neuroimaging QC
Automated and near-real-time processing & quality control across neuroimaging modalities.

Neuroimaging Analytics
Turnkey platform for biomarker analyses powered by machine learning.

Regulatory Compliance
NEUROIMAGING ANALYTICS

AUTOMATED ‘TURNKEY’ WORKFLOWS

- Neuroimaging ecosystem optimized for multi-modal data workflows.
- Capabilities include harmonization of neuroimaging modalities, QC & processed neural features for machine learning.
- Extensible biomarker analysis framework that is grounded in neurobiology and positioned for translation.

https://qunex.yale.edu
GROWING CNS CLINICAL TRIALS LANDSCAPE

CNS R&D Across Phases

- Total Available Market
- CNS clinical trials in Phase 1a, 1b & 2
- Trials with neuroimaging

- Serviceable Available Market
- Serviceable Obtainable Market

- $10+ billion / year
- $2.5+ billion / year
- $500+ million / year

Source: CNS Therapeutic Market Growth 2020-2028
Source: Clinical Trial Success Rates 2006-2015
COMPETITIVE ADVANTAGE

INTEGRATION, AUTOMATION & SCALE

Integrated, automated & scalable computational neuroimaging platform for CNS clinical trials

Others
Partial products & services