

# AI-Nano Convergence Initiative for Early Detection of Neurodegenerative Diseases

Goals & Expected Impact	“Promoting human health through early diagnosis of degenerative brain disorders”	
	<ul style="list-style-type: none"><li>· Revolutionise early diagnosis and prediction of degenerative brain diseases by uniting AI and nanotechnology.</li><li>· Lead the bio-market via trans-disciplinary convergence (AI, nano-optics, protein-structural biology)</li></ul> <p>(Core technologies) <b>nanomaterials</b> that detect protein-structural changes; <b>nano-optical devices</b> for protein-signal sensing; <b>AI algorithms</b> that analyse and predict protein structures and dynamics.</p>	
Outstanding Post-doctoral Training Strategy	Recruitment	<ul style="list-style-type: none"><li>· Seek PhDs skilled in data-mining, AI, nano-optics and protein-structure analysis</li><li>· Preference for <b>multi-disciplinary or industry-academia-research collaboration experience</b></li></ul>
	Development	<ul style="list-style-type: none"><li>· Provide <b>multi-mentor teams (faculty+industry/academic/overseas scholars) and customised career design.</b></li><li>· Grant access to best infrastructure in the country (Cryo-TEM, HPC, etc.).</li><li>· <b>Offer incentives-extra salary, research funds, independent projects, a teaching job links-for high performers.</b></li></ul>
Partner Organisations	Domestic	<ul style="list-style-type: none"><li>· Samsung Electronics Advanced Insititue of Technology, CJ Olive Networks, T3Q, JEOL Korea Co., etc.</li><li>· GIST, KAIST, DGIST, UNIST</li><li>· KIST, KITECH</li></ul>
	Overseas	<ul style="list-style-type: none"><li>· Thermo Fisher Scientific</li><li>· Havard Univ., MIT, Max Planck Institute, etc.</li><li>· UN ESCAP, Koreanisches Erziehungsinstitut in Deutschland</li></ul>

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