



International
Neurodegenerative Disorders
Research Center

Annual Report 2025

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FOREWORD



In 2025, the International Neurodegenerative Disorders Research Center (INDRC) transformed its vision into tangible progress. Since its establishment in 2021, INDRC has achieved its initial short-term goals. Guided by our mission, it has secured key funding streams, ensuring financial stability for the rump-up phase through 2030.

This year also marked the emergence of INDRC's distributed model. Much like a master technique of pointillist painting, where individual dots, once connected, reveal a larger image, our approach connects isolated research silos towards a cohesive global network.

As INDRC enters its next chapter, its commitment to transparent governance and ethical innovation remains central, ensuring that every resource contributes to a legacy in which science advances the well-being of humanity.

Vít Dočkal, Ph.D.
INDRC Director



The defining challenge of this decade is no longer to explain why the brain fails, but to understand—and ultimately engineer—the conditions that sustain neuronal vitality and human performance across a lifetime. At INDRC and through CLARA, we are building the frameworks to move from observation to prediction, and from treatment to resilience.

Ara S. Khachaturian, Ph.D.
INDRC Chief Scientific Officer

HIGHLIGHTS 2025

2025 marked a transformative year for INDRC, defined by strategic growth, strengthened leadership, and an expanding international footprint in artificial intelligence, healthcare innovation, and interdisciplinary collaboration. The institute significantly advanced its role as a key player at the intersection of research, societal impact, and policy dialogue, both within the Czech Republic and across Europe, as well as in the U.S.

10 - 11 February AI Action Summit 2025, Paris, France

INDRC Director engaged in high-level discussions on the future of artificial intelligence and its societal implications. A notable milestone was the **meeting with the President of the Czech Republic, Petr Pavel**, at the Embassy of the Czech Republic in Paris, underscoring the institute's growing relevance in shaping national priorities in AI and innovation.



Source: Office of the President of the Czech Republic

15 - 16 May Prague International Health Summit 2025



Source: INDRC

INDRC continued to strengthen its presence among healthcare providers, the health insurance companies' top management, and policy administration through its participation in the **Prague International Health Summit**, organised by Advance Healthcare Management Institute, s.r.o. The event provided a valuable platform for contributing to discussions on the future of healthcare systems, digital transformation, and the role of AI in medical innovation.

16 June

The Brain, Memory, and Technology - a major public event, Prague, Czech Republic

INDRC co-organized a major **public event** titled **The Brain, Memory, and Technology**, held in the CIIRC CTU, Prague, in connection with the newly established CLARA center. The event combined a press conference with a public debate focused on current scientific progress and future prospects in the diagnosis and treatment of Alzheimer's disease. Bringing together leading researchers, clinicians, policymakers, and patient organizations, the discussion highlighted the role of artificial intelligence, interdisciplinary collaboration, and advanced research infrastructure in addressing neurodegenerative diseases. The event also emphasized the importance of translating scientific knowledge into clinical practice and improving the quality of life for patients and their families.



Source: CIIRC CTU

September

Collaboration with the Masaryk University Science Education Center, BIOSKOP, Brno established



Source: INDRC

The institute also expanded its educational and outreach activities. INDRC established a new collaboration with the Masaryk University Science Education Center, BIOSKOP, Brno, Czech Republic. The goal of the collaboration was to develop neuroscience courses for high school students aged 16, with an emphasis on practical components and laboratory work conducted under real-world laboratory conditions. This partnership reflects INDRC's commitment to nurturing future talent and bridging the gap between research, education, and practice.

25 September

Volunteering Day in Naděje, Brno, Czech Republic

INDRC reinforced its community engagement through its **Volunteering Day**, during which employees, together with local partners, spent time supporting seniors, some of them with neurodegenerative disorders, including Alzheimer's disease, in Naděje, Brno, Czech Republic. This initiative highlights the institute's dedication not only to research but also to meaningful social responsibility.



Source: INDRC

1 October INDRC leadership transition

An important leadership transition, as former founding director Dr. Vít Dočkal reassumed the role of CEO and introduced a new management team. This change marks a new chapter in INDRC's development, with a renewed strategic vision focused on growth, internationalization, and societal impact.

17 October Czech AI Factory (CZAI)

Major milestone was achieved when the **Czech AI Factory (CZAI) project was accepted at the European level**, representing a significant success for the Czech Republic and an important step in strengthening national and European AI infrastructure.

As a partner, INDRC leads the delivery of AI services in the Health and Life Science area and contributes through expertise in AI legal compliance, ethics, and deep-tech acceleration as well. The project connects the Czech Republic to the emerging European network of AI factories and reinforces INDRC's role in shaping high-impact innovation ecosystems in Europe.



Source: VSB-TUO

15 - 17 October 4th Teaming Club Conference, Porto, Portugal



Source: INDRC

At the **BIOPOLIS-CIBIO** facilities, INDRC, acting as the coordinator of the CLARA center, was invited to present the project as one of the emerging flagship Teaming initiatives. Vít Dočkal introduced the CLARA center to representatives of 48 centers of Excellence funded under Horizon 2020 and Horizon Europe. His presentation focused on the Center's strategy for fostering deep-tech innovation and establishing a sustainable long-term development model through a combination of funding mechanisms, partnerships, and innovation support instruments.

28 - 29 October

EU-Indo-Pacific Digital Partnership Conference 2025 in Singapore

Further highlighted INDRC's growing international engagement in innovation policy and digital transformation. At the conference organized by INPACE at the **National University of Singapore**, Dr. Vít Dočkal, INDRC Director, contributed to discussions on how innovation hubs can help translate research into practical applications with societal impact. Using the CLARA center as an example, he highlighted the importance of shared research infrastructure, technology transfer, and cross-sector collaboration in driving digital innovation. Through its participation, INDRC contributed Czech and European perspectives to discussions on innovation ecosystems and digital partnerships, while advancing cooperation with key Indo-Pacific partners, including India and Singapore.



Source: INDRC

11 - 12 November

CLARA Days 2025, Prague, Czech Republic

The **CLARA Days** and Conference included multi-stakeholder discussions involving representatives from the Ministry of Health, regulators and notified bodies, and other key institutions. Through these activities, INDRC positions itself as a key factor in bridging stakeholders and advancing the discussion on AI cross-compliance within the healthcare application domain. Also, an MoU was signed here with two Vietnamese organizations in the context of the high-level CZ-Viet governmental agreement. Co-organised by the INDRC and CIIRC CTU.



Source: INDRC

30 November
Informal Roundtable & Networking Reception.
Accelerating Alzheimer's Innovation through
Collaboration: CLARA and Beyond, San Diego, USA



Source: INDRC

INDRC and the CLARA initiative strengthened their international engagement through an **informal Roundtable and networking reception** in San Diego alongside the CTAD conference. The event, **Accelerating Alzheimer's Innovation through Collaboration: CLARA and Beyond**, convened members of the INDRC Scientific Advisory Board, researchers, and prospective partners. Presentations and a panel featuring James A. Rice, Ph.D., Ara S. Khachaturian, Ph.D., and Jean-Marie Bouteiller, Ph.D. explored opportunities for global collaboration in Alzheimer's diagnostics, treatment, and care, helping to shape future joint research initiatives. Organized by the INDRC.

Overall, 2025 was a year of significant progress for INDRC. Through major institutional developments, impactful research outputs, strengthened partnerships, and a clear commitment to societal engagement, INDRC has laid strong foundations for continued growth and international excellence in the years to come.

ABOUT INDRC

The International Neurodegenerative Disorders Research Center (INDRC) is a private, non-profit research institute established in 2021 in Prague, Czech Republic, to address the major scientific and technological challenges associated with understanding, mitigating, and preventing neurodegenerative disorders.

INDRC operates through a transparent governance model and a unique collaborative ecosystem that brings together committed international partners from Europe, North America, and Asia, including universities, research institutes, clinical centers, and industry stakeholders.

The center serves as a global platform for interdisciplinary cooperation, integrating expertise across neuroscience, biophysics, biochemistry, computer science, engineering, mathematics, and clinical and population-based research.

By combining biology and medicine with advanced technologies such as Artificial Intelligence (AI), Machine Learning (ML), High-Performance Computing (HPC), and Quantum Computing (QC), INDRC develops innovative analytical approaches to address research bottlenecks, model complex non-linear biological processes, and accelerate the translation of scientific discoveries into tangible solutions.

INDRC currently coordinates the €43 million CLARA Project, a flagship European initiative fostering extensive international collaboration among academia, healthcare institutions, and industry partners. As part of this effort, the center also promotes the CLARA Young Innovator Award, supporting outstanding students and early-career innovators in the field.

In parallel, INDRC advances initiatives focused on the ethical and responsible use of AI in healthcare, including regulatory compliance, policy support, data privacy, and data protection. Through these activities, the institute contributes to the development of trustworthy, transparent, and socially responsible healthcare innovation.

Through its multidisciplinary and technology-driven approach, combined with business acceleration and innovation support services, INDRC is positioning itself as a key international actor in shaping the future of neurodegenerative disease research and responsible AI-enabled healthcare solutions.



Source: INDRC



MISSION

The mission of the International Neurodegenerative Disorders Research Center (INDRC) is to advance scientific discovery and innovation in Alzheimer's disease and related neurodegenerative disorders through the integration of neuroscience, medicine, artificial intelligence, data science, and advanced computing. INDRC addresses fundamental challenges in brain function, aging, and neurodegeneration by fostering convergent, interdisciplinary research that integrates biological, clinical, and computational knowledge into unified analytical and translational frameworks.



Source: OpenAI

The Center acts as a catalyst for global scientific collaboration, connecting expertise, data, and technologies across institutions to reduce fragmentation and accelerate collective progress. Through responsible innovation and collaborative research, INDRC contributes to translate integrated knowledge into actionable insights that benefit patients, healthcare systems, and society.

The institute's mission is structured around four strategic priorities:

- advancing AI/ML-enhanced diagnostics for earlier and more precise detection of neurodegenerative disorders;
- supporting the discovery of novel therapeutic solutions through computational and data-driven approaches;
- developing AI-enabled tools and technologies to improve patient and caregiver support;
- generating prevention and brain health insights that can strengthen public health and healthcare systems.

VISION

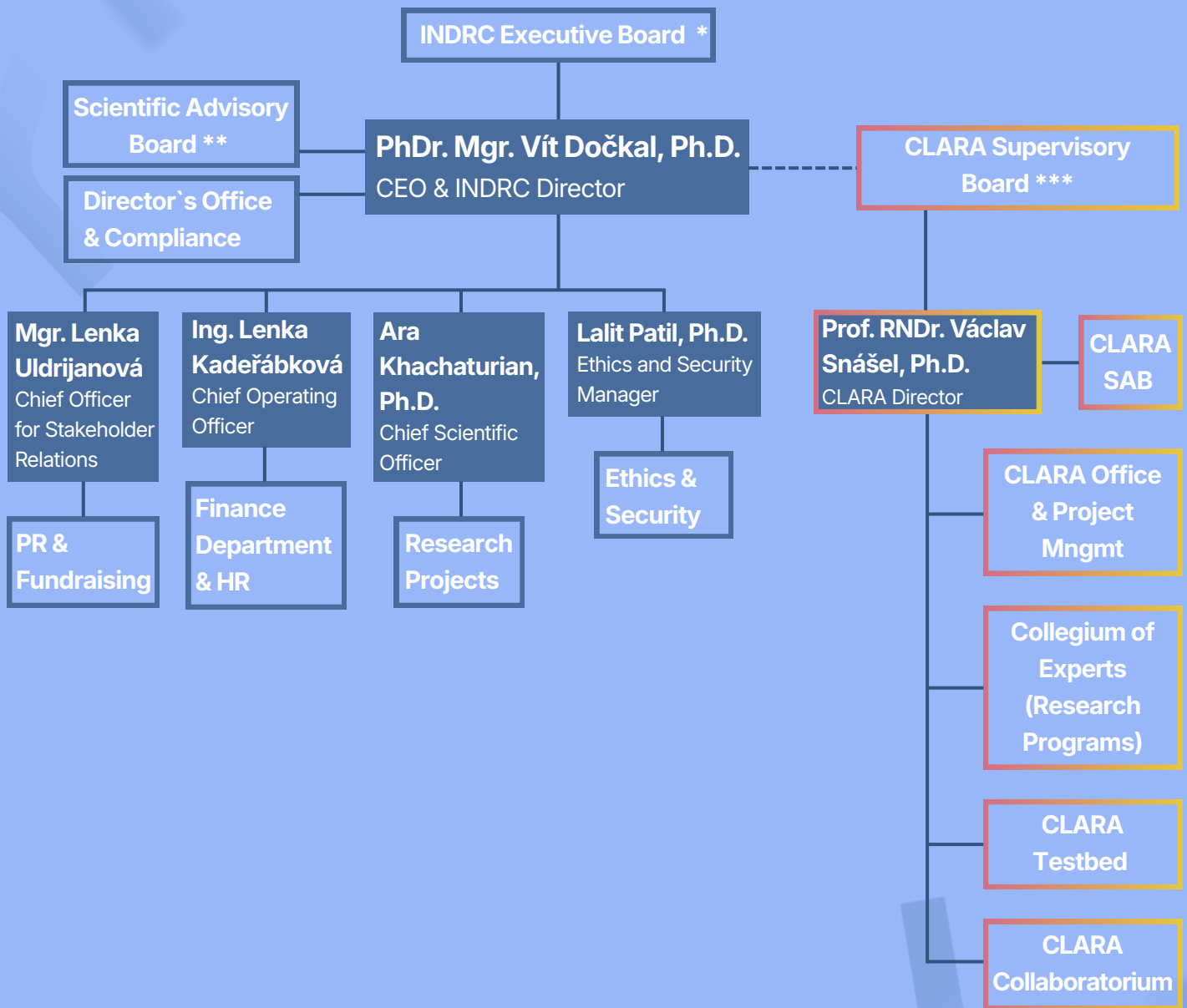
INDRC envisions a future in which brain research is fully integrated across disciplines, enabling faster progress in understanding, preventing, and treating neurodegenerative diseases.

The institute aims to build a unified research ecosystem that combines neuroscience, medicine, neurology, artificial intelligence, machine learning, and advanced computation to address the complexity of brain function.

INDRC aspires to serve as an international catalyst for scientific collaboration, fostering a globally connected community of researchers through openness, excellence, and sustained partnership.

The institute is committed to ensuring that scientific advances translate into meaningful impact through improved diagnostics, therapies, and data-driven solutions, contributing to a future in which neurodegenerative diseases are increasingly preventable and treatable.

INDRC GOVERNANCE & ORGANIZATIONAL STRUCTURE



* Members of the INDRC Executive Board are listed below.

** Members of the INDRC Scientific Advisory Board are listed below.

*** Members of the CLARA Supervisory Board are listed below.

* Executive board



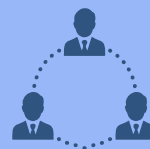
- **James Arthur Rice, Ph.D.** - Chairman of the Board of Directors, Senior Adviser in global health systems and governance, USA
- **Jean-Marie Charles Bouteiller, Ph.D.** - Research Associate Professor, University of Southern California, USA
- **Prof. RNDr. Václav Snášel, Ph.D.** - Vice-Dean for International Relations and Project Management, FEI - Faculty of Electrical Engineering and Computer Science, VSB - Technical University of Ostrava, Czech Republic
- **Ara S. Khachaturian, Ph.D.** - Founder, President, Brain Watch Coalition, USA
- **Prof. Dr. A Min Tjoa** - Emeritus Professor of Software Technology, TU Wien; Executive Chairperson at SBA Research, Austria
- **Pavel Hroboň, MD, MS** - Founder, Advance Healthcare Management Institute; Third Faculty of Medicine, Charles University Prague, Czech Republic
- **Prof. Ing. Vladimír Mařík, DSc** - Founder, Scientific Director, Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague, Czech Republic
- **Václav Novotný, MD, MBA** - Vice President, American Chamber of Commerce in the Czech Republic; Healthcare Council Lead, Czech Republic
- **PhDr. Mgr. Ing. David Müller, Ph.D.** - Deputy Minister, Ministry of Industry and Trade of the Czech Republic

** Scientific Advisory Board



- **Jean-Marie Charles Bouteiller, Ph.D.** - Chair
- **Ara S. Khachaturian, Ph.D.**
- **Prof. Dr. rer. nat. Wolfgang Wahlster**
- **Prof. Paolo Maria Rossini, MD**
- **Menghis Bairu, MD**
- **Dennis Chan, MD, Ph.D.**
- **Ornit Chiba-Falek, Ph.D.**
- **Ira Haraldsen, MD, Ph.D.**
- **Jakub Hort, MD, Ph.D, FEAN**
- **Zaven Khachaturian, Ph.D.**
- **Louis Kirby, MD**
- **Doc. Ing. Václav Křemen, Ph.D., MBA**
- **Stephen Levine, Ph.D.**
- **Joseph Lombardo**
- **Michael W. Lutz, Ph.D.**
- **Norman A. Mazer, MD, Ph.D.**
- **Michelle Mielke, Ph.D.**
- **Prof. Robert Mikulík, MD, Ph.D.**
- **Rachel L. Nosheny, Ph.D.**
- **Klaus Romero, MD, MS**
- **Mnatsakan Sharafyan**
- **Katerina Sheardova, MD, Ph.D.**
- **Sudhir Sivakumaran, Ph.D.**
- **Josef Sivic, Ph.D.**
- **Prof. RNDr. Václav Snášel, Ph.D.**
- **Peter J. Snyder, Ph.D.**
- **Prof. Jacques Touchon, MD, Ph.D.**
- **Prof. Dominic Trepel, Ph.D.**
- **Jonathan Helfgott**
- **Adam Kaplan, MD, Ph.D.**
- **Varun Ojha, Ph.D.**
- **Steven Carroll, MD, Ph.D.**
- **Pei-Jung Lin, Ph.D.**
- **Nico Pronk, Ph.D., M.A**

*** CLARA Supervisory Board



- **PhDr. Mgr. Vít Dočkal, Ph.D.** - Chair - International Neurodegenerative Disorders Research Center, Czech Republic
- **Adam Schwarz, Ph.D.** - GE Healthcare, USA
- **Prof. Dr. Dieter Kranzlmüller** - Ludwig-Maximilians-Universität München, Germany
- **Ira Haraldsen, MD, Ph.D.** - Oslo University Hospital, Norway
- **Prof. RNDr. Michal Masařík, Ph.D.** - International Clinical Research Center of FNUSA and MUNI MED, Brno, Czech Republic
- **Ninon Burgos, Ph.D.** - Institut du Cerveau - Paris Brain Institute. Sorbonne University, Inria, Paris, France
- **Prof. Peter V. Conveney, Ph.D.** - University College London, U.K.
- **Ing. Petra Mikešová** - Czech Institute of Informatics, Robotics and Cybernetics in Prague, Czech Republic
- **Prof. Radek Zboril, Ph.D.** - Palacký University Olomouc, Czech Republic

Any potential conflicts of interest arising from overlapping roles within the organization are adequately addressed by the company's internal regulations and control mechanisms.

CENTER OF EXCELLENCE

In 2025, INDRC structured its research and innovation activities through the Center of Excellence - CLARA.

Concentrating resources, infrastructure, and talent, INDRC enables the development of ambitious, long-term research programs while fostering international cooperation and knowledge exchange. It plays a key role in translating scientific discoveries into practical applications, supporting the institute's mission to deliver meaningful impact in healthcare, research, and society.

CLARA - The Center for Artificial Intelligence and Quantum Computing in System Brain Research

A central pillar of INDRC's research and innovation ecosystem is the CLARA center (Center for Artificial Intelligence and Quantum Computing in System Brain Research), an interdisciplinary Center of Excellence coordinated by INDRC. CLARA represents a unique initiative in Central and Eastern Europe, bringing together leading research institutions and experts to advance the next generation of artificial intelligence, machine learning, and quantum-enabled computing in the field of brain research.

The center focuses on addressing one of the most pressing challenges of our time—neurodegenerative diseases, particularly Alzheimer's disease—by integrating large-scale biological and clinical data with advanced computational methods. Through the combination of high-performance computing, artificial intelligence, and systems neuroscience, CLARA aims to accelerate scientific discovery and enable the development of innovative diagnostic and therapeutic approaches.

Built on a strong international consortium of the CLARA partners - INDRC, CIIRC CTU, ICRC, VSB-TUO, PBI, and LRZ, CLARA serves as a platform for interdisciplinary collaboration across institutions, countries, and scientific domains. By connecting expertise from neuroscience, medicine, and advanced technologies, the center fosters a new model of research that is collaborative, scalable, and oriented towards real-world impact.

As a key strategic initiative of INDRC, CLARA contributes to strengthening Europe's position in global research and innovation, while laying the foundations for long-term advances in brain health, personalized medicine, and the understanding of complex neurodegenerative processes. CLARA was launched in November 2024, with 2025 representing its first full year of implementation. This period was marked by several key milestones and the successful achievement of major deliverables, reflecting steady progress in the project's development and consolidation of its core objectives.

OFFICE

INDRC operates within a broad research and innovation ecosystem based on collaboration with academic, clinical, and technology partners in the Czech Republic and abroad. Rather than relying on a traditional branch-office structure, the institute conducts its activities through partnerships and participation in research environments that support interdisciplinary cooperation, advanced computing, and translational innovation.



Source: Computing and Information Centre, Czech Technical University in Prague

One of INDRC's research activities is carried out at the CIIRC CTU campus in Prague, where the institute uses allocated premises for a joint laboratory. This collaboration facilitates interaction with research teams working in areas such as artificial intelligence, robotics, Industry 4.0, cyber-physical systems, and advanced computational methods. The partnership contributes to connecting AI, neuroscience, and healthcare-oriented research within broader national and European research and innovation activities.

The CIIRC CTU environment also hosts technological infrastructure used in research projects involving both institutions. INDRC and CIIRC CTU utilize shared server and computational resources that support the processing and analysis of large-scale research and biomedical data. These resources are used for AI modeling, high-performance computing workflows, and data-intensive interdisciplinary research, including activities related to neuroscience, digital health, and neurodegenerative disease research.

Access to shared computational infrastructure supports collaboration among participating research teams and contributes to projects such as the CLARA Center of Excellence. The combination of expertise in artificial intelligence, computing technologies, and biomedical research provides a foundation for participation in national and international research and innovation projects.

The relocation of the institute's official seat to the CTU environment is planned in 2026.

STRATEGIC RESEARCH PRIORITIES

INDRC's core research priorities include:

Earlier Detection of Cognitive Decline	Development of tools, biomarkers, and predictive models enabling identification of neurodegenerative changes before the onset of clinical symptoms.
Individual Variability and Precision Brain Health	Understanding the biological and clinical heterogeneity of Alzheimer's disease and related disorders to support personalized diagnostics and treatment strategies.
Mathematical and Multiscale Brain Modeling	Application of topological, computational, and systems-level modeling approaches to study brain organization and disease progression across biological scales.
Population and Longitudinal Brain Health Studies	Research integrating longitudinal population data, twin studies, and environmental factors to better understand brain resilience, aging, and disease progression.
Multi-Omics Biomarker Integration	Integration of transcriptomic, proteomic, imaging, and clinical data to identify multidimensional biomarkers and disease mechanisms.
Systems Pharmacology and Novel Therapeutic Targets	Exploration of network-based therapeutic approaches and allosteric modulation strategies for complex neurodegenerative disorders.
Environmental Risk and Brain Resilience	Investigation of how environmental exposures, vascular factors, and inflammatory processes influence brain aging and neurodegeneration.
Federated AI and Brain Health Data Analysis	Development of privacy-preserving AI frameworks capable of analyzing distributed clinical and imaging datasets across institutions.
Assistive Technologies and Innovative Care Models	Research into intelligent technologies, robotics, and digitally enabled healthcare models supporting independent living and patient-centered care.

These priorities are implemented through interdisciplinary research directions and collaborative initiatives connecting computational science, neuroscience, translational medicine, and healthcare innovation.



Source: OpenAI

Selected Research Directions and Collaborative Initiatives



Mathematical Mapping of the Brain

INDRC develops mathematical and multiscale modeling approaches to better understand the organization and dynamics of the brain across molecular, cellular, network, and clinical levels. By applying topology and computational modeling, researchers study how structural and functional changes emerge over time in development, aging, and neurodegenerative disease.

These approaches help integrate heterogeneous data sources — including imaging, electrophysiology, molecular profiling, and anatomical mapping — into unified computational frameworks capable of supporting more predictive models of brain function and dysfunction. The work contributes both to basic neuroscience and to improved understanding of disease progression in disorders such as Alzheimer's disease.

Selected publication:

Khachaturian, Z. et al., Perspective on "Brain Network Disorders", Brain Network Disorders, Volume 1, Issue 1, 2025.



Environmental Exposure and Neurodegeneration

INDRC investigates how environmental and vascular risk factors contribute to cognitive decline and neurodegenerative disease progression. Research activities focus on the interaction between environmental exposure, cerebrovascular dysfunction, inflammation, and brain resilience over time.

The institute collaborates with international partners on longitudinal modeling approaches integrating environmental, imaging, biomarker, and population-health data. These activities support improved understanding of modifiable risk factors and contribute to prevention-oriented strategies in brain health research.

Current activities include:

- environmental exposure and vascular risk modeling,
- longitudinal brain resilience studies,
- interdisciplinary collaborations connecting epidemiology, neuroscience, and computational science.



Multi-Omics Biomarker Integration

INDRC advances integrative approaches combining transcriptomics, proteomics, imaging, and clinical information to improve understanding of neurodegenerative disease mechanisms and variability.

The goal is to move beyond single-marker approaches toward multidimensional biomarker models capable of supporting earlier detection, disease stratification, and personalized intervention strategies. Computational pipelines are developed to identify biologically meaningful patterns across heterogeneous datasets and connect molecular signatures with clinical and cognitive outcomes.

These activities are closely linked with CLARA and other international collaborations focused on scalable, data-driven neuroscience.

Current activities include:

- multi-modal biomarker integration,
- computational disease stratification methods,
- systems-oriented translational neuroscience research.



Systems Pharmacology and Allosteric Modulation

INDRC explores systems pharmacology and allosteric modulation as part of its effort to support more adaptive therapeutic approaches for neurodegenerative diseases. Rather than focusing exclusively on single molecular targets, this research examines interactions across broader biological networks, including inflammatory, vascular, metabolic, and synaptic pathways.

By combining computational modeling, molecular biology, and translational neuroscience, researchers aim to identify therapeutic strategies better suited to the complexity and heterogeneity of neurodegenerative disorders.

Current activities include:

- systems-oriented therapeutic modeling,
- research on allosteric and network-based pharmacological approaches,
- integration of computational and translational methods for therapeutic discovery.



Translational Brain Health Infrastructure Initiative

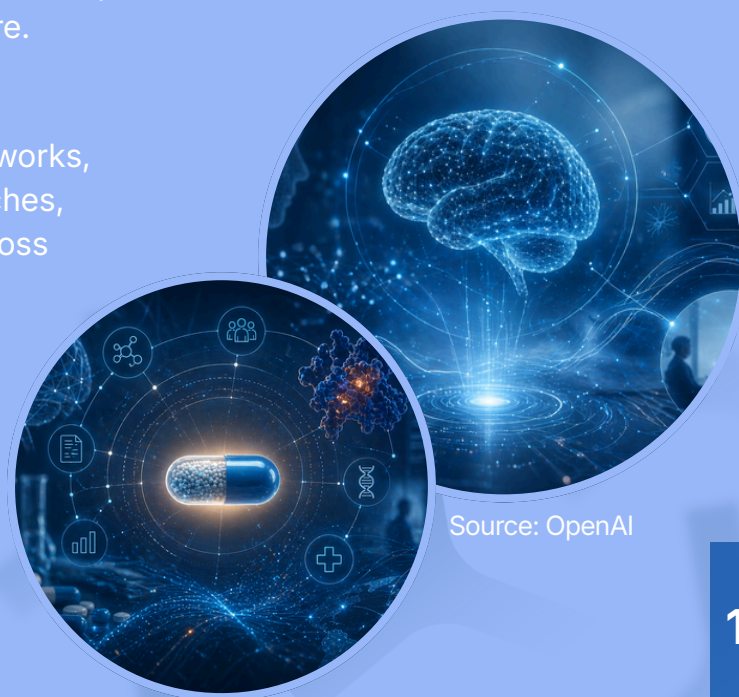
INDRC, together with the Brain Watch Coalition (BWC), CLARA, and HealthPartners, is developing translational research frameworks supporting real-world evidence generation and scalable healthcare innovation in brain health.

The initiative focuses on integrating multimodal clinical, imaging, biological, behavioral, and functional data within healthcare environments to support longitudinal monitoring, validation of emerging technologies, and patient-centered intervention strategies.

The collaboration combines expertise from neuroscience, epidemiology, computational science, implementation research, and healthcare systems engineering. Its broader objective is to strengthen translational validation, healthcare implementation, and data-driven innovation in neurodegenerative disease research and care.

Current activities include:

- development of real-world evidence frameworks,
- multimodal longitudinal monitoring approaches,
- implementation-focused collaborations across research and healthcare systems.



Source: OpenAI

SELECTED PUBLICATIONS

INDRC scientific output reflects a strong focus on translational neuroscience, computational modeling, and data-driven approaches to neurodegenerative diseases, with an emphasis on bridging fundamental research and clinical applications.



Source: Journal of the American Medical Directors Association, Alzheimer's & Dementia

Khachaturian AS. Building a brain watch: Crafting Accurate and High-Precision Personalized Plans for Optimal Brain Performance and Sustained Functionality. JAR Life. 2025 Apr 18;14:100013. doi: 10.1016/j.jarlif.2025.100013. PMID: 40297715; PMCID: PMC12036018.

This publication introduces the “Brain Watch” concept as a novel framework for continuously monitoring and interpreting brain performance across multiple domains. It proposes a shift from a pathology-centered view of brain health towards a performance-based model, integrating physiological, cognitive, and functional indicators. The work highlights the potential of personalized and data-driven approaches to support early intervention, prevention strategies, and long-term maintenance of brain health.

Kodesh A, Taitelbaum-Swead R, Kuper H, Khachaturian AS, Sandin S, Levine SZ. The Risk of Dementia Following Hearing Disorder Onset: A National Cohort Study. J Am Med Dir Assoc. 2025 Oct;26(10):105817. doi: 10.1016/j.jamda.2025.105817. PMID: 40854519.

This large-scale national cohort study investigates the association between hearing disorders and the subsequent risk of developing dementia. The results confirm a significant correlation between hearing impairment and increased dementia risk, while also suggesting a potential protective effect of hearing aid use. The findings contribute to the growing evidence base on modifiable risk factors and support the importance of early detection and intervention strategies in dementia prevention.

Khachaturian AS, Pinho P, Alphas L. Bridging the Gap Across Biomarker and AI/ML Innovations to Clinical Implications: A White Paper on Challenges and Collaborative Solutions for Chronic Brain Disorders. Vitality, Medicine & Engineering. 2025 Dec;8:1-5. doi: 10.14283/VME.2025.1.

This white paper addresses the growing need to bridge the translational gap between advances in biomarker research, artificial intelligence, and machine learning methodologies and their effective implementation in clinical practice for chronic brain disorders.

The publication identifies key structural, methodological, and systemic barriers that limit the adoption of innovative analytical tools in real-world healthcare settings, including challenges related to data integration, validation frameworks, and cross-sector collaboration. It emphasizes that despite rapid progress in AI/ML-driven neuroscience and biomarker discovery, the pathway to clinical translation remains fragmented.

The paper further proposes collaborative and multidisciplinary strategies to accelerate this transition, highlighting the importance of integrating research, clinical expertise, and policy frameworks. By fostering stronger alignment between technological innovation and healthcare needs, the work aims to support more efficient translation of scientific advances into meaningful clinical impact, particularly in the field of neurodegenerative and chronic brain disorders.

2026 OUTLOOK

The year 2026 is expected to mark further consolidation and strategic expansion for INDRC, building on the strong scientific, institutional, and international foundations established in previous years.



Source: CIIRC CTU,
INDRC, OpenAI



A key priority will be the continued development of the CLARA initiative as a leading European platform for artificial intelligence, neuroscience, and advanced computational approaches in brain research. With ongoing infrastructure development and strengthening of interdisciplinary teams, CLARA is expected to further accelerate its role as a central hub connecting data science, biomedical research, and clinical applications.



As one of six consortium partners, led by VSB – Technical University of Ostrava, INDRC will participate in the EUR 40 million Czech AI Factory (CZAI) project, a major national initiative supported by the EuroHPC Joint Undertaking to strengthen the Czech Republic's position within the European AI ecosystem. The project will combine advanced AI infrastructure, expert services, and high-performance computing capacities through the deployment of the new KarolIna AI supercomputer and a broad portfolio of AI services for research institutions, public administration, industry, and start-ups. Within CZAI, INDRC will contribute expertise in healthcare and life sciences, particularly in integrating advanced AI tools for intelligent search, knowledge integration, and data-driven biomedical research. The institute will support the development of trustworthy AI solutions for diagnostics, personalized medicine, and translational neuroscience, while also providing professional expertise in AI ethics, regulatory compliance, and deep-tech innovation. Through its involvement in CZAI, INDRC further strengthens its role in connecting AI, supercomputing, and brain health research within both the Czech and wider European innovation ecosystem.



In 2026, INDRC will further strengthen the translational dimension of its research, advancing the pathway from scientific discovery to practical applications in the diagnosis, prevention, and treatment of neurodegenerative diseases. A key priority will be reinforcing the connection between research and clinical practice, with a focus on early detection, personalized medicine, and data-driven innovation in healthcare.



At the same time, the Center will continue to promote deeper integration across disciplines and institutions, helping to break down remaining barriers between scientific, clinical, and technological domains to ensure more coherent and collaborative progress.



In parallel, capacity building and people development will remain an essential pillar of INDRC's long-term strategy. The institute aims to further support the growth of interdisciplinary expertise, foster emerging scientific talent, and strengthen collaboration across research domains, thereby ensuring a sustainable, highly skilled research environment.



International collaboration will continue to play a central role in INDRC's activities in 2026. The institute will further expand its engagement in global research networks and partnerships with European, U.S., Indian, and Vietnamese institutions, reinforcing cooperation across academia, clinical practice, and technological innovation. This international dimension remains crucial for advancing shared scientific goals and accelerating progress in brain research.

Overall, INDRC enters 2026 with a clear focus on strengthening its scientific impact, expanding international cooperation, and further developing an integrated research ecosystem that connects advanced computational and biomedical science with real-world applications.



Source: OpenAI



INDRC



Clara

CLARA (Center for Artificial Intelligence
and Quantum Computing in System Brain
Research)



Funded by
the European Union



Co-funded by
the European Union



Ministry of Education,
Youth and Sports
of the Czech Republic

FOREWORDS OF THE CLARA DIRECTOR & CLARA SCIENTIFIC ADVISORY BOARD CHAIR



The CLARA Center is designed to bridge the gap between basic research and practical application, translating theoretical insights into actionable, clinically deployable, and commercially viable tools for early detection and treatment while breaking down disciplinary silos. CLARA brings together three complementary pillars: AI-driven clinical phenomenology, which integrates molecular and clinical data to monitor Alzheimer's disease progression over decades; quantum-accelerated protein dynamics, which uses quantum computing to simulate molecular mechanisms and accelerate drug discovery; and multiscale brain modeling, which develops an integrated platform for understanding brain function across spatial and temporal scales. As a platform for international cooperation in human brain research, CLARA continued in 2025 to strengthen existing partnerships and establish new collaborations, including in the United States, India, and Vietnam.

Prof. RNDr. Václav Snášel, Ph.D.
CLARA Director



The concept of an in silico modeling system, proposed nearly two decades ago, aimed to integrate vast neuroscience data using high-performance computing and a systems approach to overcome traditional research limitations in understanding complex brain disorders. Advances in machine learning and quantum computing have now made this vision attainable. CLARA is envisioned as a shared R&D resource, developing an in silico toolbox that integrates diverse modeling approaches and custom algorithms to address specific scientific challenges. Its overarching goal is to establish a knowledge management platform synthesizing vast neuroscience data into actionable insights, particularly for Alzheimer's disease. This initiative addresses the critical need for reliable algorithms to translate granular data into a comprehensive understanding of emergent behaviors in complex brain systems.

Zaven S. Khachaturian, Ph.D.
CLARA Scientific Advisory Board Chair

CLARA 2025 HIGHLIGHTS

The year 2025 was a year of institutional consolidation and strategic development for CLARA, marked by four major achievements: accelerating infrastructure development, advancing scientific excellence, deepening international collaboration, and building a robust innovation ecosystem. As a flagship INDRC initiative, CLARA solidified its status as a recognized European Center of Excellence in AI-driven brain research.

1 November 2024 / April 2025

Launch and consolidation of the CLARA Research Center

The 2024 launch was followed in 2025 by dedicated investment into laboratory equipment and computational resources, strengthening the institutional basis of the center.

10 - 11 February

AI Action Summit 2025, Paris



Source: Office of the President of the Czech Republic

CLARA was presented as an example of Europe's emerging excellence in AI-driven scientific innovation. Vít Vondrák (VSB - Technical University of Ostrava) and Lenka Uldrijanová (INDRC) introduced the initiative to Czech President Petr Pavel.

April

Funding for equipment and computational resources

Substantial funding from the national resources **OP JAK**, supported by the **Ministry of Education, Youth and Sports of the Czech Republic**, was secured for state-of-the-art laboratory equipment and computational resources, enabling advanced AI-driven healthcare research and interdisciplinary collaboration.



Source: ICRC

2 - 5 June

6th Hands-on Computational Enzyme Design Course, ICRC, Brno

Early-career **researchers and experts developed practical skills** in computational enzyme design, fostering collaboration within the CLARA community, hosted at ICRC.

26 May

Visit of Czech President Petr Pavel to VSB-TUO and IT4Innovations, Ostrava

The visit highlighted the role of supercomputing, AI, and emerging quantum technologies in brain research, with attention to the VLQ quantum computer within LUMI-Q. Also its role as a critical infrastructure supporting CLARA's research on neurodegenerative diseases. Rector of the university, Prof. RNDr. Václav Snášel, Ph.D., presented the key activities of VSB – Technical University of Ostrava.



Source: IT4Innovations



Source: CIIRC CTU

6 June

Prestigious Order of Academic Palms awarded to Dr. Josef Šivic (CIIRC CTU), Prague

The French Embassy in Prague **recognized the scientific excellence of Dr. Josef Šivic** (CIIRC CTU) and his contribution to Czech–French collaboration in artificial intelligence.

4 September

Indian Professionals and Entrepreneurs Forum (IPEF), Prague

CLARA representatives, led by PhDr. Mgr. Vit Dočkal, Ph.D., engaged in **high-level dialogue with Indian and Czech stakeholders**, strengthening cooperation in innovation, research and business development. Hosted by the Embassy of India in Prague, His Excellency the Ambassador of India to the Czech Republic, Raveesh Kumar, with active participation of representatives of the Ministry of Industry and Trade of the Czech Republic (David Müller, the Section Director and INDRC Executive Board member).

9 - 12 September

CLARA Summer School with LRZ and VSB-TUO, Ostrava

As the CLARA project advances collaboration in AI, supercomputing, and quantum computing through joint European research activities. This program strengthened students' and early-stage researchers' skills in supercomputing workflows and data-intensive research. Led by Ing. Jan Martinovič, Ph.D. and Stephan Hachinger, Ph.D.



Source: VSB - TUO, LRZ

23 September VLQ quantum computer inaugurated at IT4Innovations, Ostrava

The inauguration of the **VLQ quantum computer at the IT4Innovations National Supercomputing Center** in Ostrava marked a significant step forward for European quantum computing. For CLARA teams, VLQ represents an important new infrastructure layer. It is expected to support future research, including advances in computational neuroscience and the understanding of brain-related processes.



Source: IT4Innovation

15 - 17 October 4th Teaming Club Conference, Porto

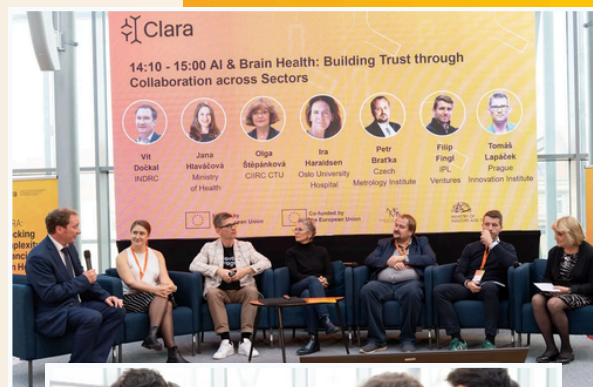


Source: INDRC

CLARA center was introduced by the INDRC team, led by PhDr. Mgr. Vit Dočkal, Ph.D., INDRC Director, as one of the European Teaming Centers of Excellence, with an emphasis on sustainability, diversified funding, and long-term impact. **The conference brought together representatives of 48 Horizon 2020 and Horizon Europe Teaming initiatives.**

11 - 12 November CLARA Days 2025, Prague

Significant institutional milestone of the year, jointly organized by CLARA Partners: INDRC and CIIRC CTU, driving concrete scientific and collaborative outcomes. The event created new research partnerships, set strategic priorities that advanced CLARA's mission, supported early-career researchers, announced the **CLARA Young Innovator Award 2026**, and the **CLARA Symposium**. The inaugural **High-Level Quadruple Innovation Helix Roundtables** generated recommendations for translating research into societal and commercial innovation, reinforcing CLARA's influence within European innovation ecosystems. The Young AI Research Forum 2025 organised by CIIRC CTU enabled early-career researchers and students to present novel ideas, establish interdisciplinary networks, and launch collaborative projects.



Source: INDRC

1 - 5 December
18th Clinical Trials on Alzheimer's Disease
Conference, San Diego

The INDRC–CLARA team, led by Ara S. Khachaturian, Ph.D., joined **international discussions on Alzheimer's disease diagnostics**, therapeutic development and advanced computational methods.



Source: INDRC

Taken together, these highlights illustrate a year in which CLARA secured foundational resources, appointed new leadership, published impactful research, recruited and mobilized top talent, and forged international partnerships that drove joint innovation. In 2025, CLARA established itself as a platform supporting interdisciplinary collaboration and played a key role in advancing AI-enabled brain research.

CLARA CENTER OF EXCELLENCE



Source: CIIRC CTU

The CLARA project (Center for Artificial Intelligence and Quantum Computing in System Brain Research) represents a central pillar of INDRC's strategic evolution—shifting from fragmented, discipline-specific research toward an integrated, systems-level approach to brain health and neurodegenerative disease.

CLARA is established as a **Center of Excellence**, but its ambition extends beyond the traditional definition. Rather than serving solely as a locus of high-quality research, CLARA is designed as a distributed **computational and scientific infrastructure for understanding biological complexity**. Combining artificial intelligence, high-performance and hybrid computing, and neuroscience enables the modeling of brain function as a dynamic, multiscale system—moving beyond static descriptions of disease toward predictive and actionable frameworks.

As the first Centers of Excellence of its kind in Central and Eastern Europe, CLARA sets a new benchmark for interdisciplinary collaboration. This is made possible through the combined expertise and unique infrastructures of all CLARA partners - INDRC, CIIRC CTU, ICRC, VSB-TUO, PBI, and LRZ - whose complementary strengths span brain research, molecular biology, neuroimaging, clinical research, artificial intelligence, high-performance computing, and quantum technologies. Together, they create a distributed research ecosystem capable of addressing some of the most complex challenges in neurodegeneration research.

Importantly, CLARA is designed not only to generate knowledge but to **translate it into real-world impact**. It enables the integration of insights into clinical workflows, supports the development of real-world evidence frameworks, and creates pathways for engagement with health systems and policy environments.

Within this collaborative framework, INDRC plays both a foundational and catalytic role by contributing advanced data architectures, integrative research approaches, and collaborative mechanisms that enable diverse scientific disciplines and infrastructures to converge into coherent, testable models of brain resilience and dysfunction. The close cooperation among all partners ensures that CLARA combines internationally recognized scientific expertise with advanced computational, biomedical and technological capacities.

Through this dual role—as both a Center of Excellence and a platform for integration and translation—CLARA strengthens INDRC's position as an emerging European leader in AI-driven, systems-oriented brain research. More importantly, it establishes a scalable model for addressing complex biomedical challenges in the coming decade: not through isolated breakthroughs, but through **integrated platforms that connect data, models, and real-world outcomes.**

MISSION

CLARA's mission is to accelerate progress in understanding and addressing neurodegenerative diseases by integrating advanced computational and biomedical technologies with interdisciplinary scientific research. The center is focused on developing and applying advanced tools in artificial intelligence, machine learning, and quantum and high-performance computing to enable new approaches to studying brain function, disease mechanisms, and neuronal longevity.

By combining expertise from multiple domains and processing complex, multidimensional datasets, CLARA aims to generate actionable insights that can support the development of innovative diagnostic, preventive, and therapeutic solutions. A central aspect of its mission is to address real-world challenges and ensure that scientific discoveries are translated into meaningful societal impact.

VISION

CLARA's vision is to build a global, interdisciplinary platform that harmonizes research across scientific domains and enables breakthroughs in brain health that are scalable, actionable, and widely accessible.

The center seeks to transform the way neurodegenerative diseases are studied by integrating diverse data sources and advanced technologies to better understand the brain's complexity. By bridging disciplines and fostering collaboration across institutions and countries, CLARA aspires to redefine the future of neuroscience and contribute to long-term improvements in prevention, diagnosis, and treatment.

Ultimately, CLARA represents a forward-looking initiative to advance brain health for future generations, positioning itself as a catalyst for innovation, collaboration, and scientific excellence at the European and global levels.

CLARA IN A NUTSHELL

Dimension	Structured content
Strategic role	Central pillar of INDRC's transition toward integrated, systems-level brain health research.
Scientific scope	AI-driven clinical phenomenology, quantum-accelerated protein dynamics, and multiscale brain modeling.
Core partners	INDRC, CIIRC CTU, ICRC, VSB-TUO, PBI and LRZ.
Core countries	Czech Republic, Germany and France, with wider international partnerships within Europe and beyond.
Research programs	Three complementary programs spanning molecular discovery, patient-level modeling and multiscale computational integration.
Infrastructure	Distributed CLARA Testbed connecting AI, HPC, QC, laboratory, clinical and data resources across Prague, Brno and Ostrava, with international supercomputing and neuroscience partners.
Expected impact	Actionable models, diagnostic and therapeutic pathways, real-world evidence frameworks, clinical workflow integration and support for health-system and policy engagement.



PARTNER ECOSYSTEM

Partner	Complementary contribution in the report
INDRC	Coordinator; systems-oriented brain research; advanced data architectures; integrative research approaches; collaborative mechanisms; translation and real-world orientation, RP3 leadership.
CIIRC CTU	AI, machine learning, computational neuroscience, neurotechnology, GPU cluster infrastructure, RP1/RP2 leadership and CLARA Collaboratorium activities.
ICRC	Molecular biology, computational enzyme design, protein production, biophysical data generation, electrophysiological experiments, laboratory infrastructure and RP1 leadership.
VSb-TUO / IT4Innovations	High-performance computing, AI and quantum infrastructure, CLARA Testbed development, VLQ/LUMI-Q and future HPCQC-AI cluster operation.
PBI	Clinical neuroscience, multimodal patient data modeling, RP2 leadership and integration with international datasets and open-science frameworks.
LRZ	Supercomputing and quantum computing expertise, participation in CLARA training and quantum calculations for protein aggregation research.

CLARA IN FIGURES AND FUNDING

Funding under Horizon Europe

Grant Agreement No.:	101136607
Call Identifier:	HORIZON-WIDERA-2023-ACCESS-01
Funding Program:	European Union – Horizon Europe
Project Duration:	11/2024 – 10/2030 (72 months)
Consortium Partners:	Czech Republic: INDRC – International Neurodegenerative Disorders Research Center (Coordinator) CIIRC CTU – Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague VSb – Technical University of Ostrava ICRC – International Clinical Research Center, St. Anne's University Hospital Brno PBI – Paris Brain Institute, France LRZ – Leibniz Supercomputing Center, Germany
Budget:	Total Budget: € 14 999 782,50 EU Contribution: € 14 999 782,50

COMPLEMENTARY NATIONAL FUNDING UNDER THE JOHANNES AMOS COMENIUS PROGRAM (OP JAK)

Project ID:	CZ.02.01.01/00/23_029/0008437
Funding Authority:	Ministry of Education, Youth, and Sports (MEYS) of the Czech Republic
Program:	ESIF-MEYS Johannes Amos Comenius Program (P JAC) Call No. 02_23_029 Teaming-CZ II
Project Duration:	1. January 2025 – 31. December 2028 (48 months)
Total Budget:	699 945 064,98 CZK (approximately 29,4 mil. EUR)
Lead Beneficiary:	INDRC – International Neurodegenerative Disorders Research Center
Additional Beneficiaries:	CIIRC CTU – Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague VSB – Technical University of Ostrava ICRC International Clinical Research Center, St. Anne's University Hospital Brno

FUNDING FRAMEWORK

The CLARA center is supported through a combination of European and national funding instruments, reflecting its strategic importance within the European research and innovation landscape. This dual funding structure ensures both international competitiveness and strong national support for the development of advanced research infrastructure and interdisciplinary collaboration.

The core international funding of the CLARA project is provided by the Horizon Europe framework under the Teaming for Excellence initiative. The project is implemented as a Coordination and Support Action and is funded by the European Commission through the European Research Executive Agency.

With a total budget of approximately EUR 15 million, the project runs from November 2024 to October 2030. INDRC coordinates it in collaboration with leading European partners from the Czech Republic, Germany, and France.

This funding enables the establishment of CLARA as a Center of Excellence, supporting the development of advanced computational and biomedical research capacities in artificial intelligence, quantum computing, and neurodegenerative disease research at a European level.

In parallel, CLARA benefits from substantial complementary national funding provided through the Operational Program Jan Amos Komenský (OP JAK), supported by the Ministry of Education, Youth and Sports of the Czech Republic.

This funding, with a total budget of approximately EUR 29 million, covers the period from January 2025 to December 2028 and is primarily dedicated to the development and modernization of research infrastructure across key locations in Prague, Brno, and Ostrava.

The national component plays a crucial role in complementing the Horizon Europe grant by enabling large-scale investments into laboratories, technological facilities, and the overall research ecosystem necessary for the long-term sustainability and growth of the CLARA center.

Together, these funding streams create a comprehensive financial foundation for CLARA, with a total investment exceeding EUR 40 million. This integrated approach supports not only the establishment of advanced infrastructure but also the development of interdisciplinary research programs, international collaboration, and long-term scientific excellence.

The combination of European and national funding reflects the strategic ambition to position CLARA as a leading Center of Excellence in AI-driven brain research, fully aligned with both European research priorities and national innovation strategies.

RESEARCH FOCUS: CLARA

RESEARCH PROGRAMS

Program	RP1
Scientific focus	Quantum-accelerated supercomputing and machine learning to address protein dynamics, aggregation, and modulation by small molecules.
Leadership	Prof. Mgr. Jiří Damborský (ICRC); Ing. Josef Šivic, Ph.D. (CIIRC CTU); Stanislav Mazurenko, Ph.D.(ICRC),Mgr. Jiří Sedlář, Ph.D.(CIIRC CTU)
Core outputs / infrastructure	Focus on understanding molecular mechanisms underlying neurodegenerative diseases, particularly Alzheimer's disease, through advanced computational modeling, machine learning and quantum-enabled supercomputing. The program brings together expertise from CIIRC CTU, ICRC Brno and IT4Innovations Ostrava. The research centers on key proteins implicated in neurodegeneration, especially APOE, ABeta and Tau, with particular focus on APOE as the strongest genetic risk factor for Alzheimer's disease. Building on concepts such as the APOE Cascade hypotheses, the program investigates molecular mechanisms associated with neuronal vulnerability and disease progression. A central objective of RP1 is the development of machine learning models and quantum-accelerated virtual screening pipelines for predicting protein–small molecule interactions, enabling more precise modeling of aggregation processes and supporting biomarker discovery, drug repurposing and therapeutic development. A distinctive strength of the program lies in combining computational innovation with experimental validation, including biomolecular and microfluidic approaches that verify predicted protein-ligand interactions. This is supported by the CLARA Testbed, a hybrid infrastructure integrating AI, high-performance computing, and quantum acceleration, enabling simulations beyond the reach of conventional methods. Jointly with LRZ, quantum computing calculations are being employed for prediction of aggregation propensities of Tau protein and its mutants. An important contribution of RP1 is the development of Flexpert and AggreProt, AI-based tools for predicting protein flexibility, structural dynamics and aggregation, providing new capabilities for studying neurodegeneration and supporting the wider scientific community. As a foundational component of CLARA's research architecture, RP1 contributes to a deeper understanding of neurodegenerative mechanisms while creating new pathways for mechanism-based therapeutics, next-generation diagnostics and cross-program scientific synergies.

Program

RP2

Scientific focus

Expanding systems biology with clinical phenomenology of AD to understand time and scale coupling using generative AI and supercomputing.

Leadership

Dr. Olivier Colliot; doc. Ing. Václav Křemen , Ph.D., MBA (CIIRC CTU); Jindřich Adolf; Michal Seják; Vladimír Sladký (all CIIRC CTU)

Core outputs / infrastructure

Focuses on understanding the complexity and progression of Alzheimer's disease through the integration of systems biology, multimodal patient data, generative AI and advanced supercomputing, combining expertise in computational neuroscience, machine learning and clinical data modeling.

At the core of RP2 is the development of AI-driven models capable of linking molecular mechanisms, brain changes and clinical phenotypes across time and scale. Using large international datasets, including ADNI, AIBL, UK Biobank and EPAD, the program develops patient-specific models of disease progression and seeks to move from population-level analysis toward precision approaches in diagnosis and intervention.

A central focus of the program is the use of generative AI and hybrid HPCQC environments to integrate heterogeneous data, infer missing modalities and model latent disease trajectories. These approaches address major challenges in neurodegeneration research related to data complexity and support earlier diagnosis, biomarker discovery, patient stratification, and improved clinical trial design.

An important strength of RP2 is its open science and computational infrastructure, building on platforms such as Clinica and ClinicaDL and standardized frameworks such as BIDS, ensuring reproducibility and broader scientific impact.

Through the integration of trustworthy AI, large-scale multimodal data and advanced computing, RP2 contributes to a new computational framework for understanding neurodegeneration as a dynamic multiscale process. As a core component of CLARA's research architecture, it creates strong synergies with RP1 and RP3 and supports both fundamental discovery and translational innovation in precision brain health.

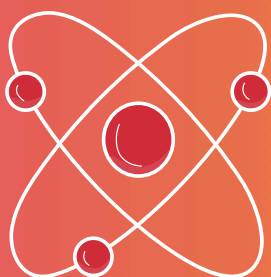
Program	RP3
Scientific focus	Development of multiscale/cross-modal patient/ deep-learning models of AD in the hybrid quantum-classical computing environments.
Leadership	Ara S. Khachaturian, Ph.D. (INDRC); Jean-Marie Bouteiller, Ph.D. (INDRC); Zaven S. Khachaturian, Ph.D. (INDRC)
Core outputs / infrastructure	Develops an integrated multiscale modeling framework linking molecular, cellular, systems-level and clinical dimensions of Alzheimer's disease through hybrid quantum-classical computing. As an integrative layer within CLARA, RP3 connects outputs from the other research programs into a unified computational framework for understanding neurodegeneration across space and time. The program brings together expertise in computational neuroscience, multiscale modeling, quantum computing and brain aging research. RP3 focuses on building a multiscale knowledge platform capable of integrating and simulating processes from molecular interactions and neuronal signaling to network behaviour and clinical disease trajectories. A central scientific focus is modeling mechanisms associated with calcium dysregulation, lipid homeostasis, selective neuronal vulnerability and synaptic dysfunction in Alzheimer's disease. A defining feature of RP3 is cross-scale integration. Drawing on molecular outputs from RP1 and patient-level models from RP2, the program develops computational coupling frameworks linking biochemical, electrophysiological, neuroimaging and clinical data into unified simulation environments. Hybrid quantum-classical computing supports complex simulations beyond the reach of conventional approaches. A major methodological component is the development of neuronal performance metrics and biologically grounded models. This includes modeling hippocampal CA1 pyramidal neurons with highly detailed synaptic models and rich intracellular biochemical pathways, enabling new approaches to studying resilience, vulnerability and functional decline. Beyond simulation, RP3 serves as a hypothesis-generation and knowledge integration platform supporting experimental validation, translational exploration and future in silico therapeutic discovery. Through its interdisciplinary and open-science approach, RP3 contributes a foundational modeling layer for precision neuroscience within CLARA.

Together, RP1, RP2 and RP3 position CLARA as an emerging European leader in next-generation computational neuroscience and AI-enabled neurodegeneration research.

SELECTED RESULTS

Alongside institutional growth and research development, 2025 also brought important scientific results that reflect CLARA's growing contributions to frontier research in brain health, artificial intelligence, and advanced computational methods. Across its research programs, the center generated results spanning fundamental discovery, methodological innovation, and translational relevance, demonstrating how interdisciplinary collaboration can lead to tangible advances with scientific and societal impact.

This section highlights selected results that illustrate CLARA's research progress in 2025 and showcase emerging outcomes with potential relevance for future diagnostics, treatment development, and understanding of neurodegenerative disorders.

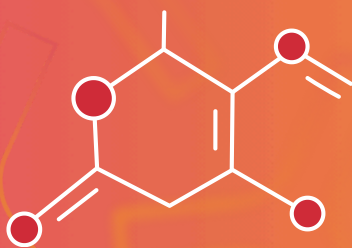


Research Confirms Walking Enhances Spatial Memory Over Virtual Navigation (CIIRC CTU)

A notable scientific result in 2025 came from a collaborative study published in the *Journal of Neural Engineering*, demonstrating that physical movement significantly enhances spatial memory compared with virtual navigation alone. The study showed that participants navigating through real physical space using augmented reality performed better on memory tasks, reported greater ease of navigation, and exhibited stronger hippocampal theta activity — providing new evidence that the brain's spatial memory circuits respond differently during real movement.

The study was led by Shachar Maidenbaum, Ph.D. (Ben-Gurion University of the Negev), in collaboration with Associate Professor Václav Křemen (CIIRC CTU; CLARA RP2 Co-Leader; Mayo Clinic College of Medicine and Science) and his Ph.D. student Ing. Vladimír Sladký (CIIRC CTU and CLARA collaborator), together with Kai Miller, M.D., Ph.D., Jamie Van Gompel, M.D., Gregory A. Worrell, M.D., Ph.D. (Mayo Clinic), and Josh Jacobs, Ph.D. (Columbia University). This interdisciplinary collaboration highlights the strength of combining neuroscience, immersive technologies, and computational approaches to better understand memory processes in ecologically realistic conditions.

Beyond its scientific significance, the result opens promising avenues for studying spatial cognition and may contribute to future approaches that support people affected by memory and orientation impairments, including in neurodegenerative disease research.



New Insights into Deep Brain Stimulation for Temporal Lobe Epilepsy (CIIRC CTU)

Another significant scientific result in 2025 was a study published in Brain Communications providing new insights into the broader therapeutic potential of deep brain stimulation (DBS) for drug-resistant temporal lobe epilepsy. The research showed that low-frequency stimulation of limbic circuits may not only reduce seizures but also improve memory function, mood regulation, and sleep quality, pointing toward more personalized approaches to neurostimulation therapy.

The study was led by Associate Professor Václav Křemen (first author; CIIRC CTU, CLARA collaborator, and Mayo Clinic College of Medicine and Science), together with Ing. Vladimír Sladký (co-author; CIIRC CTU and CLARA collaborator). Using an investigational brain-sensing implant combined with a cloud-connected mobile monitoring platform, the research enabled real-time tracking of seizures and behavioral outcomes in patients' home environments, representing an important step toward patient-centered and data-driven neurotechnology.

Beyond demonstrating promising clinical effects, the study highlights the potential of closed-loop neurostimulation and advanced digital monitoring to optimize therapies based on real-world data. The result reflects CLARA's broader focus on combining neuroscience, AI-enabled technologies, and translational research to advance precision approaches in neurological disorders.

CLARA TESTBED IN THE CZECH REPUBLIC

The CLARA Testbed serves as the core computational backbone of the CLARA Center, providing a state-of-the-art distributed infrastructure that integrates high-performance computing (HPC), artificial intelligence (AI), and quantum computing (QC). It is designed to support large-scale simulations, data-intensive modeling, and advanced machine learning applications in brain research and neurodegenerative disease studies.



Source: OpenAI

The infrastructure enables a hybrid computing paradigm (HPCQC) that combines classical supercomputing resources with emerging quantum technologies. This integrated environment enables researchers to address complex computational problems that exceed the capabilities of traditional computing systems, particularly in molecular modeling, protein dynamics, and multiscale brain simulations.

CLARA TESTBED ACHIEVEMENTS IN 2025

CLARA GPU cluster at CIIRC CTU

A high-performance CLARA GPU cluster was procured and deployed by CIIRC CTU, in cooperation with INDRC, as a core component of the CLARA research infrastructure on the premises of CIIRC CTU in Prague, with the first-phase installation and full operation completed by the end of 2025.

Delivered as a turnkey, fully integrated solution by the company M Computers in collaboration with Hewlett Packard Enterprise, following a public tender, the system is specifically designed for advanced artificial intelligence applications, including deep neural networks, machine learning, computer vision, computer graphics, big data processing, and parallel computing.

The cluster is built on the latest NVIDIA H200 and L40S GPU accelerators, significantly accelerating large-scale AI model training and data-intensive analysis in brain research. The infrastructure also includes a general-purpose server for inference tasks and dedicated high-capacity storage.

As part of the broader CLARA Testbed, this Prague-based cluster will complement the computing capacities in Ostrava (IT4Innovations) and Brno (ICRC), forming an integrated research infrastructure that supports advanced research and fosters interdisciplinary collaboration across Europe.



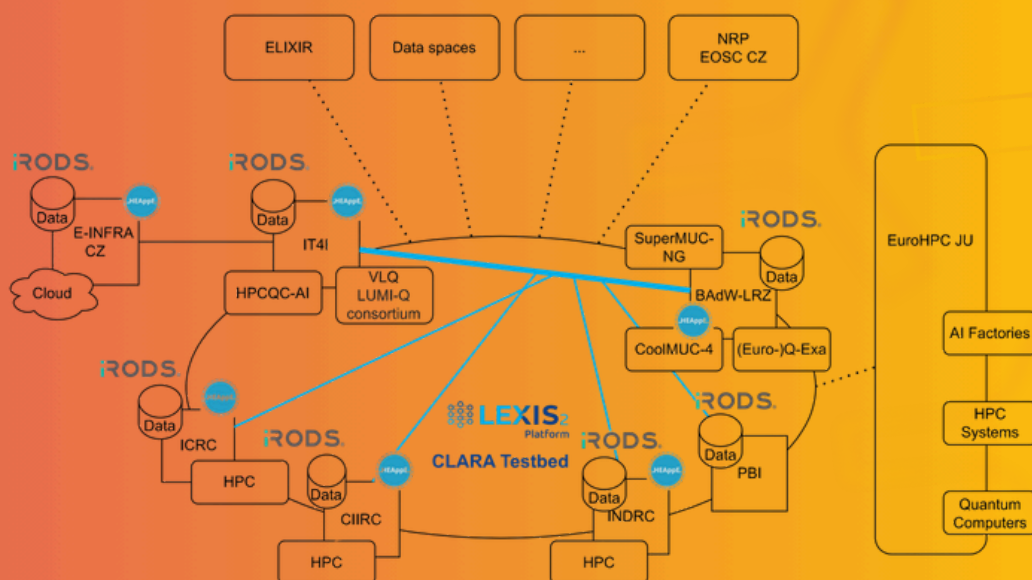
Source: IT4Innovations

Demonstration Lab for Assistive Technologies, CIIRC CTU

In collaboration with the Faculty of Architecture, CIIRC CTU prepared a design for a new demonstration laboratory for assistive technologies. The design includes a fully equipped kitchen, bathroom, and bedroom. The lab will enable testing of various assistive technologies for the home, such as lighting controls and alerts for a stove left on or an open window when leaving the apartment. Fall detection will be an important focus for us. The goal is to find optimal solutions for seniors and help them remain in their homes for as long as possible. The demo lab will also allow for testing humanoid robots in a home environment. Completion of the lab is planned for 2026.

Motion Analysis Lab, CIIRC CTU

In 2025, the Motion Analysis Laboratory focused on integrating heterogeneous sensing and measurement technologies into a unified framework for synchronized data acquisition and advanced processing. In parallel, several research activities were initiated in the fields of physiotherapy and occupational therapy, involving systematic capture and analysis of human movement across a range of experimental and application-oriented scenarios. Particular emphasis was placed on the development and validation of methods for detailed assessment of movement patterns, with direct relevance to rehabilitation and functional mobility support. Newly acquired technologies were also incorporated into educational activities, significantly enhancing hands-on training and fostering active student involvement in research. These efforts have strengthened the laboratory's research infrastructure and laid the foundation for future innovation in motion analysis and assistive technologies.



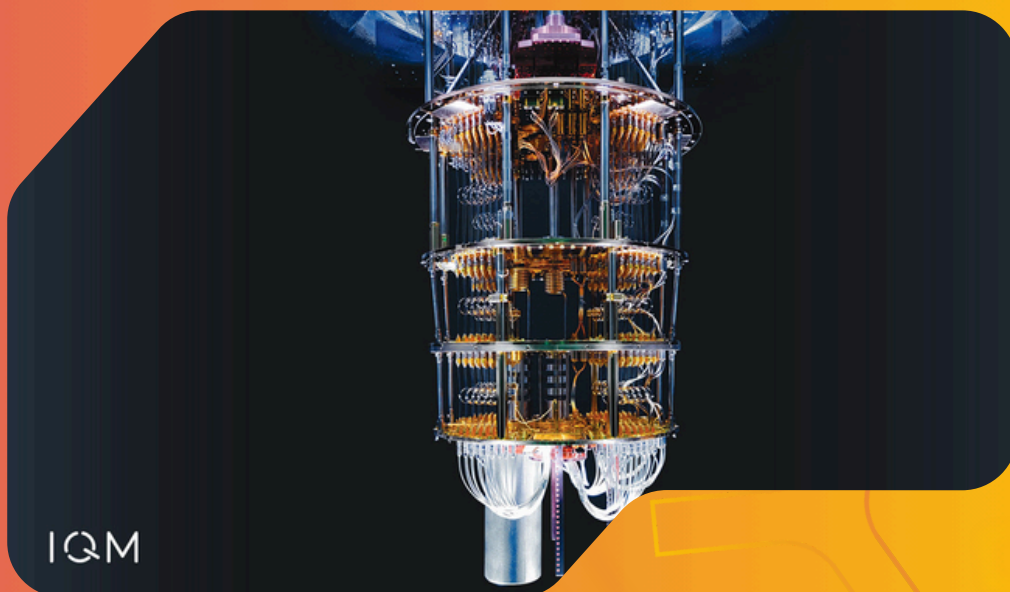
Source: IT4Innovations

ICRC infrastructure

During 2025, the International Clinical Research Center (ICRC) procured most of the necessary equipment for research teams to produce biologically active proteins for the study of neurodegenerative diseases, particularly Alzheimer's disease, and to generate high-quality, reproducible biophysical data for use in artificial intelligence and predictive models. In addition, the modernisation has enabled electrophysiological experiments, including EEG electrode implantation and stereotaxic procedures in animal models. Within the module Computational Resources for Operating Tools and Databases for Computer-Aided Protein Design, the selection and approval process for a computing cluster is currently underway, with an emphasis on scalability and compatibility with protein engineering applications. Total investments amounted to 70 million CZK.

VSB-TUO / IT4Innovations infrastructure

In 2025, VSB–Technical University of Ostrava completed preliminary market consultations with potential suppliers for the future HPCQC–AI (CLARA) cluster, marking a major milestone in the development of the CLARA Testbed infrastructure. At the same time, detailed technical specifications for the new CLARA supercomputer were prepared in collaboration with the IT4Innovations National Supercomputing Center, which will operate the system. The infrastructure is expected to become operational by mid-2027 and will provide a unique hybrid environment combining high-performance computing, artificial intelligence, and quantum computing technologies. Designed to support large-scale brain research and neurodegenerative disease modeling, the CLARA Testbed will enable advanced simulations, AI model training, multimodal data integration, and processing of highly complex biomedical datasets that exceed the capabilities of conventional computing systems.



Source: IT4Innovations

PEOPLE AND GOVERNANCE



The scientific strength and institutional credibility of CLARA are supported by a governance structure that distinguishes supervisory oversight, strategic scientific leadership, project management, research-program leadership, testbed leadership and collaborative ecosystem coordination.

CLARA Supervisory Board

- **PhDr. Mgr. Vít Dočkal, Ph.D.** - Chair - International Neurodegenerative Disorders Research Center, Czech Republic
- **Adam Schwarz, Ph.D.** - GE Healthcare, USA
- **Prof. Dr. Dieter Kranzlmüller** - Chair of the Board of Directors of the Leibniz Supercomputing Centre (LRZ), Germany
- **Ira Haraldsen, MD, Ph.D.** - Oslo University Hospital, Norway
- **Prof. RNDr. Michal Masařík, Ph.D.** - International Clinical Research Center of FNUSA and MUNI MED, Brno, Czech Republic
- **Ninon Burgos, Ph.D.** - ARAMIS Lab Institut du Cerveau - Paris Brain Institute (ICM), France
- **Prof. Peter V. Conveney, Ph.D.** - University College London, U.K.
- **Ing. Petra Mikešová** - Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague, Czech Republic
- **Prof. Radek Zbořil, Ph.D.** - Palacký University Olomouc, Czech Republic

CLARA Director

- **Prof. RNDr. Václav Snášel, Ph.D.**

CLARA Scientific Advisory Board Chair

- **Zaven S. Khachaturian, Ph.D.**

CLARA Project Management Team

- **Eva Dočkalová, Ph.D.** - CLARA General Project Manager
- **Martin Adler** - CLARA Financial Manager
- **Mgr. Lenka Uldrijanová** - Chief Officer for Stakeholder Relations
- **Ing. Lenka Kadeřábková** - Chief Operating Officer
- **Mgr. Priya Blažková-Chandra** - Scientific Manager Research & Technology
- **Lalit Patil, Ph.D.** - Ethics and Security Specialist
- **Pavčina Jiroušková** - Office Manager

CLARA Collegium of Experts

- Ara S. Khachaturian, Ph.D. (INDRC) - Head
- Prof. Mgr. Jiří Damborský, Ph.D. (ICRC)
- Ing. Josef Šivic, Ph.D. (CIIRC CTU)
- Jean-Marie Bouteiller, Ph.D. (INDRC)
- Prof. Olivier Colliot, Ph.D. (PBI)

CLARA Testbed

- doc. Mgr. Vít Vondrák, Ph.D. (VSB – Technical University of Ostrava) - Head of CLARA Testbed

CLARA Collaboratorium

- Ing. Mgr. Eva Doležalová (CIIRC CTU) - Head of CLARA Collaboratorium

CLARA RESEARCHERS



The scientific strength of CLARA is built not only on advanced infrastructure and ambitious research programs, but above all on the expertise of its researchers. The researchers involved in CLARA drive the scientific vision and implementation of its three research programs, contributing complementary expertise across molecular modeling, clinical phenomenology, and multiscale brain simulation. Through close collaboration across partner institutions, they form a uniquely interdisciplinary community dedicated to advancing innovation in brain health and neurodegeneration research. This section highlights leading and co-leading researchers of the CLARA project whose leadership and scientific contributions play a key role in shaping CLARA's research agenda and international profile.

Researcher	CLARA role	Institutional / professional position
Prof. Mgr. Jiří Damborský, Dr. (ICRC)	RP1 Lead	Principal Investigator for ICRC, Josef Loschmidt Chair Professor Loschmidt Laboratories Department of Experimental Biology & RECETOX Faculty of Science, Masaryk University, Brno, Czech Republic
Prof. Ing. Josef Šivic, Ph.D. (CIIRC CTU)	RP1 Co-Leader	Principal Investigator for CTU Professor in the field of computer science and artificial intelligence World-renowned expert in computer vision and machine learning Head of the IMPACT - Intelligent Machine Perception Group, CIIRC CTU in Prague, Head of ELLIS Unit Czechia
PDr. Olivier Colliot, Research Director (PBI)	WP3 Lead; RP2 Lead	Research Director at CNRS; co-head of the ARAMIS team, Paris, France
doc. Ing. Václav Křemen, Ph.D., MBA (CIIRC CTU)	RP2 Co-Leader	Associate Professor of Biomedical Engineering - Czech Technical University in Prague, Czech Republic, Prague Associate Professor of Neurology – Mayo Clinic College of Medicine and Science, Mayo Clinic, Rochester, MN, USA
Ara S. Khachaturian, Ph.D. (INDRC)	Chair of CLARA Collegium of Experts; RP3 Lead	Founder, President, Brain Watch Coalition, USA INDRC Chief Scientific Officer, Czech Republic
Jean-Marie Bouteiller, Ph.D. (INDRC)	RP3 Co-Lead	Research Associate Professor, University of Southern California, USA INDRC Scientific Advisory Board Chair, Czech Republic
Zaven S. Khachaturian, Ph.D. (INDRC)	CLARA Scientific Advisory Board Chair	Scientific advisory leadership and in silico knowledge-management vision, USA

SELECTED PUBLICATIONS, GRANTS AND AWARDS



CLARA research outputs reflect a strong emphasis on interdisciplinary, data-driven approaches to understanding neurodegenerative diseases, particularly Alzheimer’s disease. The published work combines clinical insight, large-scale research infrastructures, and advanced computational methods to address key challenges in early detection, disease modeling, and the future organization of research ecosystems. Together, these publications help shape new scientific frameworks that link research, healthcare systems, and innovation.

Awards and honors

Recognition	Recipient / context	Relevance to CLARA
Order of Academic Palms	Dr. Josef Šivic, awarded by the French Embassy in Prague in August 2025.	Recognizes scientific excellence and a key role in advancing Czech–French collaboration in artificial intelligence.
CLARA Young Innovator Award 2026	Announced during CLARA Days 2025.	Creates a pathway to recognize impactful early-career talent at the intersection of AI, neuroscience and health technologies.

Selected publications

INDRC

Khachaturian Z., Carrillo MC., Khachaturian AS., Perspective: Emerging challenges for a future ADNI. *Alzheimer’s & Dementia*. 2025 Feb. doi:10.1002/alz.14534.

This publication outlines the future of large-scale Alzheimer’s research infrastructures, with a focus on the evolution of ADNI. It highlights the need to move toward integrated, data-driven approaches that enable earlier detection, prevention, and more personalized care.

The paper emphasizes that the growing complexity of neurodegenerative diseases requires rethinking how research centers are structured and how data are collected and shared. It proposes transforming existing research initiatives into more comprehensive, multidisciplinary platforms capable of addressing emerging scientific, clinical, and public health challenges.

By advocating for stronger integration of longitudinal data, clinical research, and real-world evidence, the study contributes to the development of next-generation research ecosystems. These approaches align closely with CLARA’s mission to connect advanced computational methods with clinical applications and accelerate progress toward more effective, scalable solutions for brain health.

Bouteiller J-MC, Kakolla A, Khachaturian AS, Khachaturian Z, Dočkal V, Šnašel V. From Data Integration to Discovery: A Transparent, AI-Driven Framework for Multidisciplinary Brain Research. Conference contribution. 2025.

<https://www.abstractsonline.com/pp8/#!/21171/presentation/31777>

This conference contribution presents a transparent, AI-driven framework designed to support multidisciplinary brain research through advanced data integration. The work focuses on combining heterogeneous data sources—ranging from clinical and neuroimaging data to behavioral and physiological signals—into a unified analytical environment. The proposed approach emphasizes transparency, interpretability, and scalability, enabling researchers to move from fragmented datasets toward actionable scientific discovery. By leveraging AI and data-driven methodologies, the framework supports more precise modeling of brain function and neurological disorders. This contribution reflects CLARA's broader ambition to connect data, computation, and clinical insight and to develop integrated research infrastructures that accelerate discovery and innovation in brain health.

ICRC & VSB-TUO

Halfar R, Damborský J, Marques SM, Martinovič J. Moldina: a fast and accurate search algorithm for simultaneous docking of multiple ligands. J Cheminform. 2025 Apr 28;17(1):61. doi: [10.1186/s13321-025-01005-4](https://doi.org/10.1186/s13321-025-01005-4).

Protein-ligand docking is a computational method routinely used in many structural biology applications. It usually involves one receptor and one ligand.

The docking of multiple ligands, however, can be important in several situations, such as the study of synergistic effects, substrate and product inhibition, or competitive binding. This can be a challenging and computationally demanding process. By integrating Particle Swarm Optimization into the established AutoDock Vina framework, we provided a powerful tool capable of accelerating drug discovery and computational enzymology. Here we present Moldina (Multiple-Ligand Molecular Docking over AutoDock Vina), a new algorithm built upon AutoDock Vina. Through comprehensive testing against AutoDock Vina, the algorithm exhibited comparable accuracy in predicting ligand binding conformations while significantly reducing the computational time by up to several hundred times. Moldina and the benchmark data are freely available at <https://opencode.it4i.eu/permed/moldina-multiple-ligand-molecular-docking-over-autodock-vina> and <https://github.com/It4innovations/moldina-multiple-ligand-molecular-docking-over-autodock-vina>.



ICRC & CIIRC CTU

P Kouba, J Planas-Iglesias, J Damborsky, J Sedlar, S Mazurenko, J Sivic. Learning to engineer protein flexibility, International Conference on Learning Representations (ICLR) (2025)

CIIRC CTU

Sejak M, Mivalt F, Sladky V, Vsiansky V, Carvalho DZ, St. Louis EK, Worrell GA, Kremen V. OpenSpindleNet: An open-source deep learning network for reliable sleep spindle detection in scalp and intracranial EEG. *Comput Biol Med.* 2025 Oct;197(Pt A):110854. doi: 10.1016/j.compbio.2025.110854. Epub 2025 Aug 25. PMID: 40857816; PMCID: PMC12499932.

This publication presents OpenSpindleNet, a novel open-source deep learning framework designed for the automated detection of sleep spindles in both scalp and intracranial EEG recordings. Sleep spindles play an important role in memory consolidation, cognitive function, and neurological health, yet their manual identification is time-consuming and often impractical in both research and clinical settings. The authors developed a dual-head neural network architecture capable of simultaneously detecting and segmenting sleep spindles with high accuracy. The model demonstrated state-of-the-art performance on both publicly available scalp EEG datasets and challenging intracranial EEG recordings, outperforming several existing spindle detection methods. By providing an openly accessible tool and trained models, the study supports reproducible neuroscience research and advances the development of AI-driven approaches for sleep analysis and brain monitoring.

VSB-TUO

Abualigah, L., Alomari, S. A., Almomani, M. H., Zitar, R. A., Saleem, K., Migdady, H., Snasel, V., Smerat, A., & Ezugwu, A. E. (2025). Artificial intelligence-driven translational medicine: a machine learning framework for predicting disease outcomes and optimizing patient-centric care. *Journal of Translational Medicine*, 23, Article 302. <https://doi.org/10.1186/s12967-025-06308-6>.

This study proposes a novel AI-based framework that integrates Gradient Boosting Machines (GBM) and Deep Neural Networks (DNN) to address these challenges. The framework was evaluated using two distinct datasets: MIMIC-IV, a critical care database containing clinical data of critically ill patients, and the UK Biobank, which comprises genetic, clinical, and lifestyle data from 500,000 participants. Key performance metrics, including Accuracy, Precision, Recall, F1-Score, and AUROC, were used to assess the framework against traditional and advanced ML models.

Abualigah, L., Almomani, M. H., Alomari, S. A., Zitar, R. A., Snasel, V., Saleem, K., Smerat, A., & Ezugwu, A. E. (2025). A control-driven transition strategy for enhanced multi-level threshold image segmentation optimization. *Egyptian Informatics Journal*, 30, Article 100646. <https://doi.org/10.1016/j.eij.2025.100646>.

This work proposes an image segmentation approach based on a multi-threshold segmentation method and the enhanced Flood Algorithm combined with the Non-Monopolize search (named Improved IFLANO). The introduced approach, depending on IFLANO, offers much better segmentation quality for various images. Based on the existing structure, two different types of optimization techniques are added within IFLANO to enhance the update dynamics during optimization. The random strategy used in the Aquila optimization procedure enhances the performance of FLA, and a self-transition adaptation enhances the exploration ability of the image analysis. IFLANO framework is implemented for multi-level threshold image segmentation, wherein the evaluation metric is Kapur's entropy-based between-class variance. Benchmarking studies against standard test images show that IFLANO works not only faster but also yields better, more stable outcomes in image segmentations within similar time frames. IFLANO is shown to put any solution a step forward in its search for more accurate alternatives than any of the considered techniques by getting a 96% improvement. We also find that the proposed method got better results in solving large medical clustering applications.

Abualigah, L., Al-Okbi, N. K., Alomari, S. A., Almomani, M. H., Moneam, S., Yousif, M. A., Snasel, V., Saleem, K., Smerat, A., & Ezugwu, A. E. (2025). Optimized image segmentation using an improved reptile search algorithm with Gbest operator for multi-level thresholding. *Scientific Reports*, 15, Article 12713. <https://doi.org/10.1038/s41598-025-96429-1>.

Image segmentation using bi-level thresholds works well for straightforward scenarios; however, dealing with complex images that contain multiple objects or colors presents considerable computational difficulties. Multi-level thresholding is crucial for these situations, but it also introduces a challenging optimization problem. This paper presents an improved Reptile Search Algorithm (RSA) that includes a Gbest operator to enhance its performance. The proposed method determines optimal threshold values for both grayscale and color images, utilizing entropy-based objective functions derived from the Otsu and Kapur techniques. Experiments were carried out on 16 benchmark images, which included COVID-19 scans along with standard color and grayscale images. A thorough evaluation was conducted using metrics such as the fitness function, peak signal-to-noise ratio (PSNR), structural similarity index measure (SSIM), and the Friedman ranking test. The results indicate that the proposed algorithm seems to surpass existing state-of-the-art methods, demonstrating its effectiveness and robustness in multi-level thresholding tasks.

Kong, L., Velasquez, J. D., Snášel, V., Pant, M., Pan, J.-S., & Nowakova, J. (2025). Enhancing skin cancer detection through category representation and fusion of pre-trained models. *Information Fusion*, 124, Article 103369. <https://doi.org/10.1016/j.inffus.2025.103369>.

Pre-trained models are widely used in medical image classification because they can work with complex datasets and improve accuracy. However, problems such as adaptation to specific medical tasks, interpretability, and computational efficiency are still important, especially in areas like skin cancer detection. In this paper, we propose an interpretability-assisted fine-tuning framework based on category representation. We test it on the HAM10000 dataset, which contains seven imbalanced skin cancer categories. Our method improves classification accuracy by 2.6% compared to standard pre-trained models. The framework also improves interpretability by making the model's decision-making process easier to understand. Performance increases are especially visible in underrepresented classes, such as Melanocytic Nevi with an F1 score of 0.94 and Actinic Keratosis with an F1 score of 0.66. The proposed model also achieves a top-3 prediction accuracy of 98.21%, which is useful for medical decision-making. This is especially valuable in difficult cases, where multiple likely predictions can support clinicians. Overall, our results show that combining pre-trained models with category representation can improve both accuracy and transparency. This makes the proposed approach useful for AI-based healthcare systems, where reliable and explainable decisions are essential.

ACRONYMS AND TERMINOLOGY

Acronym	Definition used in this draft
AD	Alzheimer's disease
AI / ML	Artificial intelligence / machine learning
CoE	Center of Excellence
HPC / QC	High-performance computing / quantum computing
HPCQC	Hybrid high-performance and quantum computing environment
INDRC	International Neurodegenerative Disorders Research Center
VLQ / LUMI-Q	Quantum-computing infrastructure referenced in the draft report
ICRC	International Clinical Research Center
VSb-TUO	VSb – Technical University of Ostrava
PBI	Paris Brain Institute
LRZ	Leibniz Supercomputing Center
OP JAK	Operational Program Jan Amos Komenský
RP	Research Program
CIIRC CTU	Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University in Prague

as at **3 1 . 1 2 . 2 0 2 5**

in thousands CZK

Registered office

Evropská 2758/11
Praha6
160 00

ID no.	1	1	8	8	3	3	8	3
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Seal

Ident.	ASSETS	line	Accounting period	
			at the first day	balance at the last day
A.	Fixed assets	001	166	14,367
A. I.	Intangible assets	002		
A. I. 1.	Research and development	003		
2.	Software	004		
3.	Valuable rights (patents, copyrights,trademarks and brands)	005		
4.	Low-value intangible fixed assets	006		
5.	Other intangibles	007		
6.	Intangible assets under construction	008		
7.	Advances for intangible assets Intangible assets	009		
A. II.	Tangible fixed assets	010	189	15,868
A. II. 1.	Land	011		
2.	Artworks and collections	012		
3.	Buildings and structures	013		
4.	Machinery, equipment, vehicles, fixtures and fittings	014	0	15,474
5.	Orchards and vineyards	015		
6.	Livestock (herd and draught animals)	016		
7.	Low-value fixed assets	017	189	394
8.	Other tangible fixed assets	018		
9.	Tangible fixed assets under construction	019		
10.	Advances for tangible fixed assets	020		
A. III.	Financial assets	021		
A. III. 1.	Investments in subsidiaries	022		
2.	Investments in associates	023		
3.	Bonds, debentures and similar securities held until maturity	024		
4.	Loans to organisations teams	025		
5.	Other long-term loans	026		
6.	Other financial assets	027		
A. IV.	Accumulated depreciations of long term property total	028	-23	-1,501
A. IV. 1.	Depreciations to immaterial results of sciene survey	029		
2.	Accumulated depreciations of software	030		
3.	Accumulated depreciations of valuable rights	031		
4.	Accumulated depreciations of long - term immaterial property	032		
5.	Accumulated depreciations of other long - term property	033		
6.	Accumulated depreciations of buildings	034		
7.	Accumulated depreciations of movable assets and sets of movable assets	035	0	-1,350
8.	Accumulated depreciations of cultivated areas	036		
9.	Accumulated depreciations of livestock	037		
10.	Accumulated depreciations of small long - term property	038	-23	-151
11.	Accumulated depreciations of other long term property	039		
B.	Short-term property total	040	37,120	87,170
B. I.	Inventory	041		
B. I. 1.	Materials in store	042		
2.	Materials in transit	043		

Ident.	ASSETS	line	Accounting period	
			at the first day	balance at the last day
3.	Work-in-progress	044		
4.	Semi-finished products	045		
5.	Finished products	046		
6.	Livestock (herd and draught animals)	047		
7.	Merchandise in store	048		
8.	Merchandise in transit	049		
9.	Advance payments for inventory	050		
B. II.	Receivables total	051	4 ,077	22 ,331
B. II. 1.	Customers	052	240	70
2.	Bills of exchange to be collected	053		
3.	Receivables for discounted securities	054		
4.	Advance payments made	055	2	13
5.	Other receivables	056	0	5
6.	Receivables from employees	057		
7.	Receivables from social security and health insurance institutions	058		
8.	Income taxes	059		
9.	Other direct taxes	060		
10.	Value added tax	061		
11.	Other taxes and fees	062		
12.	Subsidies receivable from state budget	063		
13.	Subsidies receivable from self-governing local area's budgets	064		
14.	Receivables from participants in an association	065		
15.	Receivables from fixed-term financial transactions	066		
16.	Receivables from issued bonds	067		
17.	Sundry receivables	068		
18.	Estimated receivables	069	3 ,835	22 ,243
19.	Depreciations to receivables	070		
B.III.	Short-term financial assets total	071	33 ,003	64 ,830
B. III. 1.	Cash on hand	072	122	93
2.	Stamps and vouchers	073		
3.	Bank accounts	074	32 ,881	64 ,737
4.	Shares and similar securities for trading	075		
5.	Bonds, debentures and similar securities for trading	076		
6.	Other bonds, debentures and securities	077		
7.	Cash in transit	078		
B.IV.	Other assets total	079	40	9
B. IV. 1.	Deferred expenses	080	40	9
2.	Accrued revenue	081		
	TOTAL ASSETS	082	37 ,286	101 ,537

Ident.	LIABILITIES	line	Accounting period	
			at the first day	balance at the last day
A.	Own resources	001	563	14,063
A. I.	Equity	002	550	14,053
A. I. 1.	Own equity	003	216	13,719
2.	Funds	004	334	334
3.	Gains or losses from revaluation of assets and liabilities	005		
A. II.	Profit or loss	006	13	10
A. II. 1.	Profit and loss account	007	XXXXXXXXXXXX	10
2.	Profit or loss to be approved	008	0	XXXXXXXXXXXX
3.	Retained earnings, accumulated losses from previous years	009	13	0
B.	Not-own capital total	010	36,723	87,474
B. I.	Reserves Total	011		
B. I. 1.	Reserves	012		
B. II.	Long - term payables total	013		
B. II. 1.	Long-term bank loans	014		
2.	Own bonds issued	015		
3.	Payables of lease	016		
4.	Long-term advances received	017		
5.	Long-term bills of exchange to be paid	018		
6.	Estimated payables	019		
7.	Other long-term payables	020		
B.III.	Short-term payables	021	36 ,413	85 ,302
B. III. 1.	Suppliers	022	663	1 ,139
2.	Bills of exchange to be paid	023		
3.	Advance payments received	024		

Ident.	LIABILITIES	line	Accounting period	
			at the first day	balance at the last day
4.	Other payables	025		
5.	Employees	026	367	1,007
6.	Other payables to employees	027	0	634
7.	Payables to social security and health insurance	028	216	475
8.	Income taxes	029		
9.	Other direct taxes	030	60	144
10.	Value added tax	031	68	0
11.	Other taxes and fees	032		
12.	Payables to state budget	033	0	47,976
13.	Payables to self-government local area's budgets	034		
14.	Payables for unpaid subscribed shares and participations	035		
15.	Payables to participants in association	036		
16.	Payables to fixed-term financial transactions	037		
17.	Sundry payables	038	35,039	33,623
18.	Short-term bank loans	039		
19.	Credits for discounted securities	040		
20.	Short-term bonds issued	041		
21.	Own bonds issued	042		
22.	Estimated payables	043	0	304
23.	Other short-term financial assistance	044		
B.IV.	Other liabilities	045	310	2,172
B. IV. 1.	Accrued expenses	046	0	1,548
2.	Deferred revenue	047	310	624
	LIABILITIES	048	37,286	101,537

Date of compilation	28.5.2026	Signature of statutory body	
Legal form	zapsaný ústav	PhDr., Mgr. Vít Dočkal, Ph.D., ředitel	
Entrepreneurial activity	Výzkum a vývoj v oblasti lékařských věd	PhDr.,Mgr. Vít Dočkal, PhD.	Digitálně podepsal PhDr.,Mgr. Vít Dočkal, PhD. Datum: 2026.07.23 14:01:41 +02'00'

PROFIT AND LOSS STATEMENT

PROFIT AND LOSS STATEMENT by 504/2002 Sb. amended in

Business name

**International Neurodegenerative Disorders
Research Center, zapsaný ústav**

as at **3 1 . 1 2 . 2 0 2 5**

From: **1.1.2025** To: **31.12.2025**

in thousands CZK

ID no.	1	1	8	8	3	3	8	3
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Registered office

Evropská 2758/11

Praha 6

160 00

Seal

Ident.	PROFIT AND LOSS STATEMENT	line	Accounting period		
			Main	Business	T otal
A.	Expenses	001	22,984		22,984
A. I.	Consumed spendings total	002	7,378		7,378
A. I. 1.	Consumed materials, energy consumption, consumption of other non-inventory items	003	108		108
2.	Merchandise sold	004			
3.	Repairs and maintenance	005			
4.	Travelling expenses	006	822		822
5.	Representation expenses	007	160		160
6.	Other services	008	6,288		6,288
A. II.	Change in work-in-progress and activation	009			
A. II. 7.	Change in work-in-progress	010			
8.	Aktivation of material, goods and internal services	011			
9.	Aktivation of intangibles	012			
A. III.	Personal expenses total	013	13,055		13,055
A. III. 10.	Wages and salaries	014	9,862		9,862
11.	Legal social insurance	015	2,919		2,919
12.	Other social insurance	016			
13.	Legal social security expenses	017	177		177
14.	Other social security expenses	018	97		97
A. IV.	Taxes total	019	2		2
A. IV. 15.	Taxes total	020	2		2
A. V.	Other expenses total	021	1,071		1,071
A. V. 16.	Contractual fines, interest on late payments, other fines and penalties	022			
17.	Write-off of receivables	023			
18.	Interest expense	024			
19.	Foreign exchange losses	025	1,047		1,047
20.	Gifts	026			
21.	Shortages and damage	027			
22.	Other expenses	028	24		24
A. VI.	Depreciations, sold property, additions to reserves total	029	1,478		1,478
A. VI. 23.	Depreciation expenses of intangible and tangible fixed assets	030	1,478		1,478
24.	Net book value of intangible and tangible fixed assets sold	031			
25.	Shares and ownership interests sold	032			
26.	Materials sold	033			
27.	Additions to reserves and provisions	034			
A. VII.	Membership fees total	035			
A. VII. 28.	Membership fees and operating contributions paid to branch	036			
A. VIII.	Income tax	037			
A. VIII. 29.	Income tax	038			
	Expenses Total	039	22,984		22,984
B.	Revenues	040	22,994		22,994
B. I.	Operating subsidies	041	18,543		18,543
B. I. 1.	Operating subsidies	042	18,543		18,543
B. II.	Accepted contributions total	043	1,714		1,714
B. II. 2.	Received operating contributions	044			
3.	Received donations	045	1,714		1,714
4.	Received membership fees	046			
B. III.	Revenues from own efficient	047			

Ident.	PROFIT AND LOSS STATEMENT	line	Accounting period		
			Main	Business	Total
B. IV.	Other revenues total	048	2,737		2,737
B. IV. 5.	Contractual fines, interest on late payments and other fines and penalties	049			
6.	Revenue from written-off receivables	050			
7.	Interest	051			
8.	Foreign exchange gains	052	1,327		1,327
9.	Accounting for funds	053	1,410		1,410
10.	Other revenues	054			
B. V.	Revenues from sales of property	055			
B. V. 11.	Revenues from sales of intangible and tangible fixed assets	056			
12.	Revenues from sale of shares and ownership interests	057			
13.	Revenues from sales of materials	058			
14.	Revenues from short-term financial assets	059			
15.	Revenues from long-term financial assets	060			
	Total revenues	061	22,994		22,994
C.	Profit (loss) before taxation (r. 63 - 33)	062	10		10
D.	Profit (loss) after taxation	063	10		10

Date of compilation 28.5.2026	Signature of statutory body
Legal form zapsaný ústav	PhDr., Mgr. Vít Dočkal, Ph.D., ředitel
Entrepreneurial activity Výzkum a vývoj v oblasti lékařských věd	PhDr.,Mgr. Vít Dočkal, Ph.D. Digitálně podepsal PhDr.,Mgr. Vít Dočkal, Ph.D. Datum: 2026.07.23 10:00:46 +02'00'

Accounting unit: **International Neurodegenerative Disorders Research center,**
zapsaný ústav

Id. No.: **11883383**

S U P P L E M E N T

to the accounting report for the year 2025

Notes:

- 1) *Values are stated in CZK.*
- 2) *The information in the appendix is based on the accounting records and other documentation available to the accounting unit.*
- 3) *The appendix to the accounting report is compiled in accordance with the Accounting Act No. 563/1991 Coll., as amended, in particular with the Implementing Decree No. 504/2002 Coll.*

GENERAL INFORMATION

General information about the accounting unit:

Name of the accounting unit	International Neurodegenerative Disorders Research Center, zapsaný ústav
Head office	Evropská 2758/11
Legal form	registered institute
Purpose of the registered institute in its entirety as registered in the Company Register	Independent and interdisciplinary research of neurodegenerative diseases and related aspects and support for the development of education, research excellence and innovation in the field, including transfer of technologies
Date of foundation of the accounting unit or date of commencement of operations	27. September 2021

Natural or legal persons who founded the institute:

Person	Date
MUDr. Martin Tolar, Ph.D.	27. 9. 2021
Prof. Ing. Vladimír Mařík, DSc., dr.h.c.	27. 9. 2021
MUDr. Pavel Hroboň, M.S.	27. 9. 2021
PhDr. Mgr. Vít Dočkal, Ph.D.	27. 9. 2021
Ing. Eva Dočkalová, Ph.D.	27. 9. 2021

Names and surnames of statutory or supervisory bodies or their members at the balance sheet date:

Person	Position
PhDr. Mgr. Vít Dočkal, Ph.D.	CEO/Director
James Arthur Rice, Ph.D.	Chairman of the Board of Directors
PhDr., Mgr. Vít Dočkal, Ph.D.	Member of the Board of Directors
Jean-Marie Charles Bouteiller, Ph.D.	Member of the Board of Directors
Ara Khachaturian, Ph.D.	Member of the Board of Directors
Prof. Dr. A Min Tjoa	Member of the Board of Directors
Prof. RNDr. Václav Snášel, CSc.	Member of the Board of Directors
Prof. Ing. Vladimír Mařík, DrSc., dr.h.c.	Member of the Board of Directors
MUDr. Pavel Hroboň, M.S.	Member of the Board of Directors

Description of the accounting unit's *organizational structure* and its fundamental changes during the accounting period:

The Institute was founded and established on 27 September 2021 by registration in the Company Register. The purpose of the Institute is public service activities in the field of independent and interdisciplinary research of neurodegenerative diseases and support for the development of education, research excellence and innovation in the field, including transfer of technologies.

INFORMATION ON ACCOUNTING METHODS, GENERAL ACCOUNTING PRINCIPLES, AND VALUATION METHODS:

Valuation method of *purchased stocks*: 0

Valuation Method of *stocks obtained by own activities*: 0

Valuation method of *fixed tangible and intangible assets* obtained by own activities: 0

Valuation method of *securities and shares*, derivatives and the portion of assets and liabilities secured by derivatives: 0

Determination method of the *reproduction purchase price* valued at that price and acquired during the accounting period: 0

Types of *acquisition-related* costs included in the cost of purchased *stocks* and types of costs included in stock prices determined at the level of own costs: 0

Fundamental changes in *valuation methods, depreciation procedures and accounting procedures* – there have been no changes in valuation methods or accounting procedures:
There were no changes in the valuation method or accounting procedures during the accounting period.

Determination method of *the valuation allowance for assets*, presenting the source of information for determining the amount of the valuation allowance: 0

Method of preparing *depreciation schedules for fixed assets* (recorded in the account class 0) and depreciation methods used to calculate depreciation: During the accounting period, the entity acquired tangible fixed assets in the amount of CZK 15,474,107.99; straight-line depreciation was applied to the tangible fixed assets, which will be depreciated over a period of 36 months; furthermore, low-value fixed assets reported in assets in the amount of CZK 205,554.73; accounting depreciation was set at 50% in the first accounting period and 50% in the second accounting period.

Method used to convert foreign currency data into Czech currency (use of exchange rates announced by the CNB as current or fixed rates, with the dates of their changes specified): The entity used a fixed quarterly exchange rate for purchases determined as of the first day of the relevant quarter, commercial bank exchange rates for monetary transactions, and the exchange rate as of the start date of the business trip for the settlement of business trips in foreign currency.

Determination method of *fair value of assets and liabilities* valued at fair value in accordance with the law: 0

ADDITIONAL INFORMATION TO THE BALANCE SHEET AND REPORT OF PROFIT AND LOSS:

A breakdown of tangible assets that are *encumbered by a lien* or, in the case of immovable property, an easement, stating the nature and form of such collateral: 0

Total amount of *overdue receivables*: data are extracted from the relevant analytical accounts: 0

Total amount of *overdue liabilities*: data are extracted from the relevant analytical accounts: 0

Liabilities covered by a pledge, stating the nature and form of the collateral in the case of non-payment: 0

Liabilities (monetary and non-monetary) *not accounted for in the accounting and not included in the balance sheet*, e.g. guarantees received on behalf of another enterprise in the form of a bank loan or a bill of exchange, unless they have been booked as cash reserves: 0

Equity participations: 0

Economic result: The financial results of the main activity were closed with a profit of 9 551,09 CZK.

Information about employees: total number of employees including the director in the monitored period 16, average number of employees 16, converted number of employees including the director is 12,60

Taxes: In accordance with the Income Tax Act (Section 18a (5) of the Income Tax Act, broad-based taxation) as amended and the result for the accounting period 2025, the unit has not reported an obligation to pay income tax.

Contributions received: During the given period, the entity received a grant from a foundation to support the activities of the registered institute and to promote research and prevention of neurodegenerative diseases.

Person	Id. No.	Amount in CZK
Nadace Generali České pojišťovny	290 18 200	500 000 CZK

Subsidies received:

Project	Total subsidy	Drawing in the period	Available balance
Grant project 101136607 – CLARA	133 033 070,87 CZK		
From that Ústav 2024		4 024 157,03 CZK	
From that Partners 2024		97 345 751,03 CZK	
From that Ústav 2025		18 492 503,89 CZK	
Total	133 033 070,87 CZK	119 862 411,95 CZK	13 170 658,92 CZK

Project	Total subsidy	Total drawing in 2025	Available balance
Subsidies MŠMT CZ.02.01.01/00/23_029/0008437	218 427 075,28 CZK		
From that Ústav		14 950 993,04 CZK	
From that Partners		155 499 970,33 CZK	
Total	218 427 075,28 CZK	170 450 963,37 CZK	47 976 111,91 CZK

Donations: The accounting entity received the following donations in the accounting period:

Person	Id. No.	Amount
Winning PS stavební firma s.r.o.	494 36 589	50 000 CZK
EPG Varyada Karlovy Vary s.r.o.	040 84 047	100 000 CZK
Accace Outsourcing s.r.o.	289 50 321	20 000 CZK
PRANGLI s.r.o.	199 07 028	50 000 CZK
FPS INVEST s.r.o.	292 45 753	95 000 CZK
Equifarm, s.r.o.	283 40 132	15 000 CZK
Philip Morris ČR a.s.	148 03 534	250 000 CZK
Výtahy Brno, s.r.o.	255 85 819	50 000 CZK
JUDr. Róbert Pružinský, advokát	714 70 042	45 000 CZK
MUDr. Martin Borský, s.r.o.	241 50 037	50 000 CZK
Ing. Ivan Točev, MBA		5 000 CZK
Brněnské komunikace a.s.	607 33 098	50 000 CZK
Nadační fond IOCB TECH	144 42 116	126 000 CZK
22 Hor invest s.r.o.	178 34 091	42 000 CZK
NADAČNÍ FOND LUDMILA – drawing 2026	275 65 530	10 000 CZK
Česká spořitelna, a.s. – drawing 2026	452 44 782	200 000 CZK
Total donations		1 158 000 CZK

Sponsorship contributions: The accounting entity received a sponsorship contribution to support the organization of the CLARA Young Innovator Award, for the period 2026, the contribution is recognized in deferred income.

Person	Id. No.	Amount
22 Hor Invest s.r.o. – Drawing 2026	178 34 091	300 000 CZK

Statutory partners' and Partner's membership fees:

Person	Id. No.	Amount inCZK
VŠB – Tech. Un. Ostrava	619 89 100	20 000 CZK
TRIX Connections, s.r.o.	284 17 976	50 000 CZK
Total		70 000 CZK

PhDr.,Mgr. Vít Dočkal, PhD. Digitálně podepsal PhDr.,Mgr. Vít
Dočkal, PhD.
Datum: 2026.07.30 10:02:19+02'00'

.....
PhDr., Mgr. Vít Dočkal, Ph.D.
director

Compiled 28.5.2026

Independent Auditor's Report

Entity:	International Neurodegenerative Disorders Research Center, z. ú.
Residence:	Evropská 2758/11, Dejvice, 160 00 Praha 6
Residence as of 09/06/2026	Jugoslávských partyzánů 1580/3, 160 00 Praha 6 – Dejvice, Czech Republic
Identification Number:	11883383
Balance sheet date:	31.12.2025
Area of activity:	The purpose of the institute is to conduct independent, interdisciplinary research in the field of the prevention and treatment of neurodegenerative diseases and related aspects, and to promote the advancement of education, research excellence, and innovation in this field, including technology transfer.
Addressed to:	Director and General Assembly

Opinion

We have audited the accompanying financial statements of the above Organisation prepared in accordance with accounting principles generally accepted in the Czech Republic, which comprise the balance sheet as at 31.12.2025, income statement for the year then ended 31.12.2025 and notes to the financial statements, including material accounting policy information.

In our opinion, the accompanying financial statements of the Organisation give a true and fair view of the financial position of the Organisation as at 31.12.2025, and of its financial performance for the year ended in accordance with accounting principles generally accepted in the Czech Republic.

Basis for Opinion

We conducted our audit in accordance with Auditing Standards of the Chamber of Auditors of the Czech Republic, which are International Standards on Auditing (ISAs), as amended by the related application clauses. Our responsibilities under this law and regulation are further described in the Auditor's responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Organisation in accordance with the Act on Auditors and the Code of Ethics adopted by the Chamber of Auditors of the Czech Republic. We have also fulfilled our other responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information in the Annual Report

In compliance with Section 2(b) of the Act on Auditors, the other information comprises the information included in the Annual Report other than the financial statements and auditor's report thereon. The Board of Directors is responsible for the other information.

Our opinion on the financial statements does not cover the other information. In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. In addition, we assess whether the other information [except for the sustainability statement]¹ has been prepared, in all material respects, in accordance with applicable law or

regulation, in particular, whether the other information [except for the sustainability statement]¹ complies with law or regulation in terms of formal requirements and procedure for preparing the other information in the context of materiality, i.e. whether any non-compliance with these requirements could influence judgments made on the basis of the other information.

Based on the procedures performed, to the extent we are able to assess it, we report that:

- The other information describing the facts that are also presented in the financial statements is, in all material respects, consistent with the financial statements; and
- The other information [except for the sustainability statement]¹ is prepared in compliance with applicable law or regulation.

In addition, our responsibility is to report, based on the knowledge and understanding of the Company obtained in the audit, on whether the other information contains any material misstatement of fact. Based on the procedures we have performed on the other information obtained, we have not identified any material misstatement of fact.

Responsibilities of Statutory representative for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Czech accounting rules, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Organisation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organisation or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the above-mentioned laws and regulations will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with the above law or regulation, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organisation's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organisation's ability to continue as a going concern. If we conclude

that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organisation to cease to continue as a going concern.

- Evaluate the overall presentation, structure, and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the statutory representative regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

INTEREXPERT BOHEMIA, spol. s r.o.
Mikulandská 2, 110 00 Praha 1
Oprávnění KA ČR č. 267



Ing. Emil Bušek, statutory representative and auditor
Oprávnění KA ČR č. 1325

Date:	29-05-2026
Auditor's signature:	



International
Neurodegenerative Disorders
Research Center

INDRC Annual Report 2025

Published in June 2026

Time period concerned: 01/2025 – 12/2025

INDRC, z.ú.

International Neurodegenerative Disorders Research Center

Jugoslávských partyzánů 1580/3

160 00 Prague 6, Dejvice, Czech Republic

IČ: 11883383

Used photos: INDRC, CIIRC CTU, VSB - Technical University of Ostrava, LRZ, ICRC, Office of the President of the Czech Republic, Jiří Ryszawy, Canva Pro, OpenAI, Roman Sejkot, Journal of the American Medical Directors Association, Alzheimer's & Dementia, Journal of Cheminformatics



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