Life Sciences Alliance
Provost Strategic Task Force Report

Jean Baum
Vice Provost for Life Sciences Research and Partnerships
Distinguished Professor, Department of Chemistry and Chemical Biology

Executive Steering Committee

Wendie Cohick (co-chair), Dean of Research and Graduate Education and Professor, Department of Animal Sciences, School of Environmental and Biological Sciences; Director of Research, New Jersey Agricultural Experiment Station

James Knowles (co-chair), Executive Director, Human Genetics Institute of New Jersey; Distinguished Professor, Department of Genetics, School of Arts and Sciences

Stephen K. Burley, Founding Director, Institute for Quantitative Biomedicine; University Professor and Henry Rutgers Chair, Department of Chemistry and Chemical Biology, School of Arts and Sciences

Lori Covey, Dean of Life Sciences, Professor, Department of Cell Biology and Neuroscience, School of Arts and Sciences

Kenneth Irvine, Interim Director, Waksman Institute of Microbiology; Distinguished Professor, Department of Molecular Biology and Biochemistry, School of Arts and Sciences

Wade Trappe, Associate Dean for Academic Programs, Professor, Department of Electrical and Computer Engineering, School of Engineering

Office of the Vice Provost for Research

Sheila Borges Rajguru, Director for Research Development and Strategy

Melissa Dinovelli, Program Development Specialist

Christopher Rios-Sueverkruebbe, Senior Program Coordinator

Valerie Tutwiler, Provost Leadership Research Faculty Fellow, Assistant Professor, Department of Biomedical Engineering, School of Engineering

Latest version as of October 21, 2024

Table of Contents

Executive Summary

Motivated by the Rutgers University New Brunswick (RU–NB) Academic Master Plan (AMP), the Life Sciences Alliance Provost Strategic Task Force (LSA PST) was charged with re-envisioning the Life Sciences at RU–NB. The LSA PST was composed of a subset of the RU–NB life sciences faculty (Appendix A), who held regular meetings and stakeholder engagement events throughout the 2023-2024 academic year (Appendix B). These meetings led to recommendations aimed at enabling all RU–NB faculty and staff in the life sciences to achieve their full potential. The consensus of these recommendations is presented here by the LSA Executive Steering Committee (LSA ESC; Appendix A), and if implemented, will advance research, education and community engagement in the life sciences across RU–NB. Taking into consideration the overall recommendations from the LSA PST, the LSA ESC recommends the establishment of a consortium, the Life Science Alliance (LSA).

The mission of the LSA is to serve as a bridge between existing RU–NB strengths in the life sciences, establish a community for life sciences, and promote growth in emerging areas of the life sciences with the goals of advancing discovery, innovation, partnerships, interdisciplinary research, and access to research.

The LSA will realize its mission through a collection of services that must be offered by an organization that cuts across traditional academic unit boundaries, including:

- Enhance communication among the RU-NB life sciences faculty, staff, and students through a multi-channel effort, including web and social media, to increase collaboration broadly, inform them of relevant life sciences and resources, and catalyze formation of teams of scientists working on related scientific questions, increasing scientific synergy (AMP Pillars 1 & 2);
- "Invest" in the most promising of these scientific questions ("grand challenges") by organizing regular community-building events to expand faculty collaboration, teaming and ideation (AMP Pillars 1 & 2);
- Support the development and submission of large interdisciplinary grant applications (e.g., "grand challenges", Center, Program Project, Training, Instrumentation) by providing administrative support (AMP Pillar 2);
- Enhance student access to research training and teaching at all levels by implementing Platforms for Education and Research Cores (PERCs) (Appendix C), (AMP Pillars 2 & 3), which will support education, workforce development, and industry/community engagement through activities that train students, Rutgers faculty and staff and members of industry/community in cutting-edge skills in life sciences (AMP Pillars 1, 2 & 4); and
- Enhance communication and increase collaboration with Rutgers Health (RH), other academic institutions, industry (e.g., pharmaceutical, biotechnology and data sciences), government (NJ and Federal), and communities. The LSA will be well-positioned to initiate and develop these interactions (AMP Pillars 2 &4).

Establishment of the LSA, and the strengthening of life sciences at RU–NB, will require a commitment from the University to support this new organizational structure. The following actions by Rutgers would strongly support the LSA mission:

- Institutional changes, including equitably encouraging and recognizing excellence in team science. This can be facilitated by: (1) Institutional improvements in grants management to allow focus on research activities rather than research administration and funds flow; (2) Changes in metrics related to faculty success, including adjustments to promotion criteria to reward cross-disciplinary collaboration, including those with industry and other outside partners;
- Increase Rutgers' visibility at the state, federal, and global levels by improving communications and marketing of the life sciences (and RU science more broadly);
- Support the conceptualizing of existing Institutes as integral components of the LSA, with a focus on enhancing collaboration, increasing efficiency, and further advancing life sciences to tackle grand challenges for the university and the broader community;
- Ensure all space is used productively in support of the RU-NB academic mission, by developing improved models for space management and usage, including reappropriation of underutilized space, within, between, and among schools/institutes; and
- Providing administrative and financial support to enable the LSA to offer the proposed services described above.

Introduction

Life sciences explore the complexities of living organisms, and, by its very nature, cuts across many different areas of research. Additionally, the life sciences engage society through many peripheral fields, such as social sciences, anthropology, public policy, climate, dance, art, and professional schools. While the life sciences encompass a wide array of academic disciplines across multiple RU–NB campuses, the full potential of the life sciences at RU–NB has yet to be realized.

The LSA PST recognized that to fully realize the potential of RU–NB faculty, staff, and students to tackle societal challenges and advance public knowledge, RU–NB must enhance cross-disciplinary collaboration by making strategic investments that bring together experts from diverse fields and perspectives. Notably, there is a strong relationship between the life sciences and the other Chancellor-reporting Signature Initiatives (CSIs)—Climate and Energy, Cyberinfrastructure and Data Science, and Behavioral Health—all of which have important connections to life sciences and require coordination to optimize their individual and collective success. However, merely fostering collaboration is not enough, it is necessary that RU–NB undertake a broader array of activities associated with life sciences, including:

- Increase access and training opportunity for all students in the life sciences;
- Enhance infrastructure and equipment needed to perform cutting-edge research;
- Strengthen RU–NB collaboration with Rutgers Health;
- Grow RU–NB public/private partnerships to increase impact beyond the academic setting; and
- Remove internal structural barriers that hinder collaboration and create models for existing (and future) Institutes that will maximize their contributions to LSA and AMP goals.

This report, which is a compilation of recommendations and input from a variety of stakeholders, both internal and external, will elaborate further on activities that a formal Life Sciences Alliance will focus on to grow life sciences at RU–NB, and to ensure a vibrant academic community committed to tackling grand challenges involving life sciences.

Recommendations

Task Force and Executive Steering Committee Recommendations

1. Increase Life Science Interaction across RU–NB
The LSA PST identified several hurdles that make collaboration within RU–NB challenging, including:
- Geographical distribution of Life Sciences faculty, staff, and students across multiple campuses;
- Disciplinary silos, which historically formed due to lack of a centralized organizational structure;
- Difficulty in locating the expertise and infrastructure available at Rutgers to advance idea formation, research activities, data collection, and validation of research activities; and
- Lack of institutional policies that incentivize and support collaboration on the multi- and inter-disciplinary problems that go beyond traditional academic departmental/discipline boundaries.

Proposed Actions:

- Create an easily-searchable, web-based database of RU–NB life sciences researchers organized by expertise for scientists seeking collaborators, students looking for potential mentors in specific research areas, and members of the broader New Jersey community looking to identify academic experts at Rutgers;
- Hold regular (annual or biannual) research forums coupled to networking opportunities, like the LSA Forum that was held in April 2024. These forums will provide researchers with opportunities to briefly describe their interests, thereby fostering connections with others with related interests and who might partner on future research projects. While the Spring 2024 LSA Forum was open-ended and restricted to RU–NB faculty,

future forums or alternative events might be organized around particular research areas and could include joint forums with Rutgers Health;

- Develop mechanisms to establish strategic working groups focused on fundable research topics, such as advancing microbiome therapeutics by combining knowledge in sequencing technologies, biosensors and biomanufacturing, computational biology, and personalized medicine. Deploying strategic working groups will require funding and administrative support for brain-storming sessions, workshops, discussion groups, and potential seed grants to collect needed preliminary data;
- Provide centralized and shared administrative support for large-scale grant submissions to facilitate and fund multi-PI research projects, training grants, and shared equipment grants spanning academic units; and
- Support interdisciplinary collaborations by funding fellowships for graduate students or postdoctoral researchers with multiple mentors contributing complementary expertise and/or coming from different academic units. Such collaborations could also be supported by reducing tuition expenses that post to research funds, such as federal, state and industry sources.

2. Enhance Student Access at all levels to Research Training

The LSA PST identified an underutilized opportunity to broaden how our research cores operate, from facilities which function to primarily support research, to units that also provide skill-based educational experiences and digital credentialing for undergraduate students, graduate and postgraduate researchers, and community members. We propose to broaden the role of existing (and future) core facilities into Platforms for Education and Research Cores (PERCs). We envision these PERCs as being critical components for innovative research leading to large-scale research awards, platforms for education and student success that will increase research experiences for a diverse student population, and for community and alumni engagement, industry and state-agency partnerships, while addressing all four pillars of the AMP.

As indicated in Appendix C, PERCs would accomplish four main goals by: (1) utilizing existing and new research cores as platforms that serve students and postdoctoral researchers through experiential learning; (2) offering pedagogical training by faculty core directors to researchers at all career stages, i.e., vertical teaching; (3) awarding digital credentialing so that students, postdoctoral researchers, and the external workforce may showcase their technical competencies to prospective and current employers; and (4) creating revenue streams from external workforce participants.

Proposed Actions:

- Develop a streamlined approach to centralizing PERC offerings by the RU–NB Office of the Vice Provost for Research and the LSA, in coordination with the Rutgers Office for Research;
- Catalogue current physical and virtual equipment and the existing educational programs that utilize these facilities;
- Identify technical skills that industry expects Rutgers graduates to possess and develop effective strategies for marketing to the external workforce. Conversations have already been initiated on this front through BioNJ and the LSA PST;
- Establish standard operating procedures and policies to assess the potential success of each research core and to select those best suited to be migrated to become PERCs. As new core facilities are developed, they should be envisioned as potential PERCs; and
- Develop oversight to operationalize a vertical teaching model, curriculum development, evaluation, assessment, administration, coordination, and standardization of all PERCs including digital credentialing. This approach is necessary to achieve these objectives, and the overarching goals mentioned above, ultimately identifying the highest-priority education and training programs for development within our existing and future research cores.

We recommend that RU–NB enhance efforts to develop a robust network of research facilities that supports both scientific excellence and the educational and community service missions of the university. To achieve this effectively, we need procedures that facilitate construction, remodeling and maintenance of research facilities that are accessible and affordable, enhance Rutgers' excellence in life sciences research and education, and expand access opportunities for a diverse population of users within the Rutgers community, the State of New Jersey, and beyond.

3. Enhance Collaborations with Rutgers Health

An essential element of accelerating success in the Life Sciences at RU–NB is to form a strategic partnership with Rutgers Health (RH) (New Brunswick and Newark). A comprehensive research, educational, and administrative partnership with RH will foster innovation, encourage entrepreneurship, facilitate fund raising and broaden the societal impact of discoveries made by RU–NB Life Sciences faculty members by adding a translational element to their basic science focus. Partnerships with RH already exist across multiple areas including joint graduate programs, shared use of core facilities, and joint training and equipment grants, but existing hurdles make these partnerships challenging to manage and create barriers to fully realizing the potential of partnerships between RU–NB and RH. Breaking down organizational and administrative barriers between RU–NB and RH is an essential component for fully realizing the potential of this mission-critical strategic partnership.

Proposed Actions:

- Formulate broad agreements that will encourage and enable joint faculty recruiting between RU–NB and RH;
- Establish regular meetings of high-level research leaderships of RU–NB and RH to identify areas of overlapping scientific interest and implement policies and/or solutions that increase scientific collaboration;
- Extend the proposed LSA online database (see #1, above) containing the RU–NB Life Sciences faculty and their research interests, to include the RH Life Sciences faculty;
- Align the institutional support of faculty who participate in graduate student training within and across different Chancellor-led units. A uniform approach to reducing tuition expenses supported by external sources (i.e. government, industry and foundational grants) should be explored. This will foster collaborations between RUNB and RH that are needed to pursue joint funding activities, such as NIH T32 training grants.
- Identify and build faculty teams across Chancellor-led Units to champion and apply for different training and facilities/instrumentation support mechanisms;
- Hold regular collaborative research forums between RU–NB and RH focused on themes that solve grand challenges. Enhance scholarly team formation by providing logistical support and offering joint pilot funds for new collaborative projects. Groups that receive pilot awards must report their findings, strategies, and outcomes in a future research forum(s) and networking events;
- Joint investment in large pieces of equipment that are shared across RU–NB and RH, such as cryo-electron and other advanced microscopes and high-resolution mass spectrometers, with appropriate allocation of costs to each Chancellery;
- Continue Presidential Cluster Hire initiatives to foster enhanced relationships and focused research spanning Chancellor units;
- Develop, formalize and support joint undergraduate internship programs between RU–NB and Rutgers Health in basic and applied research and clinical disciplines.

4. Enhance Collaborations with Academia, Industry, Government, and Community Partners

The long-term success of the research and educational activities carried out by members of the LSA will depend on the effectiveness and visibility of collaborations across academia, industry, government, and communities outside Rutgers. Successful structures developed to encourage intramural collaborations, described above, should be broadened to encourage our faculty to establish and nurture productive partnerships that go beyond the walls of the University.

Proposed Actions:

- The University, under the aegis of the Big 10 and other multi-institutional consortia, should develop seed-funding opportunities for Rutgers faculty that will encourage and facilitate development of research and educational partnerships with their counterparts at other universities, private research institutions, and national laboratories, when these outside collaborators have expertise that does not exist at Rutgers;

- Translation of the work of RU–NB life scientists into practice can have important societal and financial benefit. Faculty members, graduate students, and postdoctoral fellows should be taught and incentivized to make invention disclosures and engage with industrial partners (e.g., The Health and Life Sciences Exchange (The Helix));
- Partnerships and collaborations between RU–NB life scientists and local, regional, and federal government agencies should be encouraged and facilitated by the University;
- Bidirectional community engagement should be encouraged and facilitated across the RU–NB LSA. The future success and fiscal health of the University depend on what the citizens of New Brunswick and the State New Jersey think about the value of basic and applied life sciences research and education; and
- Form collaborations with the New Jersey pharmaceutical and biotechnology industry. These might be facilitated by BioNJ, or through the Annual Healthcare Symposium of the Rutgers Business School's Lerner Center or other relationships. LSA would be a "contact point" to start and extend these relationships and have templates for MTAs and other agreements, so they can be initiated rapidly.

Executive Steering Committee Recommendations

Organizational Outline for the Life Science Alliance (LSA)

Taking into consideration the overall recommendations from the LSA PST, the ESC addressed the organizational challenge that involves establishing an integrated and collaborative operations model that aligns with the RU–NB Academic Master Plan, works across academic silos, fosters new collaborations, and expands RU–NB's broader impact while maximizing operational efficiency. The LSA will be organized around two key dimensions: identifying thematic areas in the life sciences that represent strategic opportunities for development and a collection of supporting services that will facilitate the successful growth of these areas.

Based on the discussion in the previous sections of this report, an initial set of *services* would include:
- Education and workforce development, which will be forward-looking and directed at enhancing student, staff and faculty knowledge in emerging life science skills.
- Tools and activities that promote the success of cross-disciplinary research, which will focus on fostering cross-pollination of ideas, supporting the discovery of collaborators, and support the development of grant applications.
- Community and partner engagement, which will strive to build and maintain strong relationships with industry and government partners, and with RH, with the goal that RU–NB becomes a trusted collaborator in addressing grand challenges.
- Scientific communications, which will have the goal of representing the importance of RU-NB life sciences activities and discoveries to the broader community.
- Management and coordination with the RU–NB administration that will focus on overseeing the effectiveness of the LSA and synergizing with other Chancellor Initiatives (Climate and Energy, Cyberinfrastructure and Data Science, and Behavioral Health Equity), which all have important connections to life sciences.
- Fundraising dedicated to life sciences research and increasing opportunities for undergraduate students to engage in research.

Life Science Alliance Management (LSA)

The management of the LSA should be led by a collaborative team involving representatives from multiple academic units, as well as the existing Chancellor-reporting Life Sciences Institutes (LSIs): Human Genetics Institute of NJ (HGINJ), the Institute for Quantitative Biomedicine (IQB), and the Waksman Institute of Microbiology (WIM). The LSA management support staff is critical and should reside with the OVPR or involve sharing of staff from across the LSIs (HGINJ/IQB/WIM) and other academic units.

The LSA leadership team should meet regularly for strategic planning, setting short and long-term goals, and to develop strategies to achieve success in the life sciences, including defining metrics to measure success. This team should also have regular meetings focused on ensuring that the operations are efficient, that projects/services are on-

target, and that the best approaches are developed to maintain effective operation of the Alliance. Regular financial update meetings should be discussed by the LSA and the OVPR, the executive deans, and representatives from NB Chancellor and Provost offices.

To ensure that the LSA supports an effective collaborative environment, it is essential that the LSA management coordinates both with closely aligned organizations, like the existing LSIs, and with partially aligned organizations, such as those associated with other Chancellor Initiatives. The LSA should engage with the academic units, RCEI, Cyberinfrastructure and Data Science, Behavioral Health Equity Initiative, and RH. It is further recommended that the HGINJ/IQB/WIM, which have been successful across a variety of metrics, including a strong track record of NIH funding, be integrated under the umbrella organization of the LSA with cross-cutting roles that involve multiple thematic areas. These relationships are intended to ensure the flow of information, optimize resource utilization while reducing costs, and aligning activities with external expertise with the goal of enhancing the synergies needed to maximize the impact of life sciences at Rutgers.

ESC Perspective: LSA Alignment with RU–NB AMP

During the formation of the recommendations outlined in this document, the ESC was motivated by the need to ensure its recommendations aligned with the roadmap outlined in the RU–NB Academic Master Plan. The proposed formation of the LSA and the recommendations focused on further developing collaboration within RU–NB are mostly directed at supporting Pillar I and Pillar II. Additionally, enhanced research networks will support Pillar III by creating new opportunities for students to engage in impactful research. These networks will also support Pillar IV by facilitating interactions between academic units traditionally focused on fundamental research with academics engaged in addressing societal impacts, transmission, and translation of research discoveries.

Appendices

Appendix A: Life Sciences Alliance Provost Strategic Task Force Membership

Executive Steering Committee

Stephen K. Burley, Founding Director, Institute for Quantitative Biomedicine; University Professor and Henry Rutgers Chair, Department of Chemistry and Chemical Biology, School of Arts and Sciences

Lori Covey, Dean of Life Sciences and Professor, Department of Cell Biology and Neuroscience, School of Arts and Sciences

Wendie Cohick (co-chair), Dean of Research and Graduate Education and Professor, Department of Animal Sciences, School of Environmental and Biological Sciences; Director of Research, New Jersey Agricultural Experiment Station

Kenneth Irvine, Interim Director, Waksman Institute of Microbiology; Distinguished Professor, Department of Molecular Biology and Biochemistry, School of Arts and Sciences

James Knowles (co-chair), Executive Director, Human Genetics Institute of New Jersey; Distinguished Professor, Department of Genetics, School of Arts and Sciences

Wade Trappe, Associate Dean for Academic Programs and Professor, Department of Electrical and Computer Engineering, School of Engineering

Task Force Members

Ioannis Androulakis, Professor, Departments of Biomedical Engineering and Chemical and Biochemical Engineering, School of Engineering

Vanessa Bal, Associate Professor, Department of Applied Psychology, Graduate School of Applied and Professional Psychology

Annika Barber, Assistant Professor, Department of Molecular Biology and Biochemistry, School of Arts and Sciences

Nicholas Bello, Chair and Professor, Department of Animal Sciences, School of Environmental and Biological Sciences

Debashish Bhattacharya, Distinguished Professor, Department of Biochemistry and Microbiology, School of Environmental and Biological Sciences

Kasia Bieszczad, Associate Professor, Department of Psychology, School of Arts and Sciences

Shishir Chundawat, Associate Professor of Chemical and Biochemical Engineering, Department of Chemical and Biochemical Engineering, School of Engineering

Monica Driscoll, Distinguished Professor, Department of Molecular Biology and Biochemistry, School of Arts and Sciences

Nicole Fahrenfeld, Associate Professor, Department of Civil and Environmental Engineering, School of Arts and Sciences

Paul Falkowski, Bennett L. Smith Chair and Board of Governors Professor, Departments of Earth and Planetary Sciences and Marine and Coastal Sciences, School of Environmental and Biological Sciences

Patricia Findley, Associate Dean for Academic Affairs and Professor, School of Social Work

Jeff Friedman, Professor, Department of Dance, Mason Gross School of the Arts

Bingru Huang, Distinguished Professor, Department of Plant Biology, School of Environmental and Biological Sciences

Sagar Khare, Member, Institute for Quantitative Biomedicine; Professor, Department of Chemistry and Chemical Biology, School of Arts and Sciences

Mike Kiledjian, Chair and Distinguished Professor, Department of Cell Biology and Neuroscience, School of Arts and Sciences

Kelvin Kwan, Associate Professor, Department of Cell Biology and Neuroscience, School of Arts and Sciences

Mei Ling Lo, Science Research Librarian, Library of Science and Medicine, Rutgers University Libraries

Steven Malin, Associate Professor, Department of Kinesiology and Health, School of Arts and Sciences

David Margolis, Associate Professor, Department of Cell Biology and Neuroscience, School of Arts and Sciences

Tara Matise, Chair and Distinguished Professor, Department of Genetics, School of Arts and Sciences

John McGann, Professor, Department of Psychology, School of Arts and Sciences

Travis Miles, Associate Professor, Department of Marine and Coastal Sciences, School of Environmental and Biological Sciences

Assimina Pelegri, Chair and Professor, Department of Mechanical and Aerospace Engineering, School of Engineering

Karen Schindler, Professor, Department of Genetics, School of Arts and Sciences

Igor Shmarakov, Assistant Professor, Department of Animal Sciences, School of Environmental and Biological Sciences

Alvaro Toledo, Assistant Professor, Department of Entomology, School of Environmental and Biological Sciences

Maribel Vazquez, Professor, Department of Biomedical Engineering, School of Engineering

Danni Wang, Associate Professor, Department of Management and Global Business, Rutgers Business School

Rutgers–New Brunswick Research Dean Advisory Board

Mark Aakhus, Associate Dean for Research and Professor, Department of Communication, School of Communication and Information

Clinton Andrews, Associate Dean for Faculty and Professor, Department of Urban Planning and Policy Development, E. J. Bloustein School of Planning and Public Policy

Petra Christmann, Vice Dean for Faculty Affairs and Research and Professor, Rutgers Business School

Rebecca Cypess, Associate Dean for Academic Affairs and Professor, Department of Music, Mason Gross School of the Arts

Robin Davis, Vice Dean for Research and Graduate Education and Professor, Department of Cell Biology and Neuroscience, School of Arts and Sciences

Marybeth Gasman, Associate Dean for Research, Faculty Development, and Research Outreach, Samuel deWitt Endowed Chair in Education, and Distinguished Professor, Department of Educational Psychology, Graduate School of Education

Robin Leichenko, Dean of Social and Behavioral Sciences, and Professor, Department of Geography, School of Arts and Sciences; Co-Director, Rutgers Climate Institute

Mingwei Liu, Associate Dean for Research and Professor, Department of Labor Studies and Employment Relations, School of Management and Labor Relations; Director, Center for Global Work and Employment

Thu Nguyen, Dean of Mathematical and Physical Sciences and Professor, Department of Computer Science, School of Arts and Sciences

Lia Nower, Associate Dean of Research and Distinguished Professor, School of Social Work

Linda Reddy, Associate Dean of Research and Professor, Department of School Psychology, Graduate School of Applied and Professional Psychology

Rebecca Walkowitz, Dean of Humanities and Distinguished Professor, Department of English, School of Arts and Sciences

Rutgers Health[1] Advisory Board

Gary Aston Jones, Director, Brain Health Institute; Murray and Charlotte Strongwater Endowed Chair in Neuroscience and Brain Health, RWJM

Martin Blaser, Henry Rutgers Chair of the Human Microbiome and Professor, Departments of Medicine and Microbiology, Robert Wood Johnson Medical School

Steven Libutti, Vice Chancellor for Cancer Programs; Senior Vice President, Oncology Services, RWJ Barnabas Health; Director, Rutgers Cancer Institute of New Jersey; Professor of Surgery, Rutgers Robert Wood Johnson Medical School

M. Maral Mouradian, Vice Chancellor for Faculty Development; William Dow Lovett Endowed Chair for Parkinson's Research and Distinguished Professor of Neurology, Department of Neurology

Bishr Omary, Senior Vice Chancellor for Academic Affairs and Research; Henry Rutgers Professor of Biomedical Sciences, Department of Medicine, Robert Wood Johnson Medical School

Kathleen Scotto, Vice Chancellor for Research; Dean and Professor, Department of Pharmacology, Rutgers Graduate School of Biomedical Sciences

Office of the Vice Provost for Research

Sheila Borges Rajguru, Director for Research Development and Strategy

Melissa Dinovelli, Program Development Specialist

Christopher Rios-Sueverkruebbe, Senior Program Coordinator

Valerie Tutwiler, Provost Leadership Research Faculty Fellow, Assistant Professor, Department of Biomedical Engineering, School of Engineering

---

[1] Formerly Rutgers Biomedical and Health Sciences

Appendix B: Fall 2023 LSA PST Schedule

Date	Topic	Speaker
November 2022- January 2023	Background research/benchmarking for internal and external Life Sciences institutes, centers, schools, etc.	
December 2022- February 2023	Life Sciences Listening Tour (meetings with NB school leadership)	
February 2023- March 2023	Generate Champions meeting invite list, meeting materials, work with Lewis-burke representatives for federal landscape	
April 11, 2023	Champions Meeting, receive nominations for taskforce/committee members	
May 15, 2023	Weekly OVPR Leadership LSA Meetings Begin	
May 18, 2023	Select Executive Steering Committee (ESC), meet with ESC, select Advisory Group(s)	
June 2023	Select task force members (work through July for final list); invite task force members, reserve space for meetings, and invite members to the meeting dates	
July 2023	Finalize PST meeting schedule; invite guest speakers	
August 2023	Update OVPR website with task force members; plan kick-off meeting	
September 14, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
September 21, 2023	Kickoff meeting	Saundra Tomlinson-Clarke, Provost
September 28, 2023	Existing areas of research strengths	ESC starts with 30-minute highlights from their respective schools or institutes
October 5, 2023	Existing areas of research strengths	
October 12, 2023	Emerging areas for research	Lewis and Burke, LLC
October 19, 2023	Emerging areas for research	

October 25, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
October 26, 2023	Institutional infrastructure needs for supporting the identified strengths and emerging areas	Mike Zwick, Senior Vice President for Research
November 2, 2023	Institutional infrastructure needs for supporting the identified strengths and emerging areas	Jeetu Eswaraka, Vice President, Universitywide Core Services and Vince Smeraglia, Executive Director, New Ventures, Office for Research
November 6, 2023	LSA ESC Pre-Planning meeting	
November 8, 2023	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
November 9, 2023	RBHS partnerships - identifying key areas for partnership	Kathy Scotto, Vice Chancellor for Research, Rutgers Health
November 16, 2023	RBHS Partnerships that will be needed to accelerate success of emerging areas and to bolster existing strengths	
November 20, 2023	LSA ESC Pre-Planning meeting	
November 23, 2023	*Thanksgiving break*	
November 27, 2023	LSA ESC Pre-Planning meeting	
November 30, 2023	Bridge existing strengths with emerging areas	
December 6, 2023	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
December 7, 2023	AMP Workshop II: Innovative Research	
December 14, 2023	Explore what the infrastructure framework might look like	
December 29, 2023-January 18, 2024	*Winter Break*	
January 3, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
January 10, 2024	LSA ESC Pre-Planning meeting	
January 17, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
January 18, 2024	LSA ESC Pre-Planning meeting	

January 25, 2024	Interim Report Due	
January 25, 2024	LSA PST Meeting: Cyberinfrastructure/Data Science	Mark Aakhus, Co-chair of Data Science & Cyberinfrastructure Taskforce
January 31, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
February 1, 2024	Preparations for PST Meetings	
February 8, 2024	Initial discussion on industry partnerships	
February 14, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
February 15, 2024	Planning for Graduate Programs and PERCS	
February 22, 2024	Brief Discussion of the LSA Forum & Planning for ESC meeting on the Institute Model	
February 26, 2024	LSA ESC Pre-Planning meeting	
February 28, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
February 29, 2024	LSA PST Meeting: Graduate Programs	
March 7, 2024	Review Forum application submissions and plan for discussion on existing institute model and LSA umbrella	
March 11-15, 2024	*Spring Break*	
March 21, 2024	Planning for BioNJ Meeting and discuss data sciences and the life sciences	Brian Cañares, Digital Badge Coordinator for RU–NB Office of the Chancellor
March 28, 2024	BioNJ Meeting with the PST LSA, ESC, and OVPR	Debbie Hart, President and CEO, BioNJ Peter Cheifetz, Boehringer Steve Parent, Kathera Bioscience Wayne Rowe, Santafee

		Kim Bartra, Genmab
		Viraj Mane, Lactiga
		Kathleen Kelly, PsychoGenics
		Jennifer Ryan, Ferring Pharma
		Martin Rexroad, PTC Therapeutics
		Debbie Mennito, BioNJ
		Loic Le Hir de Fallois, Boehringer
April 4, 2024	Planning for the April 25 Meeting on industry partnerships; discussion on data sciences and the life sciences	
April 8, 2024	LSA ESC Pre-Planning meeting	
April 10, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
April 11, 2024	LSA PST on Data Science and Computing Needs	Michele Norin, Senior Vice President and Chief Information Officer
April 15, 2024	LSA ESC Pre-Planning meeting	
April 18, 2024	Life Sciences Alliance Forum Location: Institute for Quantitative Biomedicine 76 Attendees; 30 Presentations; 22 Departments represented Request for Proposals: Life Sciences Alliance Seed Funding open on InfoReady	
April 22, 2024	LSA ESC Pre-Planning meeting	
April 24, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
April 25, 2024	LSA PST: Industry Discussion and Padlet Session for overall LSA Recommendations	
May 2, 2024	ESC Meeting: Final Report Writing Session	

May 8, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
May 9, 2024	ESC Meeting: Final Report Writing Session	
May 15, 2024	Request for Proposals (RFP): Life Sciences Alliance Seed Funding Deadline 19 proposals were submitted.	
May 16, 2024	ESC Meeting: Final Report Writing Session	
May 16-22, 2024	RFP: Life Sciences Alliance Seed Funding Reviews	
May 22, 2024	Biweekly Meeting with LSA Co-Chairs and VPLSRP	
May 23, 2024	- ESC Meeting: Seed Funding Selection Session - Final Report Writing Session - Six Interdisciplinary LSA proposals were selected for pilot seed funding: 1. **Gaitkeeping: A Person-with-Parkinson's designed Innovative Telehealth Intervention towards Improved Gait Health and Wellness** Team: Dr. Jeff Friedman, Dr. Simiao Niu, Dr. Roseanne Dobkin, Dr. Natalie Schultz-Kahwaty, Pamela Quinn, Colin O'Connor Chancellor Led Unit(s): RU-NB & RUH School(s): Mason Gross School of the Arts, School of Engineering, Rutgers Health Awarded: $40,000 2. **An interdisciplinary approach to examine the effects of neuroinflammation from high fat diets** *Dr. Maribel Vazquez, Dr. Nicholas Bello and Dr. Bonnie L. Firestein* Chancellor Led Unit(s): RU-NB School(s): School of Engineering, School of Environmental and Biological Sciences, School of Arts and Sciences Awarded: $40,000 3. **Steroid Hormone Monitoring to Develop a Model for Coral Reproduction** Dr. Debashish Bhattacharya, Dr. Mehdi Javanmard, Dr. Xiaoyang Su, Dr. David Sleat, and Dr. Haiyan Zheng Chancellor Led Unit(s): RU-NB & RUH School(s): School of Environmental and Biological Sciences, School of Engineering, Rutgers Health Awarded: $40,000 4. **Disease Gene Discovery on Gene Interaction Networks with Hidden Nodes** Dr. Min Xu and Dr. Jinchuan Xing Chancellor Led Unit(s): RU-NB School(s): School of Arts and Sciences Awarded: $40,000	

	5. **Translating neuronal mechanisms for brain function to computing primitives for artificial intelligence** Dr. Konstantinos Michmizos and Dr. Philip Parker Chancellor Led Unit(s): RU-NB School(s): School of Arts and Sciences Awarded: $40,000 6. **Essential Worker and Environmental Microbiome, Resistome, and Mobilome in Hotspots of Antibiotic Resistance** Dr. Nicole Fahrenfeld, Dr. Gediminas "Gedi" Mainelis, Dr. Maria Gloria Dominquez-Bello, and Dr. Taewon Han Chancellor Led Unit(s): RU-NB School(s): School of Engineering, School of Environmental and Biological Sciences Awarded: $39,932	
May 30, 2024	ESC Meeting: Final report due	
June 3, 2024	RFP Seed Funding awardees notified of their selection.	
June 11, 2024	RFP Seed Funding Rejections sent.	
June 14, 2024	Weekly OVPR Leadership LSA Meetings End	

Appendix C: Platforms for Education and Research Cores (PERCs) Figure

Platform for Education and Research Cores

Four Main Goals

Existing and New Research Cores
- Physical
- Virtual

Experiential Learning
- Undergraduate Students
- Graduate Students
- Postdoctoral Researchers
- External Workforce

Vertical Teaching
- Faculty
- Postdoctoral Researchers
- Graduate Students

Digital Credentialing
- Revenue Stream

IMPACT

Research Experiences for Diverse Student Population
Community and Alumni Engagement
Industry and State Agency Partnerships
Broader Impacts for Large-Scale Funding