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Kaput Center for Research and Innovation in STEM Education

ANNUAL REPORT FY 2024-2025

KAPUT CENTER FOR RESEARCH AND INNOVATION IN STEM EDUCATION

OCTOBER 14, 2025

Foreword

All Academic Institutes and Centers at UMass Dartmouth are required to prepare an annual report for the fiscal year just completed, and this report fulfills this requirement for FY25.

A product of Kaput Center for Research and Innovation in STEM Education, University of Massachusetts Dartmouth

https://www.umassd.edu/kaput-center/

The information and analysis in this report does not represent an official statement of view of the University of Massachusetts.

UNIVERSITY OF MASSACHUSETTS DARTMOUTH KAPUT CENTER FOR RESEARCH AND INNOVATION IN STEM EDUCATION

The Kaput Center for Research and Innovation in STEM Education is an interdisciplinary University Research Center that conducts innovative research in the teaching and learning of mathematics in all educational contexts. It is an academic Center located administratively with the School of Education in the College of Arts & Sciences.

Shakhnoza Kayumova, Ph.D. – Director**, Kym Welty** – Grants Support Specialist

EXECUTIVE BOARD FY25

- **Paul Fredette**, MSEE (Board Chair), President & Founder of Promptus Communications, Inc. & Chief Technology Officer of American Doctors Online *(term expires 11/27)*
- **James Burke**, PhD, Engineering/Technology Teacher at Somerset-Berkley Regional High School *(term expires 11/27)*
- **Karen Chang**, PhD, Instructor of Chemistry at Naval Academy Preparatory School *(term expires 11/27)*
- **Marylou T. Clarke**, CAGS, Assistant Superintendent, Dartmouth Public Schools (Retired) *(term expires 11/27)*
- **Elizabeth Cullen**, BA, Director/Co-Founder of Rhode Island STEAM Academy *(term expires 11/27)*
- **Robert Gegear**, PhD, Associate Professor of Biology at UMass Dartmouth *(term expires 9/25)*
- **Michael Goodman**, PhD, Sr. Advisor to the Chancellor for Economic Development & Strategic Initiatives at UMass Dartmouth *(term expires 9/25)*
- **Beste Gucler**, PhD, Associate Professor of Math Education at UMass Dartmouth *(term expires 10/26)*
- **Trina Kershaw**, PhD, Professor of Psychology at UMass Dartmouth *(term expires 9/25)*
- **Walter Stroup**, PhD, Associate Professor & Chair of Department of Education at UMass Dartmouth *(term expires 10/26)*
- **Jay Wang**, PhD, Professor & Chair of Physics at UMass Dartmouth *(term expires 11/27)*
- **David Welty**, PhD, Supervisor of Curriculum, Instruction, & Assessment at Fairhaven High School *(term expires 11/27)*
- **Stephen Witzig**, PhD, Associate Professor of Science Education & Graduate Program Director, STEM Education PhD at UMass Dartmouth *(term expires 11/27)*

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Mission

The Kaput Center for Research and Innovation in STEM Education at the University of Massachusetts Dartmouth was established on March 1st, 2007. The Center was established in the spirit and vision of James J. Kaput, whose innovative thinking and leadership inspired many in the field of mathematics education. The purpose of this Center is to provide a focus and support for sustained investigation of foundational issues in the field of STEM education, issues that will be chosen to enhance and deepen ongoing research by its members and associates. The Center is an interdisciplinary research unit where fundamental problems in STEM education are studied, discussed and analyzed through conferences, interdisciplinary colloquium series, basic research and development, commissioned reports, and think-tank meetings.

This document reports the progress toward the fulfillment of this mission for the period starting July 1, 2024 ending June 30, 2025, which is Fiscal Year 2025. This document was prepared by Dr. Shakhnoza Kayumova, Director of the Center with support from Kimberly Welty, Grant Support Specialist.

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Introduction

The Kaput Center for Research and Innovation in STEM Education at the University of Massachusetts Dartmouth (hereon called the "Kaput Center") was founded by Professors Blanton, Hegedus and Moreno-Armella of the Department of Mathematics. The Kaput Center grew out of Professor Jim Kaput's aim of democratizing mathematics for all learners.

President Jack Wilson approved its establishment on February 14th, 2007 and it was officially established by Dr. Anthony Garro, Provost of the University of Massachusetts Dartmouth, on March 1st, 2007.

Dr. Stephen Hegedus, Professor in the Department of Mathematics, was appointed the Center's first Director by Provost Garro and Chancellor MacCormack.

During the initial period of its establishment (March – June of FY07) the Director and the founding faculty established an Executive Board and External Advisory Board. Projects of the Mathematics Education faculty were transferred to the Center and an agenda for the operation and events of the Center for the upcoming years was established.

In 2014, Professor Hegedus resigned from UMass Dartmouth, leaving the Kaput Center in the hands of Professors Goodman, Güçler, and Orrill serving as Interim Directors while a permanent director was sought. The search for a permanent director for the Kaput Center in FY 2015 was not successful, thus the leadership structure remained the same for FY2016. In FY2017, Professor Walter Stroup joined the leadership team and Professor Goodman stepped into the role of Chairperson of the Executive Board without additional duties. At the end of FY2017, an internal search was conducted, and Professor Chandra Orrill was named the Director of the Kaput

Center effective July 1, 2017. Professor Goodman continued serving in his capacity as Chairperson of the Board. Professors Orrill and Goodman resigned from their respective positions in July 2020. At that time, the Kaput Center was put on pause because of the limitations of trying to operate during the COVID shutdown. In September 2021, Dr. Orrill was reinstated as the director of the Kaput Center. On May 31, 2023, Dr. Orrill left UMass Dartmouth. An internal search was conducted and Dr. Shakhnoza Kayumova was named the new Kaput Center Director effective June 6, 2023.

This report documents the ongoing work of the Kaput Center through FY2025.

Director's End of Year Report

I am pleased to share the Kaput Center's Annual Report for 2024–2025. This year reflects both the continuity of our mission and meaningful new milestones that expand our community outreach, research reach, and impact.

In the fall, we organized our signature event, STEM4Girls 2025, which set a new record for participation. Over 400 girls, families, and community members attended across two days, making this our largest and most impactful STEM4Girls event to date. We were privileged to welcome keynote speakers Dr. Yasmin Kafai (University of Pennsylvania) and Dr. Greses Pérez (Tufts University), whose talks inspired students, faculty, and community partners. The students' voices captured the significance of the event. Comments such as "*This is the best day ever*," "*I want this to be my school,*" and "*I loved the speakers and want to be like them*" reminded us of the power of community-centered outreach. The enthusiasm and energy from participants, combined with the tireless efforts of our volunteers, faculty, and staff, underscored the Kaput Center's role in connecting the university with the broader community.

Building on the momentum of the program, I applied for funding from the Jacobs Foundation and the Blue Economy Initiative to support the continuation and expansion of STEM4Girls in local schools. I am pleased to report that we received funding from both sources, enabling us to broaden the program's reach and deepen its impact across the South Coast region. In addition, I am thrilled to share that we received our first NSF award under my leadership as Director: $1,642,502 to UMass Dartmouth and nearly $4 million across all partners. The project, Teaching for the Anthropocene, represents a significant national and international collaboration that I have been building since I became a director, including the Smithsonian Institution (California), University College London, colleagues in Canada (University of Toronto), and Cal State. This award strengthens our research portfolio and demonstrates the Kaput Center's growing influence in STEM education.

In FY25, we expanded the Center's institutional presence through intentional cross-college engagement. I met with Dean Fan (College of Engineering), Dean Jones (College of Arts and Sciences), department heads in Engineering, and faculty across multiple colleges to identify shared priorities and grow interdisciplinary efforts. These conversations opened new pathways for collaboration, connecting STEM education, engineering design, computer science, and environmental systems. I also worked closely with the Chief Research Officer, Dr. Yanlai, meeting with him monthly about the center's priorities. While these meetings and collaborations require sustained time and coordination, they have proven to be deeply generative, opening new avenues for research, funding, and student engagement. For instance, two Kaput Center Ph.D. students were supported by the UMassD Center for Cybersecurity to conduct research during the Winter and Summer of 2024-2025. This partnership expanded our students' exposure to interdisciplinary STEM domains and provided tangible support for their scholarly development.

In a related development, we were invited to join a cross-college research proposal with UMassD engineering and mathematics faculty, *Engineering Research Center for NExt-gen Bioinspired BUiLding Alliance (NEBULA)* proposal, led by Worcester Polytechnic Institute. Out of more than 250 proposals submitted nationally, only 25 advanced to the final round, highlighting the exceptional competitiveness of this opportunity. Beyond these opportunities, we submitted

external grants totaling over $2.5 million, reflecting the dedication of our faculty and graduate students to advancing innovation in STEM education.

The Kaput Center's research productivity this year has been exceptionally strong. We continue to serve as an intellectual hub actively utilized by graduate students and faculty for collaboration, writing, and professional development. Weekly *Brown Bag Fridays*, organized by Dr. Stroup, provided a consistent space for sharing research, discussing theory, and fostering cross-disciplinary dialogue. Externally funded projects sustained a robust culture of mentorship and scholarship: federal grants supported at least five Ph.D. students with research assistantships, advancing their development while enriching our collective scholarly output.

This productivity is reflected in an impressive record of scholarly dissemination. In 2025 alone, Center-affiliated faculty and students contributed to more than ten major conference presentations and seven peer-reviewed publications. These accomplishments highlight the Center's growing reputation as a site of interdisciplinary, justice-oriented, and globally connected research. The diversity of venues, from international science education conferences to high-impact journals, reflects not only the Center's scholarly reach but also our community's shared commitment to reimagining the future of STEM education.

A major portion of the year was devoted to relocation. The Kaput Center and its affiliated labs moved due to the closure and renovation of the LARTS building. This process required months of planning, packing, and coordination by Center staff and students. In Spring 2025, we relocated to Room 107 in the Textiles building. The temporary space is considerably smaller, necessitating storage for a large portion of our books, equipment, and materials. Despite these logistical challenges, research, teaching, and outreach continued with minimal disruption, a testament to our team's adaptability and dedication.

Internally, we made significant progress in infrastructure and planning. The activities and scope schema developed last year was implemented, providing clarity for operations and initiatives. Graduate students from our PhD and MAT programs remain deeply involved in outreach, research, and grant development. These efforts ensure the Kaput Center remains a collaborative hub where faculty, students, and community partners intersect to advance research and practice.

Looking ahead, our priorities include expanding external funding, growing our public presence through a redesigned website, and strengthening partnerships locally and globally. The momentum from this year positions us to deepen our impact in the years ahead.

Acknowledgments: I extend my gratitude to our board members, faculty, staff, and graduate students for their continued support and contributions. I also want to thank our volunteers, keynote speakers, and community partners whose involvement has made our work possible. Together, we are building on the legacy of the Kaput Center and shaping its future as a leader in STEM education and outreach.

Dr. Shakhnoza Kayumova

Kaput Center Infrastructure

Executive Board & Duties

1. Membership and Eligibility. The Executive Board will consist of the Director of the Kaput Center, ex-officio, and no more than fifteen other individuals who shall be faculty members at an accredited institution of higher education; qualified professional practitioners with a documented record of scholarship or professional experience in education or educational policy, particularly, but not constrained to, STEM education research; or drawn from positions of leadership in the public, non-profit, and private sectors. At least 50% of the Executive Board members will be employees of UMass Dartmouth. The Director will invite and accept nominations for members of the Executive Board for review by the Executive Board. All members of the Executive Board agree to execute the mission of the center in collaboration with other Executive Board members and abide by the policy on center operations. A full list of members will always be displayed in the Kaput Center and included in the Annual Report.

2. Chair. The Executive Board will elect one member to serve as the Chair of the Executive Board for each year. This position will be voted on at the last meeting of each academic year to be active at the first meeting of the new academic year. The candidate receiving the most votes will be the Chair. The Chair will work with the Kaput Center Director to build meeting agendas and will serve as an advisor to the Director on issues that are timely in nature.

3. Meetings. The Executive Board will be convened quarterly by the Director of the Kaput Center. The Director of the Kaput Center must notify all members of the Executive Board of the time, date, and place of all quarterly meetings at least one week prior to said meetings. A simple majority of the Executive Board shall constitute a quorum. Meetings will be run subject to Robert's Rules of Order. The Provost and the Chancellor of the University of Massachusetts Dartmouth, as well as the Dean of the College of Arts and Sciences, can attend all Executive Board Meetings, although they are not members of the Executive Board.

4. Powers. The Executive Board shall exercise the following powers and authority:

    - to review the Director's quarterly update on research projects, service agreements, sponsored research agreements, and other activities,
    - to review the Director's quarterly statement of the budget for the Center and to make recommendations for expenditures and encumbrances from the budget,
    - to approve or reject nominations of individuals for appointment to the Center as Research Associates or Visiting Research Associates,
    - to approve or reject nominations of individuals for appointment to the Executive Board,
    - to approve or reject the Director's recommendations for creating or discontinuing functional Divisions of the Kaput Center,
    - to approve or reject the Director's nominations of individuals for the appointment and removal of Heads of Divisions,
    - to review, recommend, and approve any policies governing the Center's operations as specified in the Mission Statement and By-Laws,
    - to approve or amend the Director's proposed annual report, financial statement, and proposed budget before it is submitted to the Provost or other officers of the University, • to approve all recommendations from standing committees of the Executive Board,

- to advise and assist with graduate student recruitment strategies.

5. Approvals. A simple majority of those members present and voting shall be sufficient to grant or withhold the approval of the Executive Board on all matters, except as specified elsewhere in the Mission Statement and By-Laws.

6. Membership shall be for three (3) years and renewable.

Advisory Board & Duties

1. Purpose. The Kaput Center is linked to the wider community through an Advisory Board. The Advisory Board shall be composed of individuals, appointed by the Director, who are drawn from positions of leadership in the public, non-profit, and private sectors. The Executive Board shall be notified of any additions to the Advisory Board at each quarterly meeting. The Advisory Board will assist in setting the Center's research agenda and in developing research resources. The Advisory Board will also advise and assist the Director and Executive board in developing strategic plans to achieve its mission that responds to educational needs locally, nationally and internationally in the field of STEM education. The Advisory Board members are considered advocates of the Center, promoting the work of the Center and establishing new associations with leaders in STEM education research and innovation.

Research Scientists, Associates & Staff

As part of the bylaws editing process, we revisited the Research Scientists, Associates, and Staff and decided to simplify the structure for associates of the Center. There are now three primary designations: Research Scientists, Visiting Research Scientists, and Research Assistants. They are described as follows:

a. Research Scientist: (1) a tenured or tenure-track faculty member at the University of Massachusetts Dartmouth, who is developing or executing a research, public service, or educational project under the auspices of the Kaput Center, or (2) a qualified professional practitioner, who is locally developing or executing a research, public service, or educational project under the auspices of the Kaput Center,

b. Visiting Research Scientist: (1) any faculty member at an accredited college or university, who is developing or executing a research, public service, or educational project related to the mission of the Kaput Center and will have a physical presence at the Kaput Center or (2) a qualified professional practitioner, who is developing or executing a research, public service, or educational project related to the mission of the Kaput Center and is visiting the Center. Visiting Research Scientists are expected to make a substantive contribution to the Kaput Center in collaboration with Center faculty and students. Appointment to the position of Visiting Research Scientist requires the approval of the Kaput Center Executive Board.

c. Research Assistant: (1) any student accepted into a graduate program at the University of Massachusetts Dartmouth who is appointed as a Research Assistant to a Center-based grant-funded project.

Physical Layout & Equipment

The Kaput Center moved temporarily to Room 107 in the Textiles building on the UMass Dartmouth campus in Spring 2025 for the duration of the LARTS closure for renovations. Kym and Dr. Kayumova spearheaded preparations for the Kaput Center's relocation in May, which required an extensive and labor-intensive process. The transition involved cataloging and packing books, technology, and research materials, organizing storage logistics, and ensuring that essential resources remained accessible during the move. The relocation process was carefully managed to minimize disruption to ongoing projects and maintain the Center's research and outreach activities.

Our temporary space is considerably smaller than our previous space and as a result some of our materials were moved into storage for the period of these renovations. At the end of FY2025, the following technologies are housed in the Kaput Center:

- Apple Laptop computers for use in research projects and demonstrations
- iPads for use on research projects for use in research projects and demonstrations
- Chromebooks for use in research projects and demonstrations
- Photon Robots
- HD/DV cameras
- Wireless lavalier microphones
- Audio recorders
- A variety of common "Makerspace" technologies including Arduinos, robots, Makey Makey, and Raspberry Pis

In addition to the devices, the Kaput Center has a large library that supplements the Campus library facility, and which includes books relevant to STEM Education. The Center's library includes journals and books focused on: Mathematics Education, Anthropology/Evolutionary Theory, Cognitive Psychology/Science, Representation theory, Computer Science and Design, Learning Sciences, Linguistics and Discourse Analysis, Complexity Theory, Mathematics, Philosophy, Socio-Cultural Studies, Curriculum Design, and Quantitative and Qualitative Methodology. The books are indexed in Libib, which makes it possible to see the holdings for the Kaput Center on the Web: https://www.libib.com/u/kaputcenter. NOTE: A large portion of our library's resources are currently in storage (due to reduced space in our temporary location as a result of LARTS renovations) but we expect to return all materials once the renovations are complete and we are in our new space.

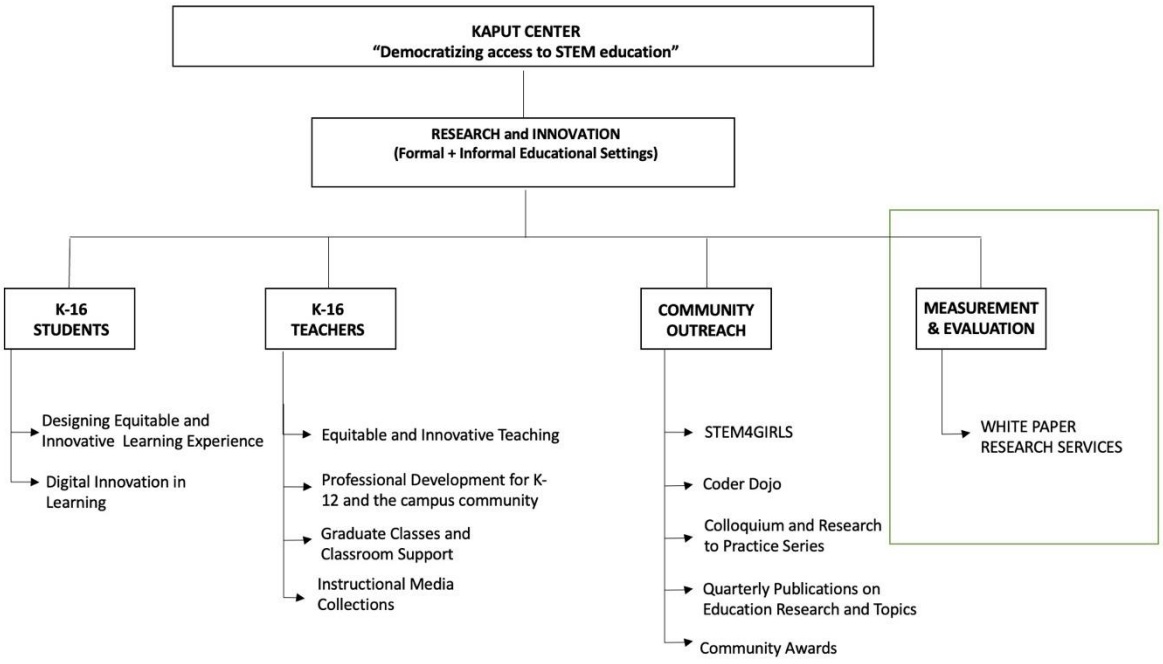

Figure 1. The schema for KC organization that was proposed during the discussions*

This schema outlines the organizational structure and focus areas of the Kaput Center, developed after meetings and discussions with various stakeholders. It is a part of ongoing discussions about the strategic areas where we need to focus and highlight the center's commitment to democratizing access to STEM education through its research and innovation in both formal and informal educational settings. The structure categorizes the center's efforts into three key areas: K-16 Students, K-16 Teachers, and Community Outreach, each addressing specific programs and initiatives designed to foster equitable and innovative learning and teaching experiences.

The Kaput Center continues to organize its work around four interconnected domains: K–16 Students, K–16 Teachers, Community Outreach, and Measurement & Evaluation. This framework helps us communicate the breadth of our mission while also clarifying where our efforts are most concentrated in any given year.

Community Partnerships and Professional Development

In FY25, the Kaput Center continued to expand partnerships with local cultural and scientific organizations to support STEM education and professional development for teachers. Notably, we collaborated with Sarah Caudill, Assistant Professor of Physics, Mark Munkacsy of Massachusetts Institute of Technology and the Astronomical Society of Southern New England and Suzanne de Vegh of the New Bedford Art Museum to develop a project bringing the museum's recent astronomy photography exhibit, *Nebulae*, into local schools. This initiative aims to create lesson plans aligned with education standards, enabling science teachers to integrate these materials into their classrooms effectively.

The project also provides valuable experiential opportunities for our Ph.D. students to contribute directly to curriculum development and outreach. By serving as lesson plan developers and supporting a mobile exhibit, these students gain hands-on professional development experience while strengthening the connections between the Kaput Center, local schools, and community organizations.

Through initiatives like this, the Kaput Center fosters partnerships that bridge higher education, K–12 education, and community-based organizations, advancing both teacher development and student engagement in STEM.

In FY25, the research innovation and community outreach strand continued to be a hallmark of the Center's identity. Alongside STEM4Girls, we hosted colloquia and symposium discussions, published research papers on pressing topics in STEM education, and engaged with the community. Some initiatives from earlier schemas, such as *Coder Dojo*, are not currently active. While these remain part of the broader vision, our priority in FY25 was to deepen and sustain the programs that have the greatest current impact.

Finally, the measurement and evaluation strand was first introduced in FY24 as part of our updated organizational framework. In FY25, this area began to take shape in practice. A milestone moment was when one of our doctoral students was hired to produce a commissioned white paper for an educational organization, facilitated through the Kaput Center. This demonstrates the potential of the measurement and evaluation strand to operate on multiple levels. For the partner organization, it provided a timely, research-based analysis. For the doctoral student, it created a professional pathway into applied research and evaluation, offering experience in bridging academic expertise with community and institutional needs.

While still developing, this strand reflects the Kaput Center's capacity to serve as a resource for evidence-based evaluation and as a training ground for the next generation of researchers. Going forward, we see opportunities to grow this work in alignment with our mission of advancing equitable and innovative STEM education.

Taken together, this schema reflects both continuity and focus. The Center's work remains broad in scope, but in FY25 our energy was directed toward initiatives that best connect our faculty, students, and community partners in advancing equitable access to STEM education.

In FY25, the Kaput Center provided letters of collaboration supporting faculty and staff proposals to the National Science Foundation, reinforcing its role as a partner in advancing innovative STEM research and education. The Center committed to collaborate on Dr. Wei-Shun Chang's CAREER proposal, *"Revealing Structure-Optochirality-Activity Relationship of Chiral Plasmonic Hybrid Nanostructures for Oxygen Evolution Reaction through Spin Polarization,"* and on Dr. Sarah Caudill's CAREER proposal, *"Expanding the Frontiers of Observational Gravitational-Wave Science."* The Center also supported Dr. Mia Dubosarsky's NSF Robert Noyce Teacher Scholarship application for *"STEM-LEADS: Science & Math Teachers Leading Systemic Change in Multilingual STEM Education through Data Science."* These collaborations demonstrate the Center's commitment to interdisciplinary research, STEM teacher development, and high-impact scholarship, while strengthening its visibility and partnerships across departments and disciplines.

Strategic Engagement with the University and Wider Community

Alongside our outreach and research initiatives, FY25 was a pivotal year for strengthening the Kaput Center's institutional position, community engagement and collaboration.

UMass Dartmouth continues to advance its role as a regional leader in the Blue Economy, securing $11 million in state support in partnership with Senator Michael Rodrigues and the local legislative delegation. A second and final round of $3 million in Blue Economy Initiative (BEI) investments focused on programmatic and project-based efforts aligned with Community and Industry Engagement, Workforce Development and Career Preparation, and Technology Transfer. Among the awards, STEM 4 Girls, Kaput Center received two years of support to deliver enrichment programming for 3rd–8th grade girls across the region. This initiative integrates Blue Economy themes into hands-on learning experiences, inspiring young students to explore science, technology, engineering, and mathematics while connecting them to the future opportunities of our coastal economy.

On February 7, 2025, we held a Cross-Center Collaboration Meeting with Cybersecurity faculty, laying the groundwork for interdisciplinary initiatives that connect STEM education with rapidly emerging fields. Just days later, on February 10, 2025, I met with the Deans of the College of Engineering to identify future collaboration opportunities, ensuring that the Center's work aligns with the strategic priorities of one of our university's most dynamic colleges. That same day, I also met with the Provost to discuss moving the Kaput Center under his office's purview. This conversation represents a significant potential shift in the Center's standing within the university, one that could enhance visibility, stability, and strategic alignment.

Also on February 10, 2025, I convened with STEM4Girls funders, including the Blue Initiative (Mike Goodman) and Jacobs Family Donor Advised Fund of the SouthCoast Community Foundation (Michelle Bolton and William Mitchell). These discussions clarified key points regarding cost-sharing (no restrictions) and attendance guarantees during the LARTS building renovations (not required). This transparent dialogue reaffirmed funder confidence and secured flexibility critical to sustaining STEM4Girls at its current scale.

On October 30, 2024 and March 5, 2025, the Kaput Center Executive Board convened, bringing together leadership voices to review progress and guide strategic next steps.

Beyond these scheduled meetings, research associates of the Kaput Center, including Drs. Witzig, Stroup, and Gucler, met to deliberate on funding, research priorities, and sustainability. Dr. Walter Stroup also played an important role by leading weekly Friday Research and Innovation Brown Bag sessions, where doctoral students engaged in meaningful conversations on ongoing projects and methodologies. These informal yet consistent gatherings have proven to be vital platforms for mentorship, knowledge exchange, and the cultivation of a vibrant research culture.

Equally critical were ongoing conversations with Chief Research Officer Dr. Chen. Through regular meetings, we examined sustainability challenges facing the Center, asking fundamental questions: *What criteria should determine the selection of research associates? How can the Center better engage them across our initiatives?* To address these, I prepared and presented a comprehensive governance report to Dr. Chen, outlining recommendations for improving

operational efficiency, funding stability, and long-term sustainability. This report was subsequently presented to Provost Bala, who raised further questions on the selection and engagement of research associates. These discussions have set the stage for an upcoming meeting I will convene with current research associates to refine criteria and expand engagement strategies.

Through a partnership with a Computer Science faculty member, two of our STEM Education Ph.D. students received funding to engage in collaborative research, strengthening interdisciplinary connections and advancing their professional development.

Taken together, these efforts underscore the breadth of FY25's work: while our programs like STEM4Girls visibly connected the Center with the community, the less visible but equally important work of governance, collaboration, and institutional positioning advanced our capacity to sustain and scale impact for years to come.

Summary of Fiscal Activity

We report in detail here the Center's main operational budget and not the revenue/cost structure of externally funded grants..

Table 2: Revenue & Costs for FY25

Expense Type	Description	Amount
Revenue	University Support (Salaries, Fringe & Operational Budget)	$25,000.00
	Gifts	$605.00
	Indirect Revenue	$31,269.63
	Total Revenue	$56,874.63
Direct Expenses		
Payroll	Total Salaries (including OT)	$ 22,110.27
	Total Fringe	$ 9,864.30
	Total Payroll	**$ 31,974.57**
Non-Payroll		
Office/Admin Supplies	**Total Office & Admin Supplies**	**$755.43**
Facility & Operations	Food & Beverage	$175.31
	Gift Fee	$ 18.15
	Total Facility & Operations	**$193.46**
Printing Expenses	Copier Expense	$1,352.20

	Total Printing Expenses	**$1,352.20**
Phone Expenses	Telecom Services Voice	$0
	Total Telecom Services Voice	**$0**
STEM4Girls Expenses		
	Technician Fees	$180.00
	Clothing	$2,497.38
	Gifts	$115.20
	Workshop Materials	$664.88
	Food & Beverage	$5,362.50
	Photographer	$200.00
	Total STEM4Girls	**$9,019.96**
	Total Non-Payroll	**$11,318.05**
	Total Direct Expenses	**$43,292.62**

Financial Narrative 2024–2025

The Kaput Center's finances this year tell a story of transition and careful stewardship. Our total budget + revenue for FY25 was $56,875. The Center is moving from university-dependent to grant-driven. In FY25 the university support shrank, while indirect revenue rose.

In FY24, more than half of our budget, $31,597, or 52%, was covered through direct university support. By contrast, in FY25 this figure fell to $25,000, or 44% of the previous year's budget, marking a $6,600 reduction. This is while all other operational and payroll costs are increasing. The shortfall was partially offset by a 9% increase in indirect revenue (from $28,591 to $31,270), which now constitutes the single largest source of Center income. Donor contributions also grew, from $350 in FY24 to $605 in FY25. While gifts remain a small portion of our revenue, the upward trajectory is promising and demonstrates a widening base of community support. This is where we would also ask for the support of our advisory board members to help us reach out to individuals, as well as corporate donors, to support our mission with gifts.

The majority of funds continue to support a staff salary, Kym Welty, who provides not only administrative support to the Center and associated faculty, but she also provides pre- and post-grant award support, grant compliance, budgeting, and reporting support, support for building and sustaining university-school collaborations and community outreach, and support for program and event management. We also pared back non-payroll costs significantly, reducing facility operations, phone services, and other overheads. Such tightening of operations allowed us to protect the areas that matter most.

Chief among those areas is STEM4Girls, our largest annual community outreach program. In FY25, the total cost was $9,020 not including symposium and keynote speakers' associated expenses (additional $3,537.97). The STEM4Girls FY25 reached more students and families this year than ever before (400 participants). Essentials such as food, workshop materials, and STEM4 Girls participant T-shirts remained priorities, while costs for advertising, entertainment, and non-essential items were reduced or eliminated.

The bottom line is encouraging: despite reduced revenue, the Center closed FY25 with a larger operating surplus than the year prior, $13,582 compared to $12,698 in FY24. Careful expense management and increased indirect revenue kept us firmly in positive territory.

Moving forward, the financial trajectory underscores the importance of diversifying revenue. The growth of indirect revenue reflects the momentum of our grant portfolio, which will continue to expand with the recent NSF award. At the same time, we must continue cultivating donor support and community partnerships to complement our federal funding streams. By doing so, we can protect the Center's financial stability and ensure that our resources are directed where they matter most: supporting our community, faculty, students, and advancing programs that inspire and transform STEM education.

The financial picture for FY25 underscores a central truth: the Kaput Center is operating responsibly, with resources directed squarely toward programs that advance our mission.

Functional Areas of Operation

Research & Development
Addressing Mission Need: *Provide a focus and support for sustained investigation of foundational issues in the field of STEM education.*

The faculty and staff of the Kaput Center and their associates continue to conduct cutting-edge research in mathematics education focusing on the following core areas:

- Enhancing STEM communication in K-16 classrooms
- Transforming teaching practice across districts
- Addressing the needs of all learners in STEM Education
- Teacher knowledge and teacher professional development
- District-wide improvement of STEM teaching in elementary and middle grades
- Teaching and learning STEM at the undergraduate level

The Kaput Center ends FY25 with 6 active grants.

CAREER: Analyzing the Nexus between Advantaged Social Positioning and Science Identity Development Among English Language Learners. This project was funded by the National Science Foundation with a start date of September 2017. This grant to Shakhnoza Kayumova explores how to support students in developing as STEM learners while they are also learning to speak English. The goal of the grant is to better support teachers to support students who are grappling with language acquisition.

Computational Thinking Counts in Elementary Grades: Powerful STEM Teaching and Learning for the 21st Century (CT Counts). This NSF-funded research grant is led by Chandra Orrill (PI), with Shakhnoza Kayumova and Ramprasad Balasubramanian as co-PIs. The research team seeks to help elementary school teachers engage their students in computational thinking, the kind of thinking that computer programmers use. For example, students will be challenged to think about problem solutions in ways that would allow a computer to solve them; create solutions that require a series of ordered steps to carry out; identify, analyze, and implement solutions that are efficient, effective, and creative; and use models and simulations to represent data.

Connecting Undergraduates to Biodiversity Instruction through Citizen Science (CUBICS). Stephen Witzig (PI), Robert Gegear, and Kathryn Kavanagh received this NSF grant focused on professional development for science faculty. The program will be centered on socioscientific issues and incorporate citizen science into college classrooms. The goal is to increase student interest in science and to promote retention in science. The project will specifically focus on biodiversity and climate change as themes for professional development, which will help to further develop faculty members' expertise in these areas.

Collaborative Research: Teaching for the Anthropocene: Teacher Learning and Practice for Critical Systems Thinking. Shakhnoza Kayumova (PI), Walter Stroup (co-PI) received this NSF grant which represents a significant national and international collaboration, including the Smithsonian Institution in California, University College London, colleagues in Canada, and Cal State - East Bay Campus. The project will advance research on how to support local STEM

teachers in addressing issues of social and environmental justice, with a particular focus on the South Coast and partner sites abroad.

Blue Economy Initiatives: STEM 4 Girls Events with Blue Economy Focus. Shakhnoza Kayumova (PI) received this grant from Blue Economy Initiative (MA State/US DOE)

STEM4Girls Day. Shakhnoza Kayumova (PI) received this grant from Jacobs Family Donor Advised Fund of the SouthCoast Community Foundation

Cancelled in FY25 by funding agency:
STEMcyclists: Black and Brown Youth Transforming STEM via Bikes. Shakhnoza Kayumova (PI) working with University of Buffalo and Tufts University received this NSF grant focused on using bikes and biking to introduce STEM content and experiences to traditionally underrepresented youth (grades 9-10) by having them participate in place-based informal learning activities. The researchers along with community organizations work together to plan and facilitate a summer institute and cohort sessions during the academic year. The youth will engage in STEM learning in their community by creating and contributing knowledge that informs their own learning in topics like science, engineering, and biomechanics.

Symposium & Colloquium Series

During FY25, the Kaput Center continued to strengthen its role as a convening space for research and dialogue by hosting invited talks from nationally recognized scholars. These events provided PhD students and faculty with opportunities to engage with leading-edge ideas and consider how current scholarship informs their own research and practice in STEM education.

On October 4, 2024, the Center welcomed Dr. Yasmin Kafai, Lori and Michael Milken President's Distinguished Professor at the University of Pennsylvania. Dr. Kafai, widely known as a co-developer of the programming language *Scratch* and author of several influential books, shared her research on "Promoting Computational Empowerment for All: Youth Peer Auditing of Machine Learning-Powered Applications." Her presentation examined how algorithm auditing—youth systematically evaluating the fairness and functionality of machine learning systems—can foster both computational thinking and critical perspectives on issues of bias and justice. Drawing on a study with 14–15 year-old students, Dr. Kafai highlighted how youth not only identified algorithmic biases and design flaws but also reflected on the broader social implications of machine learning, underscoring the importance of integrating these practices into K–12 education.

The series also featured Dr. Greses Pérez, McDonnell Family Assistant Professor in Engineering Education at Tufts University. In her talk, "STEM4Girls – They Don't Exist? Tales of Aliens, Unicorns, and Women in STEM," Dr. Pérez addressed the persistent invisibility of women and other underrepresented groups in engineering. Her research illustrates how Latina/o/x and Black students draw on their cultural and linguistic resources to develop engineering practices grounded in community values. By framing these resources as assets rather than exceptions, Dr. Pérez demonstrated how engineering education can be transformed to produce socially just solutions and broaden participation in the field.

Through these colloquia, the Kaput Center advanced its mission of supporting the PhD program by creating space for graduate students and faculty to engage with research that bridges computational innovation, equity, and disciplinary transformation.

Supporting the PhD Program

The Kaput Center for STEM Education Research and Innovation continues to serve as both an intellectual and physical hub for research, collaboration, and innovation. Over the past fiscal year, the Center has been exceptionally active, expanding its impact on doctoral education and faculty research in STEM education. The Center continued to provide a collaborative environment for fostering critical discussions and innovative ideas, both as an intellectual and a physical space where various research meetings with graduate students and faculty are conducted.

During FY25, the Center significantly expanded its impact—providing research assistantships, fostering a scholarly community, and supporting both faculty and doctoral students in their pursuit of cutting-edge research.

Throughout the year, the Center supported multiple externally funded research projects that collectively provided funded research assistantships to at least six doctoral students. These opportunities spanned year-round, summer, and winter research assistantships, enabling PhD students to engage deeply in collaborative research with faculty mentors. This funding is essential not only in sustaining students' doctoral progress but also in ensuring their active participation in pioneering STEM education research.

The Center also hosted research symposia and professional development sessions that brought together faculty, graduate students, and visiting scholars. These events fostered interdisciplinary dialogue and strengthened the Center's role as a gathering space for research exchange and innovation.

Regular research meetings have further enriched the Center's academic environment. Dr. Walter Stroup continued to lead the weekly Friday "Research, Thinking, and Innovation" brown bag series, which serves as an informal forum for exploring emerging ideas and sharing ongoing research. Dr. Saida Kayumova facilitated weekly research meetings that support doctoral students through mentoring, project development, and collaborative writing. Together, these efforts have created a vibrant, sustained culture of inquiry and exchange.

The Kaput Center also remains a cornerstone in supporting the STEM Education PhD program within the Department of Educational Studies. Since the program's launch in Fall 2018, the Center has provided critical resources—maintaining doctoral handbooks, APA writing guides, and access to research materials and equipment. With the Center's recent move to campus and implementation of ID-reader access, students now have expanded use of shared resources, including cameras, tripods, and other research tools essential for data collection and analysis.

This past year has also been marked by a remarkable increase in scholarly dissemination. Faculty and doctoral students associated with the Kaput Center contributed to six major conference presentations and twelve publications, including journal articles and peer-reviewed conference proceedings. Highlights include presentations at the National Association for Research in

Science Teaching (NARST), European Science Education Research Association (ESERA), National Science Teaching Association (NSTA), and the International Conference of the Learning Sciences (ICLS). Publications appeared in top venues such as the *Journal of Research in Science Teaching* and the *Proceedings of the International Society of the Learning Sciences*.

Through these sustained and expanding efforts, the Kaput Center has (re)established itself as a cornerstone for doctoral research development, providing intellectual, financial, and material support that empowers both faculty and students to produce high-impact scholarship and innovation in STEM education.

K-12 Outreach

The Kaput Center continued its commitment to K-12 outreach through research and practice support provided by various grants that run through the center. These grants allow us to offer valuable educational resources and STEM experiences to students, fostering early engagement in STEM disciplines.

The highlight of our K-12 outreach was the annual STEM4Girls event. This year was our largest and most impactful STEM4Girls event to date. By collaborating with our partner districts, we were able to ensure that girls from underserved communities had the opportunity to participate in hands-on STEM workshops, inspiring them to pursue further education and careers in STEM fields.

Through these outreach efforts, the Kaput Center continues to bridge gaps in STEM education, making STEM accessible to a diverse and broad group of students in the K-12 system.

STEM4Girls Day

Following the symposium the previous Friday afternoon, we held our 12th annual STEM4Girls Day on Saturday, Oct 5, 2024. Over 400 girls, families, and community members attended across two days, making this our largest and most impactful STEM4Girls event to date. Six school districts (*Argosy Collegiate Charter School, Atlantis Charter Middle School, Fall River Public Schools, Global Learning Charter Public School, New Bedford Public Schools and Our Sisters' School*) sent groups of girls, plus we had 15 register online (*EventBrite*) from around the area. We were privileged to welcome keynote speakers Dr. Yasmin Kafai (University of Pennsylvania) and Dr. Greses Pérez (Tufts University), whose talks inspired students, faculty, and community partners. After the keynote, students attended two of the 28 workshops offered by our experts. The day ended with a high-energy session "STEAM Celebration" led by students from Our Sisters' School.

We are delighted to share that the Jacobs Family Donor Advised Fund of the SouthCoast Community Foundation has renewed its generous support of the Kaput Center, ensuring not only the continuation but also the growth of STEM4Girls in the years ahead. This investment affirms the program's impact in inspiring the next generation of scientists and innovators.

In addition, STEM4Girls Day received a significant boost through the second round of Blue Economy Initiative investments, which awarded two years of support to expand programming with a dedicated Blue Economy focus. This funding round emphasized Community and Industry Engagement, Workforce Development and Career Preparation, and Commercialization and Technology Transfer—strategic areas that align closely with the mission of STEM4Girls to empower young learners and prepare them for the opportunities of tomorrow.

Recognizing the logistical challenges posed by the temporary closure of LARTS, Dr. Kayumova and Kym Welty held regular planning meetings to strategize how to effectively implement STEM4Girls activities in the future under these new constraints. These discussions focused on identifying alternative venues, optimizing workshop structures, and coordinating with facilitators to ensure a seamless experience for future attendees.

Grant Proposal Activity

Funded Proposals **(bolded names indicate Research Scientists in the Kaput Center)**

Title: CAREER: Analyzing the Nexus between Advantaged Social Positioning and Science Identity Development Among English Language Learners
PI: **Shakhnoza Kayumova**
Funding Agency: National Science Foundation, CAREER program
Amount: $779,000
Project Dates: 9/1/2017-8/31/2025

Title: Computational Thinking Counts in Elementary Grades: Powerful STEM Teaching and Learning for the 21st Century
PIs: **Shakhnoza Kayumova** & Ramprasad Balasubramanian, Subaward from Rethinking Learning and PI: Chandra Orrill.
Funding Agency: National Science Foundation
Total Award: $2,116,315
Project Dates: 1/1/2020 – 9/30/25

Title: Connecting Undergraduates to Biodiversity Instruction through Citizen Science (CUBICS)
PI: **Stephen Witzig**
Co-PI **Robert Gegear**, Kathryn Kavanagh
Funding: National Science Foundation
Amount Requested: $599,926
Project Dates: 2/2023-1/2026

Title: Blue Economy Initiatives - STEM 4 Girls Events with Blue Economy Focus
PI: **Shakhnoza Kayumova**
Blue Economy Initiative (MA State/US DOE)
Amount: $75,000
Project Dates: 3/2025 – 12/2026

Title: STEM4Girls Day
PI: **Shakhnoza Kayumova**
Jacobs Family Donor Advised Fund of the SouthCoast Community Foundation
Amount: $40,300
Project Dates – 7/2025 - 6/2026

Grants Cancelled 2024-25 by Funding Agency
Title: STEMcyclists: Black and Brown Youth Transforming STEM via Bikes
PI: **Shakhnoza Kayumova** (under University of Buffalo as lead institution)
Funding: National Science Foundation
Amount Requested: $201,402
Project Dates: 1/2024 – 12/2026

Grants Not Funded 2024-25

Title: Educators Participating In biodiversity- and climate-focused Citizen/Community Science (EPICS)
PI: **Stephen Witzig**; Co-PIs: **Robert Gegear**, Kathy Kavanagh
Funding: National Science Foundation
Amount Requested: $587,846
Project Dates: 6/2024-5/2028

Title: Building Bridges for Equity: Advancing Anti-Racist STEM Teaching in Secondary Education (Bridges-STEM)
PI: **Shakhnoza Kayumova**; Co-PIs: **Stephen Witzig**, Dilshod Achilov
Funding: National Science Foundation:
Amount Requested: $4,381,234
Project Dates: 8/2024-7/2029

Publications of the Kaput Center

2025

Conferences:

Harper, A., & Kayumova, S. (July 2024). *Embracing a Pluriversal Approach in Praxis Within Science Education.* Poster presented at the 2024 meeting at the European Conference on Education (ECE), London, United Kingdom.

Harper, A., Kayumova, S., Weisheimer, F., & Fredette, J. (March 2025). *Embracing a Pluriversal Approach in Science Education: Multilingual Youth as Epistemic Contributors and Sensemakers.* Paper to be presented at the 2025 meeting of the National Association for Research in Science Teaching (NARST), National Harbor, MD.

Harper, A., Cost, D., & Kayumova, S. (March 2025). *Research to Practice: Using Equitable Science Teaching Practices with Multilingual Learners.* Workshop to be presented at the 2025 meeting of the National Science Teaching Association (NSTA), Philadelphia, PA.

Kahveci, E. N., Kayumova, S., & Stroup, W. (April 2025). *The power of "we": Unveiling its role*

in shaping life science classroom dynamics [Conference presentation]. National Association for Research in Science Teaching (NARST) Annual International Conference, National Harbor, MD, United States.

Kayumova. S., & Kahveci, E. N. (August 2025). *Embodied Identities in Motion: Entanglements of Socio-Material and Affective Intra-Actions in the Production of Disciplinary Competences and Practices* [Conference presentation]. European Science Education Research Association (ESERA) Conference, Copenhagen, Denmark.

Waight, N., Kayumova, S., Kahveci, E. N., & others. (August 2025). *The STEMcyclists ecosystem: Of memories, rebuilding, and ownership, and kings and queens–scientists and engineers*. [Conference presentation]. European Science Education Research Association (ESERA) Conference, Copenhagen, Denmark.

Publications

Kayumova, S., Harper, A., & Stronach, R. (January 2025). When Science and Engineering Teachers' Approach Translanguaging as a Political and Dignity Conferring Stance. *Journal of Research in Science Teaching*. https://doi.org/10.1002/TEA.22009

Kahveci, E. N., Uzun, R. E., & Kayumova, S. (June 2025). Reframing competence: Science learning as relational and embodied. In A. Rajala, A. Cortez, R. Hofmann, A. Jornet, H. Lotz-Sisitka, & L. Markauskaite (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences – ICLS 2025* (pp. 3138–3140). International Society of the Learning Sciences. https://doi.org/10.22318/icls2025.146632

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Journey of Teachers Through the Pandemic and Beyond. In Rajala, A., Cortez, A., Hofmann, R., Jornet, A., Lotz-Sisitka, H., & Markauskaite, L. (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences - ICLS 2025* (pp. 2115-2119). International Society of the Learning Sciences. https://doi.org/10.22318/icls2025.309157

Raj, A., Wittmann, M. C., & Kayumova, S. (June 2025). Rethinking Differentiated Instruction: Lessons From the Pandemic for Today's Classrooms. In Rajala, A., Cortez, A., Hofmann, R., Jornet, A., Lotz-Sisitka, H., & Markauskaite, L. (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences - ICLS 2025* (pp. 3200-3202). International Society of the Learning Sciences. https://doi.org/10.22318/icls2025.443524

Takeuchi, M. A., Dutta, D., Liberali, F. C., Anderson, T., Banazsak, R., Bakal, M., Cole, M., Esteban-Guitart, M., Ghost, L., Gutiérrez, K. D., Kayumova, S., Meixi, Mujic, E., Mukherjee, S., Patil, P., Rajala, A., Spears, G., & Sigana, D. A. (June 2025). Centering Community-Rooted Actions of Hope: Beyond Knowledge Monoculture. In Rajala, A., Cortez, A., Hofmann, R., Jornet, A., Lotz-Sisitka, H., & Markauskaite, L. (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences - ICLS 2025* (pp. 2318-2326). International Society of the Learning Sciences. https://doi.org/10.22318/icls2025.107536

Raj, A., Stroup, W. M., & Kayumova, S. (June 2025). Stories, Printing Press, Internet, and Now ChatGPT: Examined via the SMART Framework. In Oshima, J., Chen, B., Vogel, F., & Järvelä, J. (Eds.), *Proceedings of the 18th International Conference on Computer-Supported Collaborative Learning - CSCL 2025* (pp. 445-449). International Society of the Learning Sciences. https://doi.org/10.22318/cscl2025.636508

Raj, A. & Kayumova, S. (June 2025). Zone of Playful Development: Play for Transformational Equity in Multilingual STEM Classrooms. In Rajala, A., Cortez, A., Hofmann, R., Jornet, A., Lotz-Sisitka, H., & Markauskaite, L. (Eds.), *Proceedings of the 19th International Conference of the Learning Sciences - ICLS 2025* (pp. 2105-2109). International Society of the Learning Sciences. https://doi.org/10.22318/icls2025.708210

2024

Liu, Z., Liu, R., Orrill, C., Kayumova, S., & Balasubramanian, R. (June 2024). Mapping the Complexities of Teacher Change: A Conjecture Mapping Approach to Designing Computational Thinking Professional Development. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 2255-2256). International Society of the Learning Sciences. https://doi.org/10.22318/icls2024.622417

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Kayumova, S., Raj, A., & Harper, A. (June 2024). I see myself as a Science Person: Insights into Science Identity Development Among Emergent Multilingual Youth. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 2507-2508). International Society of the Learning Sciences. https://doi.org/10.22318/icls2024.107071

Orrill, C., Gearty, Z., Brown, R. E., Kayumova, S., & Balasubramanian, R. (June 2024). One-on-One Coaching to Support Connection Making: Moving Professional Learning to Practice. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 1183-1186). International Society of the Learning Sciences. https://doi.org/10.22318/icls2024.329658

Asif, A. D., Malik, H., Orrill, C., Balasubramanian, R., & Kayumova, S. (June 2024). Computational Thinking: Teachers' Practice of Abstraction. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 1826-1829). International Society of the Learning Sciences. https://doi.org/10.22318/icls2024.877800

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Zhao, Y., Liu, Z., Orrill, C., Kayumova, S., & Balasubramanian, R. (2023). Designing professional learning workshop for shaping teachers' learning pedagogical content knowledge in computational thinking. In *Proceedings of the 17th International Conference of the Learning Sciences-ICLS 2023, pp. 2071-2072*. International Society of the Learning Sciences.

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Kayumova, S., & Harper, A. (2023). Centering Critical Youth Research Methodologies of Praxis and Care in Post-Pandemic Times: From Respectful Relations and Dialogue towards New Imaginaries. *International Conference of the Learning Sciences* (ICLS) 2023, Montreal, Canada.

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Orrill, C. H., Gearty, Z., & Wang, K. (in press). Continuing evolution of research on teaching & learning: Exploring emerging methods for unpacking research on teachers, teaching, and learning. In A. Manizade, N. Buchholtz, & K. Beswick (Eds.), The evolution of research on teaching mathematics: International perspectives in the digital era. Springer.

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APPENDIX A

ADVISORY BOARD

ADVISORY BOARD

The Center has an international and interdisciplinary advisory board, which consists of the following members:

- Allan Cohen – University of Georgia
- Andrew Izsák – Tufts University
- Bharath Sriraman – University of Montana
- Christopher Hoadley – University at Buffalo
- David Kirshner – Louisiana State University
- David Williamson Shaffer – University of Wisconsin
- Demetra Pitta-Pantazi – University of Cyprus
- Eric Hamilton – Pepperdine University
- Joanne Lobato – San Diego State University
- Jeremy Roschelle – Digital Promise
- Jonathan Templin – University of Iowa
- Luis Morena-Armella – National Polytechnic Institute, Mexico
- Lyn English – Queensland University of Technology
- Maria Blanton – TERC
- Philip Vahey – Houghton-Mifflin Harcourt
- Pratim Sengupta – University of Calgary
- Tânia Maria Mendonça Campos – Universidade Bandeirante de São Paulo
- Todd Campbell – University of Connecticut