

NJIT Research, Innovation and Entrepreneurship (RITE) Ecosystem

Technology Innovation Translation Acceleration (TITA) Seed Grant Program
NSF Accelerating Research Translation (ART) Program

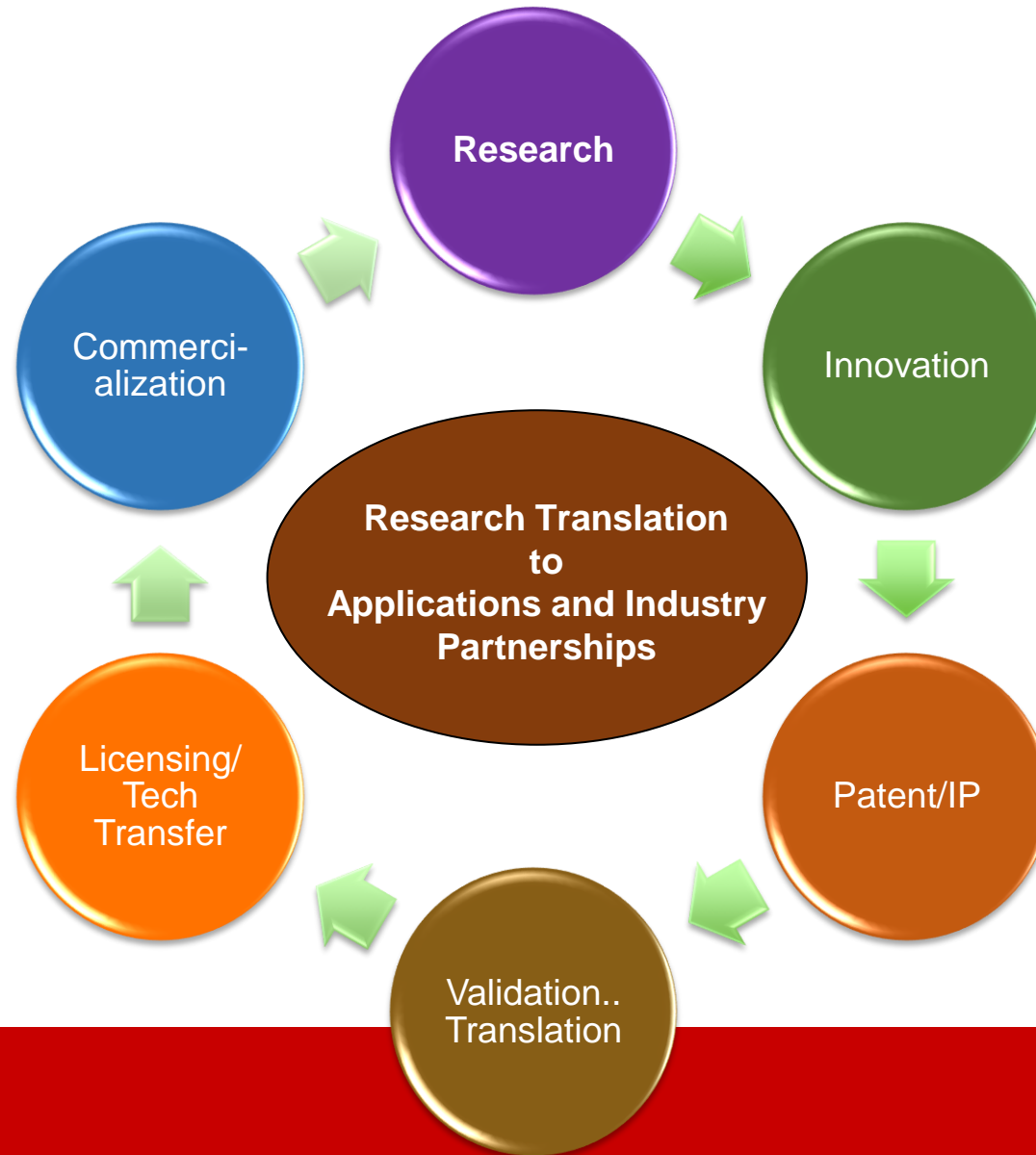
Atam P. Dhawan

Senior Vice Provost for Research



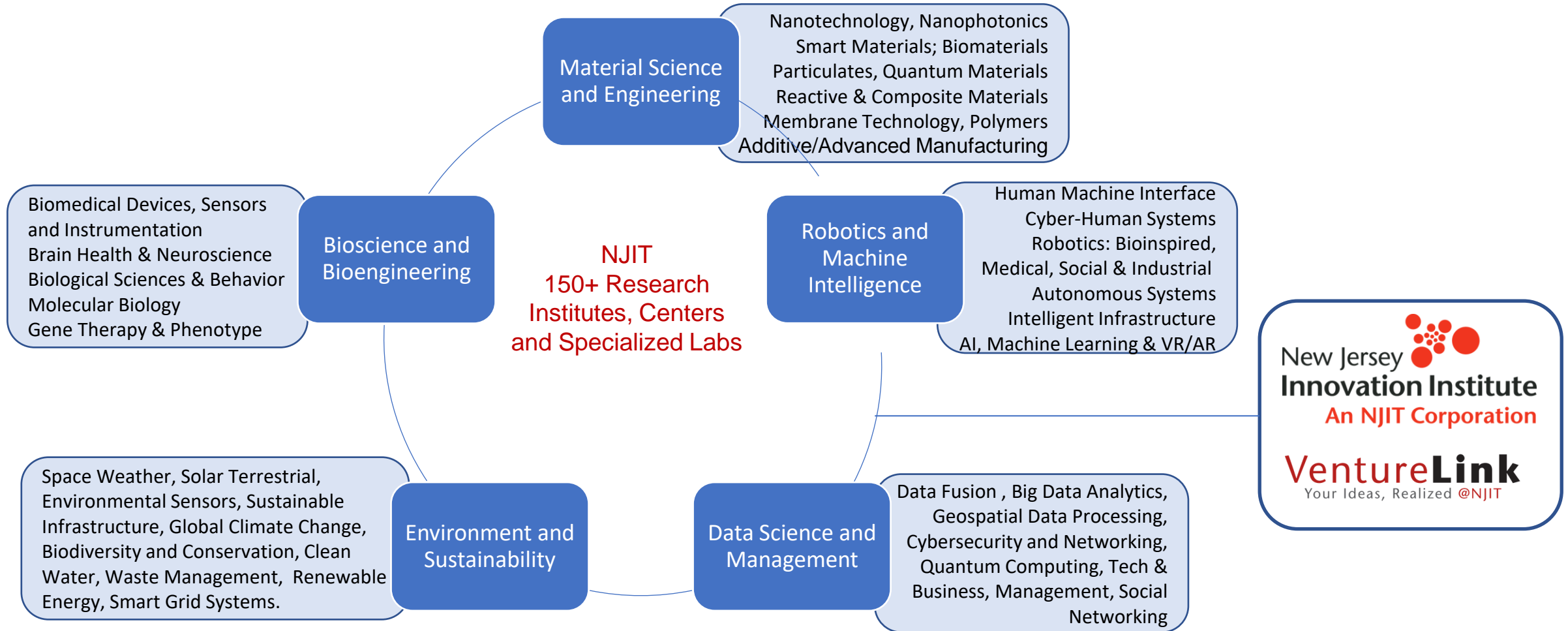
NJIT Research Enterprise

Carnegie R1 classification –
 Doctoral university with very
 high research activity



- Pre-Award Services**
 Research Proposal Preparation and
- Post-Award Services**
 Grant Management
- Research Compliance**
 Inst. Review Board (IRB)
 Inst. Biosafety Comm. (IBC)
 Inst. Animal Care and Use Committee (IACUC)
 COI & Export Control
- Undergraduate Research and Innovation (URI):**
 Student Seed Grants
 URI Summer Program
- Intellectual Property**
 Patent Acquisition
 Licensing
 Technology Transfer
- Faculty Seed Grants**

NJIT Research Clusters: 2025 Strategic Plan



Fundamental and Applied Research
is Great!

**Translational Research
is Amazing!**

2025 Strategic Plan: Promote Collaborative Research and Partnerships



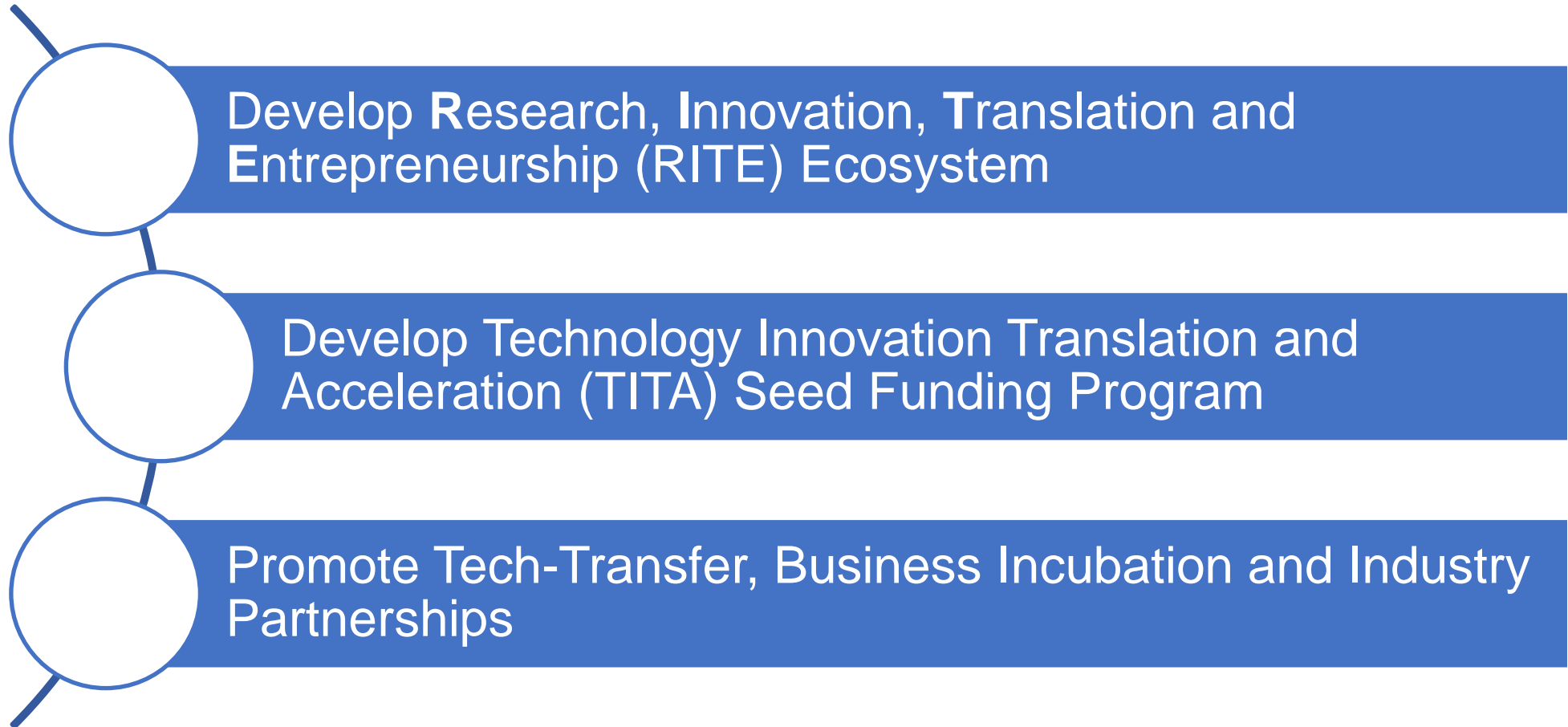
Develop Collaborative Research and Training Grants Ecosystem

Hire Faculty in Strategic Clusters in NJIT Research Grand Challenge Areas

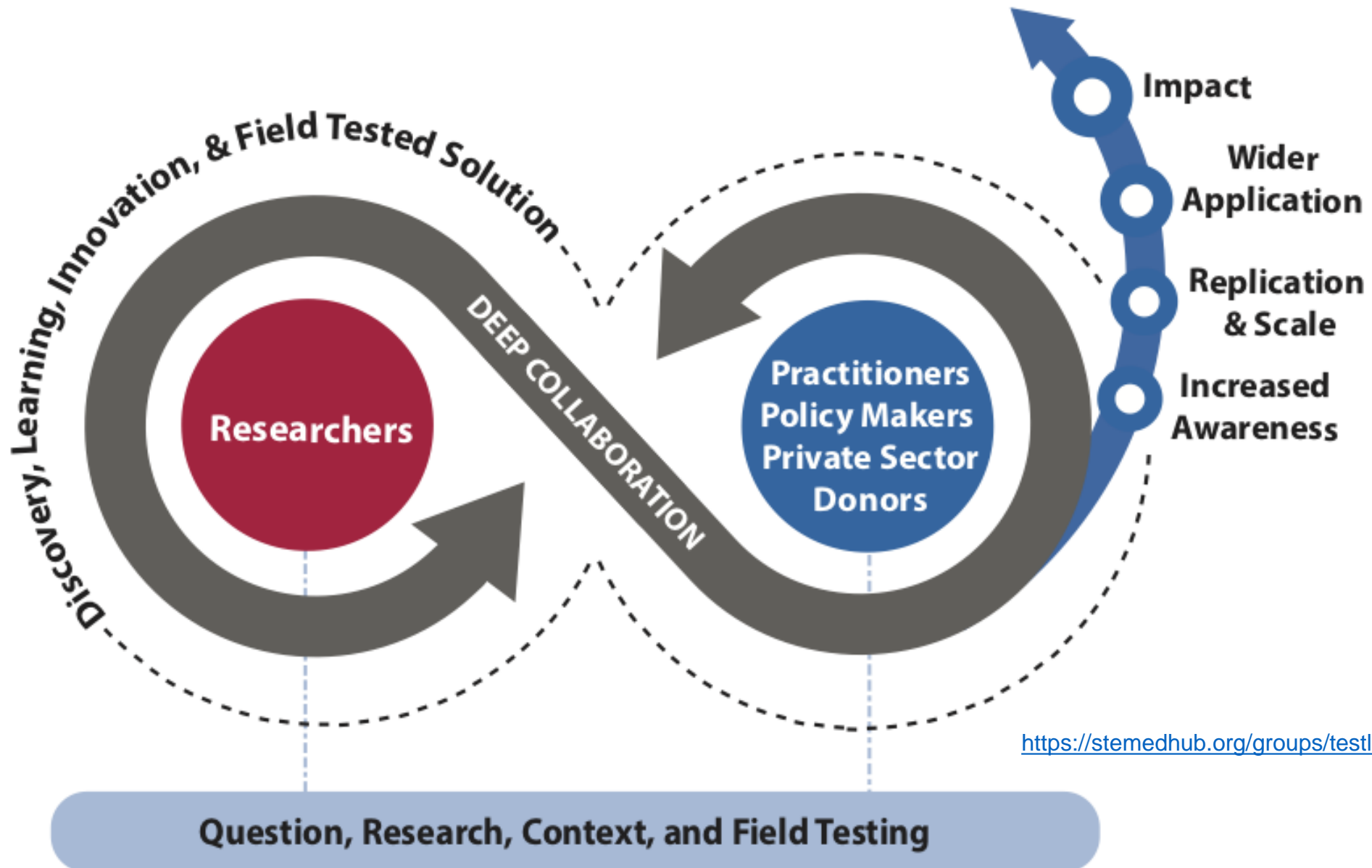
Promote Collaborative Translational Research and Innovation Partnerships

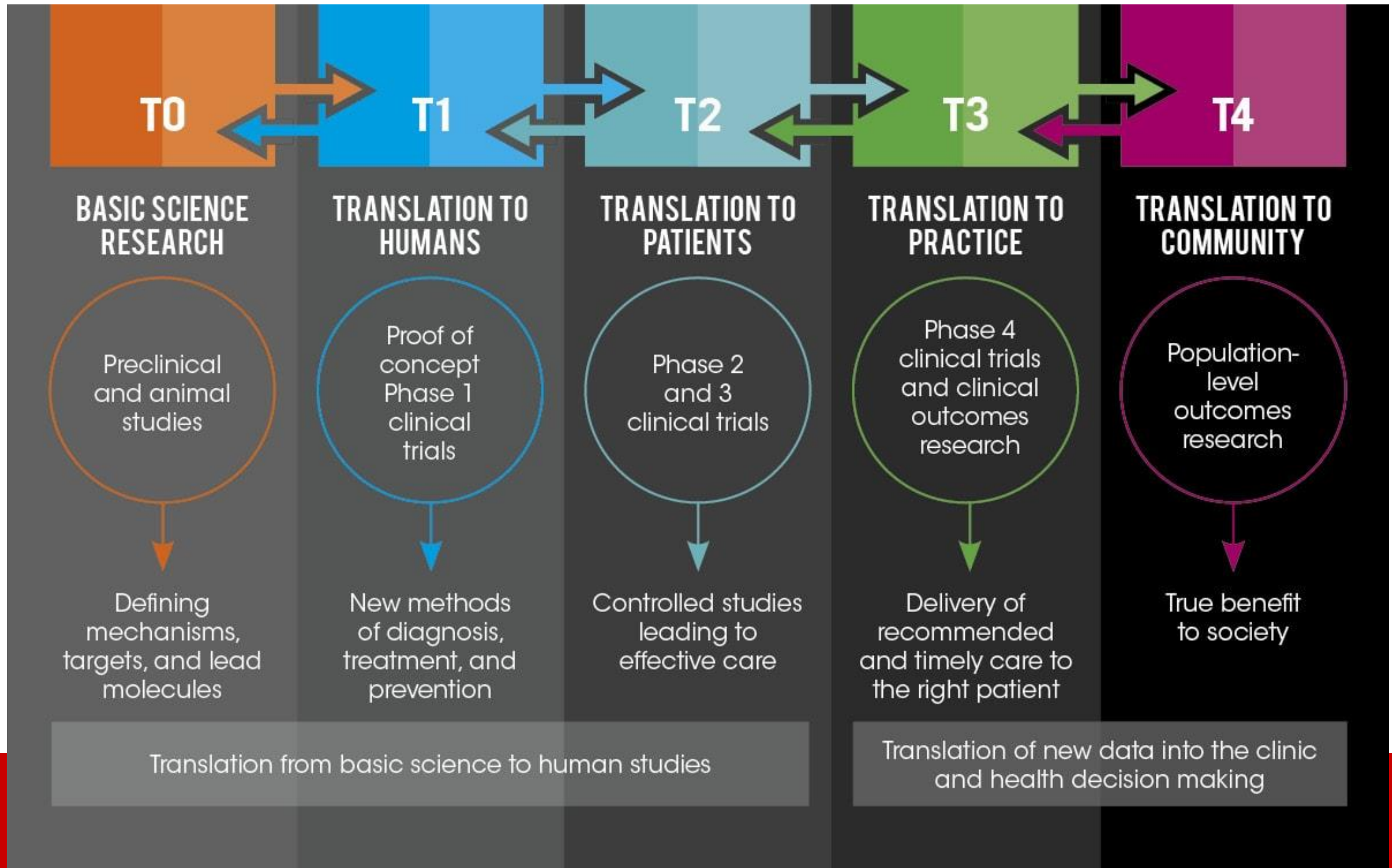
2025 Strategic Plan: Foster Innovation, Entrepreneurship and Industry Partnerships

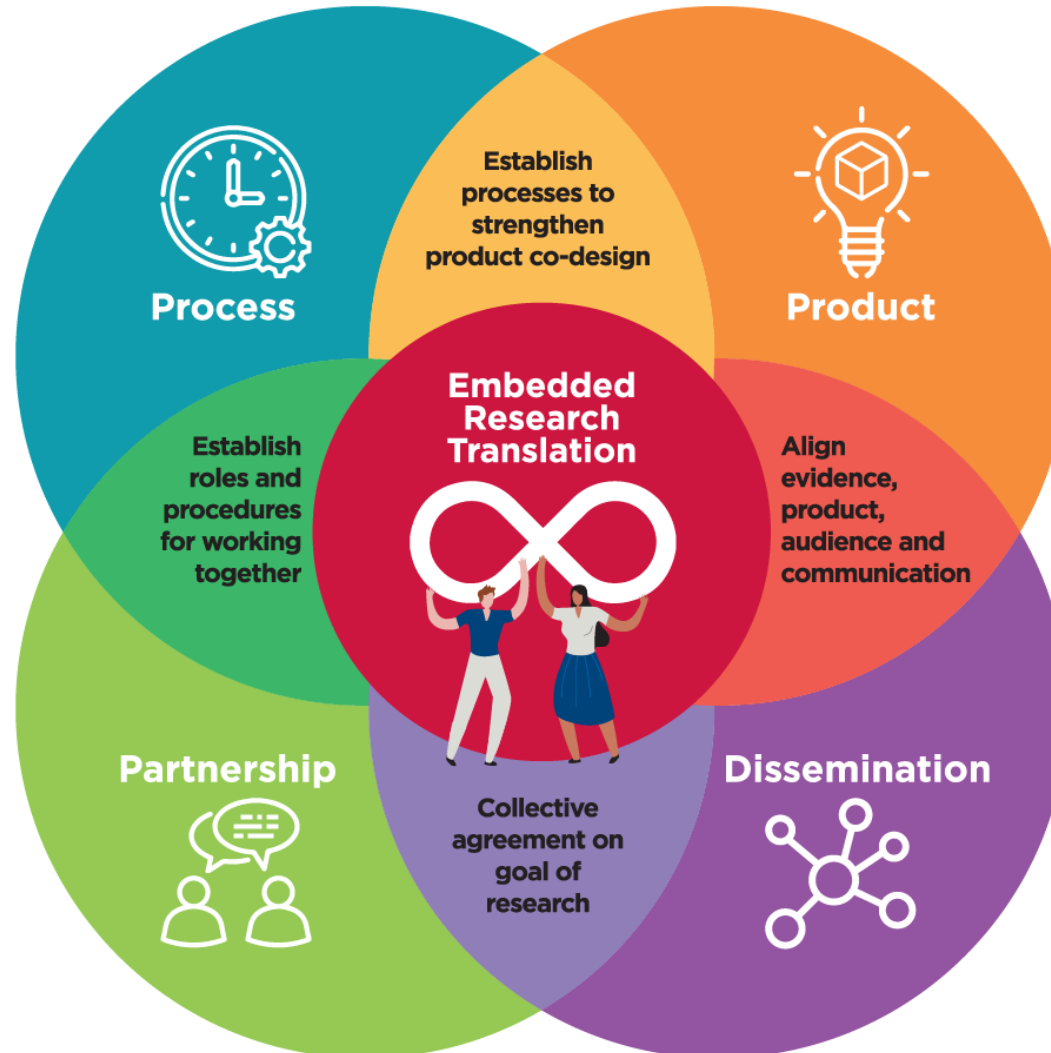
NJIT-NJII



EMBEDDED RESEARCH TRANSLATION





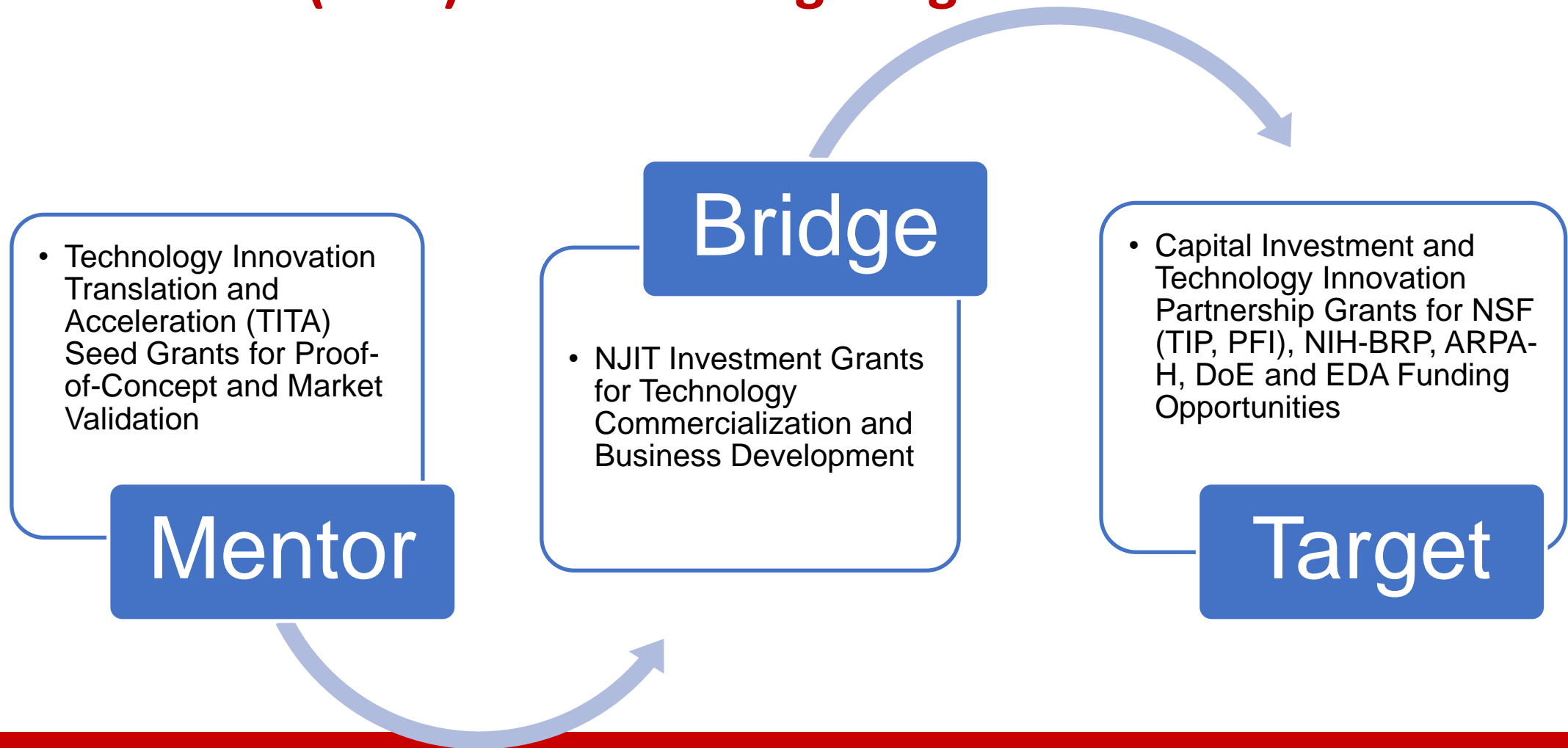


TITA Seed Grant Program

The NJIT Technology Innovation Translation and Acceleration (TITA) Seed Grant program will enable faculty and students to successfully accelerate the translation of their innovation to enterprise development and business incubation.

The TITA grant program will foster entrepreneurial pathways from research and innovation to business and value creation with the acquisition of intellectual property, market validation and engagement of stakeholders towards commercialization.

2025 Strategic Plan: Technology Innovation Translation and Acceleration (TITA) Seed Funding Program



NSF Technology Innovation Partnership Directorate: Accelerating Research Translation Grant to NJIT

Enhancements at the New Jersey Institute of Technology to Transform Translational Impact

- NSF Funding for NJIT Center for Translation Research
- NSF ART grant will focus on:
 - I. Create institutional capacity, infrastructure, and policy, for translational research activities.
 - II. Create and continually train new cohorts of graduate students and postdoctoral researchers versed in translational research to successfully create economic and/or societal impact through various career pathways, e.g., as entrepreneurs, intrapreneurs, in industry and public sectors.
 - III. Support Seed Translational Research Projects at NJIT to create immediate impact and learning opportunities for growing translational research.
- TITA Project Funding: Up to two years based on the TITA EAB Evaluation and Recommendation
- Additional resources to further develop and enhance Research, Innovation and Technology Entrepreneurship (RITE) Ecosystem

TITA Seed Grant Program Eligibility

NJIT faculty members pursuing research addressing a significant unmet market need with an innovative potential solution of high impact are encouraged to apply for TITA seed grants. The following requirements must be met at the time of the Stage-1 Idea Concept Paper submission (described below):

1. **Proof of concept** of the innovative solution to the unmet market need of high significance has been demonstrated **in laboratory settings with the ongoing research work.**
2. A **provisional or non-provisional patent application is filed** by NJIT or **a patent has been issued** to NJIT on the proposed technology.
3. **A tenured or tenure-track faculty member at NJIT should be the PI** and the applicant team must have an external industry partner for translational research validation and/or a stakeholder with entrepreneurial activity.
4. The PI, if funded, must submit a proposal to NSF TIP directorate, NIH BRP, or a similar program focused on collaborative technology innovation validation and partnership towards translation to market, or follow up with proposals for NJIT Investment Fund or similar avenues.

NJIT Microfabrication Innovation Center (MIC)

- The NJIT Microfabrication Innovation Center provides cutting edge nanofabrication and characterization facilities for research in fields ranging from bio-sensing and medical devices, drug delivery to microfluidics and MEMS fabrication.
- The MIC facility supports NJIT researchers and students as well as corporate partners in overtaking research topics within the fields of micro/nanofabrication technology.
- The multi-user cleanroom is divided into ISO 6 and ISO 7 space, with the capability of photolithography, laser writing, material deposition, wet/dry etching, metrology measurement as well as cell-based assays and biomarker assays.



NJIT Translational Research Center – NSF ART Funded



NJIT Microdevices Translational Research & Validation Center

TITA Seed Grant Funding: Medical and Non-Medical Applications

TITA Seed Grant funding of up to \$75,000 per project is available in two categories:

- Medical Devices and Biosensors: TITA Seed Grants will be awarded in Fall 2023 for the period of funding starting January 2, 2024.
- Non-Medical Technologies and Applications (such as Environment Sustainability, Advanced Manufacturing, Machine Learning and Smart Devices): TITA Seed Grants will be awarded in Fall 2023 for the period of funding starting January 2, 2024.

TITA Seed Grant Awards: Phases 1-3

Phase-1 (Up to \$25,000): Technology Innovation Translation Research and Proof of Validation: The Phase-1 proposal must incorporate collaborative research and partnership with at least one external stakeholder from industry, academia, community or local government organizations, federal labs, or professional user groups (such as physicians in hospital or private practice for medical devices). The objectives of the Phase-1 proposal must include market research for unmet need(s), developing prototype devices/technology, translational research for application validation, and assessment of all risks associated with bringing the application to market, especially with respect to competition and future growth.

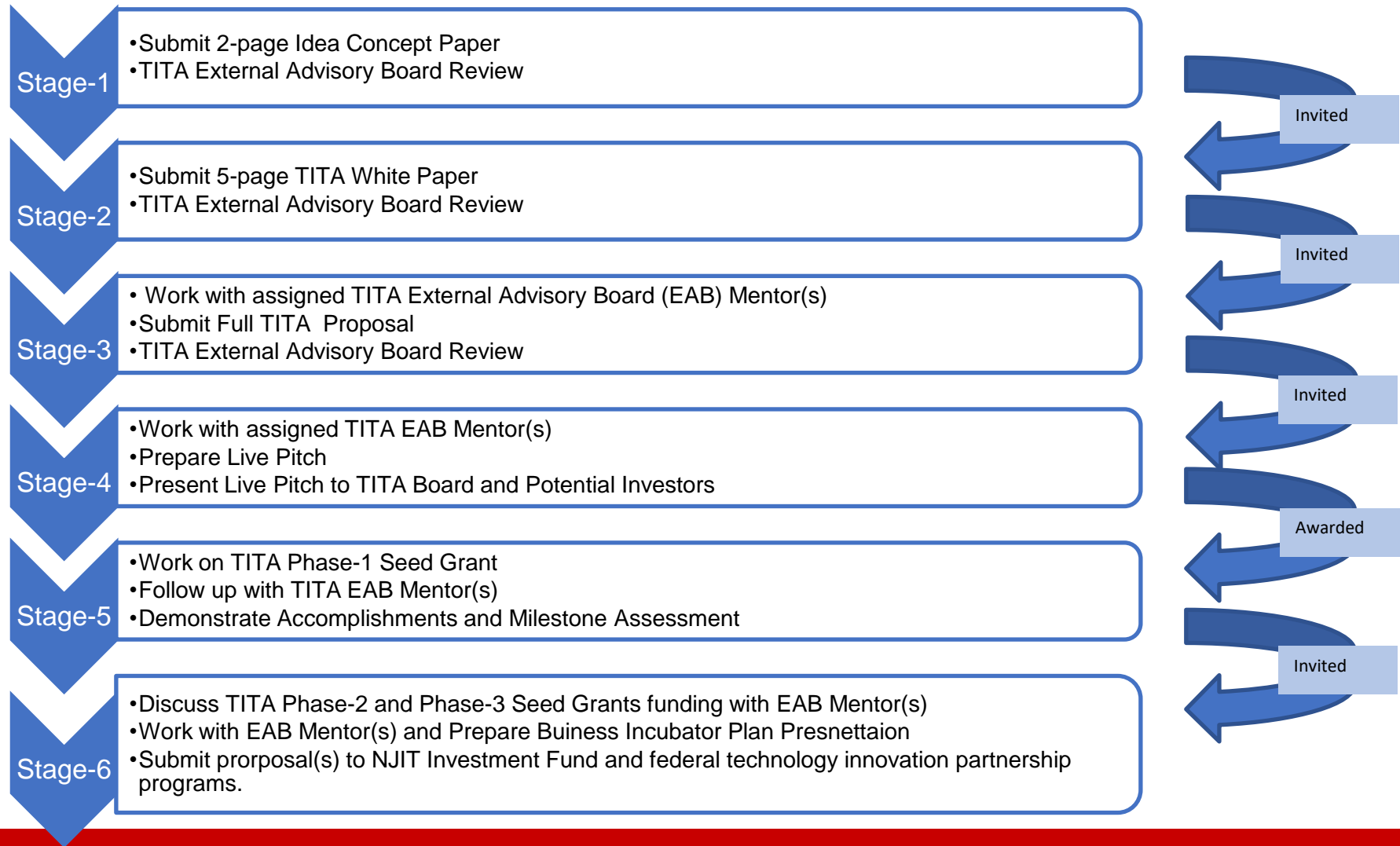
Phase-2 (Up to \$25,000): Technology Innovation Acceleration to Entrepreneurship: The Phase-2 funding will focus on the development of pre-commercial prototypes of devices or technology, scalable validation, and business plans and technology transfer to an existing company or forming a new start-up company establishing market channels. This phase, often called the early incubation stage, will include advanced market validation studies (such as early clinical trials for validation of potential medical devices). The Phase-2 goals must also include development of collaborative partnership-based business models and strategies to attract interest from external entrepreneurs, investors or a commercial entity for licensing and commercialization

Phase-3 (Up to \$25,000): Advanced Technology Innovation Acceleration to Commercialization: The collaborative partnership-based Phase-3 proposal will focus on developing commercialization plans with advanced commercialization-ready technology or product(s) and additional regulatory, business, marketing, and risk management. This phase will also include larger scalable technology validation, market trials (such as early clinical trials for medical devices) and user-acceptance studies towards submission of investment proposal and grants to secure future funding for commercialization from the NJIT Investment Fund, angel investment fund, NSF TIP or similar grant program.

TITA External Advisory Board

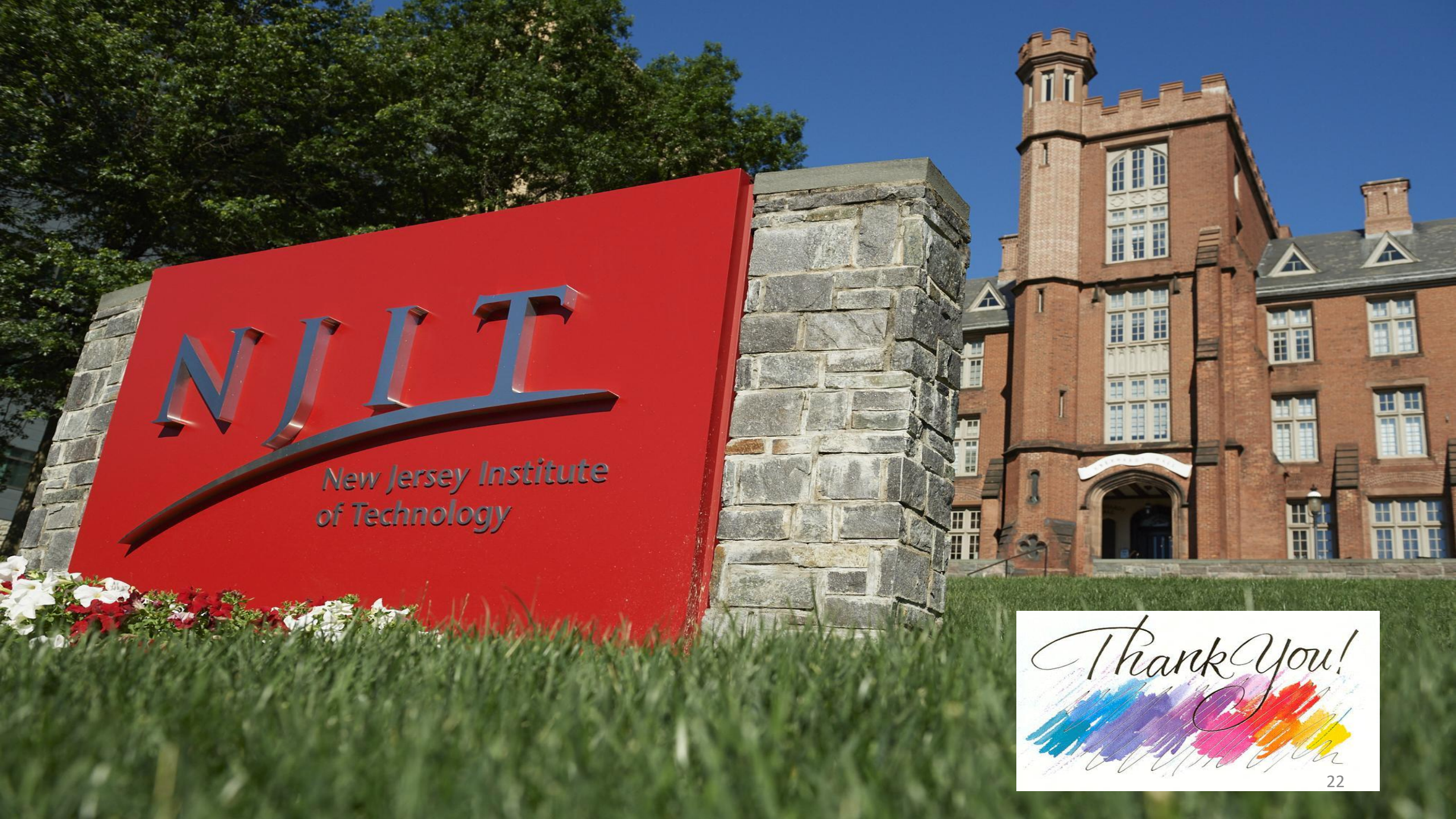
- Brian G. Kiernan is retired vice president and chief scientist of InterDigital Communications, LLC.
- Steven C. Schachter, MD is Chief Academic Officer for the Consortia for Improving Medicine with Innovation & Technology (CIMIT).
- Nicholas DeNichilo, PE, was the President and Chief Executive Officer of Mott MacDonald, North America, and currently Vice-Chair of the NJIT Board of Trustees.
- Michael Doyle, PhD is a scientist, and educator with pioneering contributions in spatial biology, cryptography, mobile AI, and Web tech. Expert in university technology transfer.
- Daniel Henderson is an innovator, entrepreneur, and artist. He was Assistant to Kazuo HASHIMOTO, a prolific Japanese inventor with over 1000 patents worldwide. He is the chair of BOO EIR Medal committee.
- Manish Patel is the founder of TrickyWater, a small business advisory firm, is currently Director of Brand Innovation at Princeton Partners, a strategic brand marketing firm.
- Marc Long is currently Executive Vice President of R&D at MTF Biologics, leading the new tissue, product and technology development teams, clinical affairs, intellectual property and grants, and project management groups.
- Govi Rao is co-founder and Managing Partner of Carbon Group Global (CGG). He has over 25 years of experience globally, across several industries, including chemicals, coatings, building materials, energy and the the IoT space.

TITA Seed Grant Proposal Submission and Award Protocol



TITA Seed Grant Proposal Submission: Due Dates

- TITA Seed Grant Announcement: September 15, 2023
- Stage-1: TITA 2-Page IDEA Concept Paper Submission: October 5, 2023
- Invitation to Submit TITA White Papers: October 9, 2023
- Stage-2: TITA 5-Page White Paper Submission: October 26, 2023
- Invitation to Submit Full TITA Proposal and Mentor Assignment: October 30, 2023
- Stage-3: TITA Full Proposal Submission: November 17, 2023
- Invitation to Live Pitch Presentation: November 22, 2023
- Stage-4: TITA Full Proposal Live Pitch Presentation to the EAB Board: December 4, 2023
- Announcement of TITA Seed Grant Award: December 7, 2023
- TITA Seed Grant Start Date: January 2, 2024



NJIT
New Jersey Institute
of Technology

Thank You!



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