



# Partnering with Janssen Neuroscience

Sharing a Vision to Lead the Neuroscience Revolution

*Johnson & Johnson* INNOVATION

janssen  Neuroscience

PHARMACEUTICAL COMPANIES OF *Johnson & Johnson*





**We are pursuing science that helps to improve outcomes and the quality of life of patients worldwide. The tremendous need should be enough to catalyze people and companies to contribute to the progress being made in neuropsychiatric, neurological, and neurodegenerative diseases.**



**Bill Martin, Ph.D.**

Global Therapeutic Area Head  
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Janssen Research & Development, LLC



## **The Staggering Impact of Neurological Conditions**

Brain disorders take an enormous toll on patients, their families, and our society in terms of human suffering and economic costs. In fact, neurological disorders are the leading cause of disabilities worldwide. To put this into a global context, about 280 million people suffer from depression; schizophrenia affects approximately 20 million people; an estimated 55 million people suffer from dementia; and over 2.8 million people are living with multiple sclerosis.<sup>1-4</sup> These staggering facts result in a tremendous global medical burden solely associated with neuropsychiatric and neurodegenerative disorders. Additionally, it is anticipated that these diseases will result in \$6 trillion in direct and indirect costs by 2030.<sup>5</sup>

## Janssen's Deep-Rooted History in Neuroscience and Vision for the Future

Janssen has been deeply rooted in neuroscience for more than 60 years, developing innovative medicines that have advanced treatments for diseases of the nervous system. We are united and energized by one mission—to reduce the burden, disability, and devastation caused by neuropsychiatric, neurological, and neurodegenerative diseases.

We intend to reconceptualize how we think of, diagnose, and treat disorders of the nervous system. We will achieve this by applying a precision medicine approach to develop breakthrough, outcome-improving solutions, whether from our laboratories or through strategic collaborations with academia, biotechnology, and other pharmaceutical companies. Our aim is to develop transformative solutions for targeted patient populations.

We are focused on a broad range of neurological disorders that are complex, and in many cases, have few or no disease-modifying or curative treatment options. To succeed, we recognize that innovation cannot be limited to our scientists and technology experts alone. Collaboration with scientists around the world will help drive discoveries that will ultimately improve the prevention, diagnosis, and treatment of nervous system disorders for generations to come, while simultaneously helping us achieve our business goals.

We are expanding our global commercial portfolio beyond neuropsychiatry by introducing new therapies for people living with neurological, neurodegenerative, and neuropsychiatric diseases.









Across neuroscience, we are prioritizing data-driven therapeutic discovery, validation, and clinical translational strategies. We are currently focused on mechanisms that support neuronal health and neural circuit resilience in neurodegenerative and neuropsychiatric conditions, respectively. We are actively working to strengthen our expertise in neuroimmunology to support novel therapeutic development for nervous system disorders. Our goal is to leverage breakthrough technologies in imaging, genomics, and associated biomarkers to provide early diagnostics and patient management programs while concurrently broadening our footprint into other adjacent areas of neurology.



With a strong commitment to our internal research groups, we are dedicated to collaborating with individuals and companies that share our vision and desire to work together to build the neuroscience solutions of tomorrow. We believe that alliances are essential to driving change, innovation, and transformation, and we are committed to ensuring the success of all our collaborations.

Whether you are an academic scientist working on an innovative concept or a biotechnology/pharmaceutical company in search of a development partner, we welcome your inquiries. We look forward to learning more about your interests and opportunities for collaboration.

# Table of Contents

	Partnering with Janssen Neuroscience.....	5
	Neuroscience Strategy.....	6
	Areas of Interest.....	7
	Guidance Regarding Areas of Interest.....	10
	Growth in Emerging Markets.....	11
	Johnson & Johnson Innovation Centers.....	12
	Contact Information.....	13
	References.....	14



# Partnering with Janssen Neuroscience

The Janssen Neuroscience organization provides comprehensive scientific and business expertise.

We have successfully established many collaborations through creative and innovative deal structures, and we are continuously seeking new ways to partner in our core areas of interest, including:

- Licensing and acquisition opportunities for therapeutics against novel targets
- Academic partnerships where novel discoveries have revealed high-potential targets for therapeutic or diagnostic development
- Public-private partnerships and collaborations to advance therapeutics, clinical trials, and biomarker programs
- Opportunities to license out and reposition selected compounds in our neuroscience pipeline

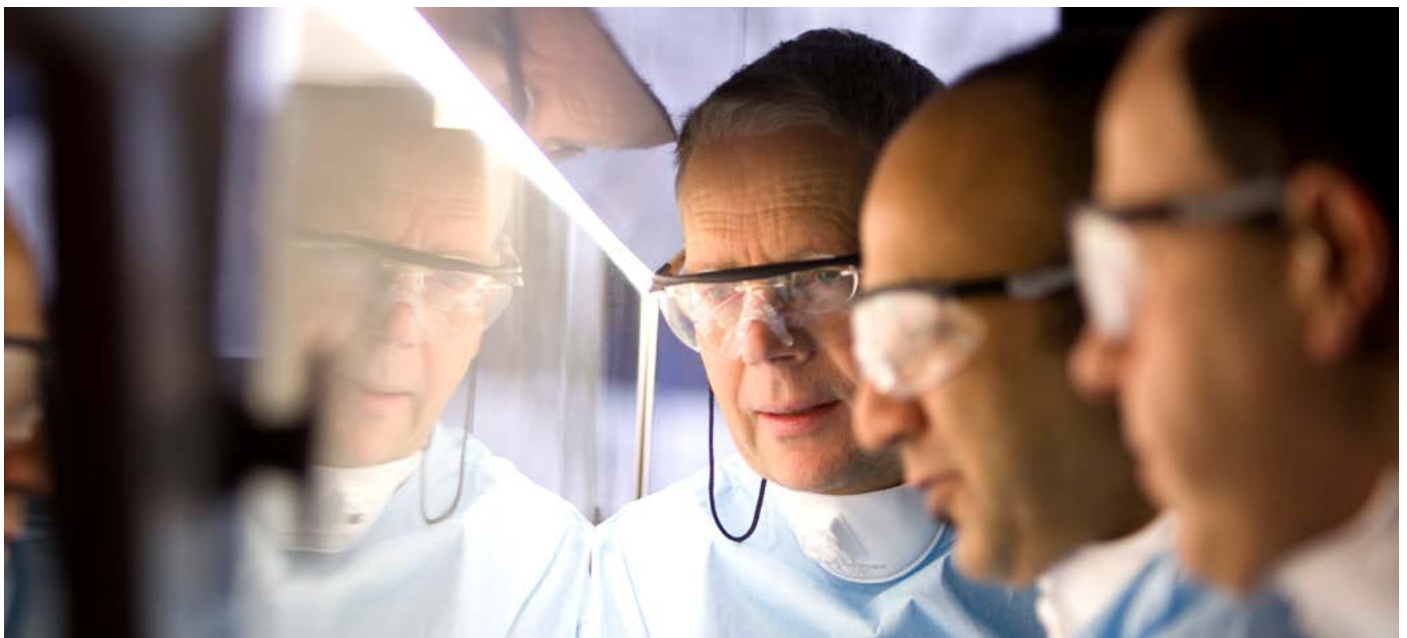
Our global presence and cross-business portfolio provide us with the flexibility to build strong relationships for many collaborative opportunities, in both established and emerging markets, to advance knowledge, education, and innovation.

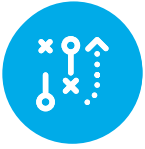


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# Neuroscience Strategy

We are evolving our strategy to seize the scientific, clinical, and commercial opportunities that are presented by the rapidly changing neuroscience landscape. This evolution, coupled with tremendous unmet need for many patients, is fueling scientific advancements in neuroscience research.

Our vision is clear: To lead the neuroscience revolution to reduce the burden and disability caused by serious neuropsychiatric, neurological, and neurodegenerative diseases. Our people are our most important asset to realizing our vision. We are building high-performing, collaborative teams that aren't siloed by therapeutic area, which maximizes the overall value across neuroscience and better informs the discovery of novel biology.

## Our teams aim to achieve our vision by prioritizing the following:

### Data-driven approaches

to target identification  
and patient stratification

### Integrating biomarkers, data science, and digital health

across discovery, development,  
and commercialization

### Strengthening our expertise

in neuroimmunology to support  
novel therapeutic development  
in neuropsychiatric and  
neurodegenerative conditions





# Areas of Interest

We have programs aimed at the discovery and development of novel medicines. We broadened our focus to target the neuroimmune dysfunction that drives neurodegeneration. We are developing innovative treatment modalities and exploring rare diseases that share common pathophysiology with indications being pursued. We will engage internal and external partnerships, including other industry partners and manufacturers.

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## Identifying New Targets

To execute our overarching strategy, the Janssen Research & Development Neuroscience team is focused on neurodegenerative disorders, such as Alzheimer's disease, amyotrophic lateral sclerosis (ALS), and Parkinson's disease; neurological/neuromuscular diseases, such as myasthenia gravis and multiple sclerosis; and neuropsychiatric disorders, such as major depressive disorder, bipolar disorder, and schizophrenia.

While our primary interest is in programs that are aimed at the discovery and development of novel medicines, we are also interested in the research of compounds that are based on common pathway/target biology and disease pathophysiology. Additionally, we are interested in new biomarkers and companion diagnostics.

## Neurodegenerative & Neurological Diseases:

Alzheimer's Disease, Parkinson's Disease, & Multiple Sclerosis

### Disease Areas & Solutions

DISEASE-MODIFYING ACTIVITY

Agents in preclinical stage or later should have preclinical validated *in-vivo*, test-of-concept data.

Targets driven by human genetics, including:

- Neuroimmune pathways
- Differentiated modulators of  $\alpha$ -synuclein spread and clearance
- Differentiated modulators of tau pathobiology
- Compounds that promote synaptic resilience
- Modulators of ApoE4 pathology

Validated mechanisms that slow or halt the progression of multiple sclerosis (preferably with clinical evidence)

New therapeutic treatment modalities for neurodegenerative diseases, including gene therapy, and RNA modulation

## Neurodegenerative & Neurological Diseases: (continued)

Alzheimer's Disease, Parkinson's Disease, & Multiple Sclerosis

### Platforms & Therapeutics

SYMPTOMATIC TREATMENTS FOR NEUROPSYCHIATRIC CONDITIONS

Novel agents with Phase 2 proof-of-concept in neuropsychiatric symptoms or neuropsychiatric symptoms with cognitive impairment that exhibit superior efficacy to standard of care (e.g., superior to antipsychotics, acetylcholinesterase inhibitors) as monotherapy or adjunctive therapy with synergistic efficacy

BIOMARKERS AND DIAGNOSTICS

- Prognostic, diagnostic, and disease progression biomarkers
- Diagnostic imaging agents, including imaging of disease pathology, structural and functional MRI
- Improved cerebrospinal fluid (CSF) and blood biomarker assays

## Neuropsychiatric Disorders:

Mood Disorders & Schizophrenia

### Depression & Treatment-Resistant Depression

Novel therapeutic agents that have fast onset of action, good safety and tolerability profiles, and that address common comorbidities (e.g., anxiety, insomnia, and substance abuse):

- Neuroactive cytokines
- Molecules that positively impact synaptic plasticity and cellular resilience
- Differentiated modulators of glutamatergic signaling

Phase 2 and later-stage opportunities with defined mechanisms of action and superior efficacy over standard of care

### Bipolar Disorder

Novel therapeutic agents that provide rapid improvement in bipolar depression and in suicidal patients, and that produce long-term stabilization of mood and prevent recurrences

### Schizophrenia

Novel therapies in Phase 2b or later to address the poorly treated symptom domains of schizophrenia, with special emphasis on treatment of cognitive impairment and negative symptoms:

- Prognostic biomarkers to identify patients at risk for disease
- Predictive biomarkers for treatment response
- Integrated solutions for patient diagnosis or treatment assessment
- Cognitive tests for measuring disease progression

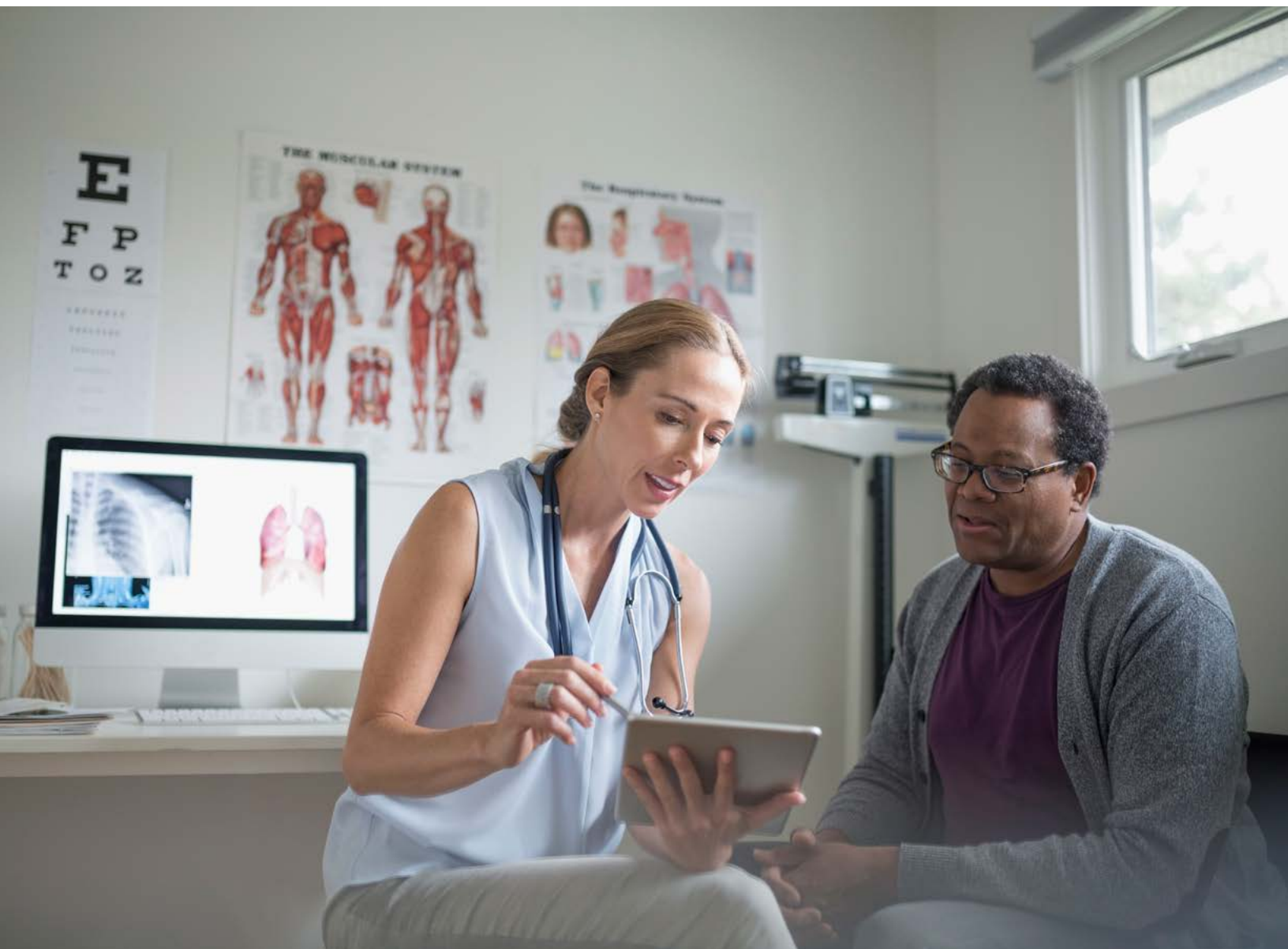


## Other Areas of Interest

Janssen is also interested in pursuing external licensing opportunities in other complementary disease areas within neurodegeneration and neuroplasticity. Opportunities of interest include those for neurological diseases wherein there is significant unmet medical need, and robust clinical proof-of-concept has been established relative to standards of care. Traditional small and large molecules, in addition to emerging modalities, like gene therapy and RNA modulation, are all of interest.

Our neuroscience team is also scouting for data science and analytic approaches that drive insights into patient subtypes, phenotypes and biology, patient journeys, and real-world data. Janssen is also pursuing digital health software and therapeutics that enable clinical development or commercially deployable solutions that augment our portfolio of neuropsychiatric diseases, neurodegenerative diseases, and neurological disorders.

We welcome and appreciate your interest in Janssen Research & Development in the neuroscience therapeutic area. We look forward to learning more about the innovative work that you can bring to the study and treatment of neurodegenerative, neurological/neuromuscular, and neuropsychiatric diseases.





# Guidance Regarding Areas of Interest

The neuroscience therapeutic area has focused research interests across a range of neurodegenerative, neurological and neuropsychiatric disorders (see pages 7-9). Listed in this section are specific opportunities within these respective therapeutic areas that we are NOT considering at this time:

## Alzheimer's Disease

- Compounds with unknown mechanism of action
- Acetylcholinesterase inhibitors
- Amyloid or tau aggregation inhibitors
- Caspase inhibitors
- GABA modulators
- Gamma secretase inhibitors
- Insulin modulators
- Metal chelators
- Nonselective muscarinic agonists
- nutritional supplements
- RAGE antagonists
- Sigma agonists

## Schizophrenia

- Compounds with unknown mechanisms of action
- CB modulators
- Monoaminergic modulators

## Pain

- Treatments for acute or chronic pain

## Parkinson's Disease

- Dopamine agonists
- MAO inhibitors
- Nondifferentiated dopamine replacement therapies
- Reformulations of existing therapies (e.g., L-DOPA)

## Mood Disorders

- Compounds with unknown mechanism of action
- Lithium formulations
- Adenosine modulators
- MAO inhibitors
- Monoaminergic modulators
- Monoaminergic reuptake inhibitors
- Nonselective ion channel modulators
- Opioid agonists (e.g., mu, delta)
- Sigma agonists
- Psychedelics



# Growth in Emerging Markets

We are continuously expanding our global research and development network to deliver innovative treatments that improve outcomes for patients living with brain disorders.

Our goal is to harness growth in emerging markets by establishing research activities and expanding our sales and marketing operations in these regions. We are continuing to build our presence in Asia-Pacific, the Middle East, Africa, and other emerging markets to address global unmet needs, increase diversity in clinical trials, and expand our portfolio of treatments.

With a global, integrated team, we have access to diverse and world-renowned experts who are dedicated to tackling mental illnesses and central nervous system disorders. Additionally, we welcome opportunities to collaborate with companies and innovators in emerging markets to build our collective scientific knowledge, improve development of treatments, and increase mutually beneficial opportunities in emerging markets.

Our capabilities include global development programs, world-class manufacturing of biologics and small molecules, and strong commercialization entities that market our products in more than 150 countries. A global presence and cross-business portfolio enable us to build strong relationships and develop collaborative opportunities in established and emerging markets. With more than 20 medications and innovations developed for central nervous system disorders, we are dedicated to collaborations that will make therapeutic options available to patients in emerging markets.





# Johnson & Johnson Innovation Centers

## Johnson & Johnson Innovation – Strategically Located to Foster Collaboration

Our regional innovation teams are based out of our four Innovation Centers located around the globe in the life science hot spots of Shanghai, Boston, San Francisco, and London. Each team comprises deep scientific, commercial, investment, and deal-making expertise as well as company incubation, lab space, and networking opportunities that can help accelerate promising science.

## Regional Teams

Our teams are the gateway to access a variety of skills, resources, and infrastructure across Johnson & Johnson, including:



Our teams are interested in collaborating with regional entrepreneurs, scientists, and emerging companies who are developing early-stage innovations, and connecting them to our expertise and broad global network.

If you have an opportunity that you feel may be of interest to the Johnson & Johnson Family of Companies, we invite you to submit it via email to [jjinnovation@its.jnj.com](mailto:jjinnovation@its.jnj.com).

## OUR INNOVATION CENTERS



**Boston**



**San Francisco**



**London**



**Shanghai**



# Contact Information

For representatives of established pharmaceutical companies, mid-sized and large biotechnology companies, individuals with opportunities that have achieved clinical proof-of-concept, and those with interests in licensing and acquisition activities:

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For universities, small biotechnology companies, venture capital firms, and individuals with early-stage opportunities prior to Phase 2 clinical proof-of-concept:

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November 2021

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