

# LiDA Center 2021-22 Report

(June 2021-May 2022)

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**Note:** LiDA staff has been identified with an asterisk (\*) and other LiDA Community members with a double asterisk (\*\*)

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**VIDEO INTRODUCTION**

Please watch this 5-minute video first, as it was designed to frame the rest of the report.

## [VIDEO INTRODUCTION](#)

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### HOW THIS REPORT IS ORGANIZED

With the exception of the Executive Summary, this annual report is organized around the five strategic goals (and related sub-goals) articulated in our 2020 LiDA Strategic Plan. You can choose to read about the progress made this year with respect to specific goals in any order you wish, using the linked table of contents provided on the left side bar.

For each goal, we have listed all the projects/ activities that contributed towards that goal during the period covered by this report. To keep the main text to a minimum, for each project/ activity listed under each goal we provided just a brief description (which readers familiar with that project/ activity can skip), followed by information about specific achievements made this academic year related to that goal. Links to artifacts and other documents providing additional information have been embedded in the text, for readers interested in learning more.

As some of our projects/ activities address multiple goals, they will be listed more than once - so some repetition was unavoidable.

This annual report is intended to complement other “cumulative” reports (i.e., from the start of the LiDA Center in 2018 to date) about the progress made in each of our strategic initiatives to date, as well as other metrics and products, that are also accessible on the Strategic Planning and Reports page of our website.

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### EXECUTIVE SUMMARY

The last couple of years have presented unique challenges and opportunities for the LiDA Center, as the COVID-19 pandemic hit just as we were getting ready to launch our first strategic plan. This initially created a tension - until we realized that “*Responding to and Learning from the Pandemic*” could actually help us make progress towards our strategic goals, although in different ways than we had

originally envisioned (and we added this as a NEW strategic initiative to our original plan).

While continuing to make progress with respect to all our strategic goals, this year we especially invested in two of our strategic initiatives: “Responding to and Learning from the Pandemic”, and “Developing Capacity in Applying Selected Promising Technologies“ with a focus on artificial intelligence and data science. So we chose to focus this executive summary and related video on key achievements related to these two initiatives, as well as to goal #5, *Assure the needed resources to support and expand our work.*

### **Responding to and Learning from the Pandemic.**

Leveraging the interest and confidence generated by teaching remotely during the pandemic, this year we have continued to support both UR faculty and K-12 teachers to become more proficient at online and digitally-rich teaching. Our work in K-12 education, in particular, has been boosted thanks to the award of three New York State professional development grants – which, when taken together, will enable us over the next five years to reach over 300 teachers in the Greater Southern Tier BOCES, an under-served area in our region.

Our experiences during the pandemic also made us aware of the need to understand how to make the most of “hy-flex” – a new term that has been coined to describe situations where the same class is attended in person by some students and via Zoom by others. We have begun some explorations of this new modality, and plan to do more next year.

The UR strategic planning process has provided a unique opportunity to envision how online learning could be expanded so as to increase not only access, but also the overall quality of our students’ educational experience at the University – once again building on what was learned from the pandemic. We have worked proactively at identifying possible new online programs Warner could offer, and what it would take to do so. We have also been exploring other dimensions of a “hybrid campus” that could better serve students – such as what student services could be improved with the support of AI tools and/or by being offered virtually.

We have also continued to serve as a catalyst for dialogue about implications of the pandemic for education – both through our LiDA Colloquium Series, and several publications and presentations using different media.

### **Exploring the implications of artificial intelligence and data science for education**

This year we have also continued to develop our Center’s capacity to do work at the intersection of AI/data science and education. As this is a new area for us, this work

has required collaborations with colleagues with complementary expertise in these technologies and mostly involved exploratory work, as we:

- Completed an NSF-funded planning grant around the practices and preparation of “artist-technologists”, which involved a team of 24 individuals across UR and RIT, and culminated in submitting a proposal for a \$2M Future of Work at the Human-Technology Frontier research grant
- Launched a few university-wide study groups to explore “Future of Work” in a few different domains, from health care to higher education student services.
- Collaborated with a colleague in computer science on grant proposals around enabling high school students to use machine learning tools to support their scientific inquiries
- Collaborated with RIT experts in cybersecurity in writing a grant proposal to support an innovative professional learning program for cybersecurity professionals

At the same time, we have also started applying the knowledge we are gaining to support the implementation of the new NYS Computer Science and Digital Fluency standards. A newly awarded Smart Start grant from the New York State Education Department, launched this year, will enable us to serve over 200 K-8 teachers associated with Wayne-Finger Lakes BOCES over the next five years.

### **Securing the needed resources**

As our Centers at Warner are expected to be self-sufficient, securing funding to support our work continues to be crucial. We feel that this year we made major strides towards fiscal sustainability as a result of securing four multi-year professional development sub-contracts from BOCES as part of newly awarded New York State grants. On-going gifts have enabled us to continue to partially support critical positions such as our LiDA Assistant Director, LiDA Fellow and graduate assistants. And, we have made major efforts to apply for major grants that, if funded, can be transformational in moving our mission forward.

As we move forward, however, our biggest challenge continues to be securing not just the funding, but also the right people to do this work.

We feel that some significant progress has been made this year towards developing this needed human capital. Our LiDA staff has engaged in several projects and collaborations to develop their own knowledge about emerging technologies and their potential applications. We are also very excited to see an increased number of Warner doctoral students and applicants with interest in online learning and

applications of AI to education; this year, we had three Warner students pursuing an Advanced Certificate in Data Science, two of which in addition received an NSF-funded fellowship to pursue further work around applications of virtual and augmented reality. The professional development contracts related to the four newly awarded state grants have also enabled us to begin to develop a cadre of “free-lancers” that could help us expand our professional development services.

Please look at our full annual report, on the Strategic Planning page of our website, for more information on the initiatives I just described, as well as other work that has taken place at LiDA over the past academic year.

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## PROGRESS MADE TOWARDS EACH STRATEGIC GOAL

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### **GOAL #1a – Increase the number of successful transformative LiDA initiatives, with a focus on providing support to specific innovative uses of technology for teaching and learning**

#### 1. **UR Online Learning (Strategic Initiative B + F):**

PROJECT DESCRIPTION: In his role as Associate vice-President for Online Learning for the entire University, and with support from LiDA Center staff and others, \*Fredericksen leads strategic efforts to promote and strengthen online learning across the UR.

While most of UR courses offered this year returned to their original modality, there has been an increased interest in online teaching from faculty across the University, as demonstrated by the continuing demand for and attendance at workshops on online teaching. The LiDA Center supported these efforts in the following ways, leveraging \*Eric Fredericksen’s work as the University Associate Vice-President for Online Learning as well as LiDA Associate Director for Higher Education:

- \*Fredericksen continued to open his semester-long course on Designing Online Courses to interested UR faculty, as well as graduate students; 27 individuals took this course this year, resulting in the design of almost an equal number of new high-quality online courses for the University.
- \*Fredericksen and \*\*Lisa Brown offered more than 40 workshops on various aspects of online teaching (<https://www.rochester.edu/online-learning/> ).
- A symposium was organized by \*Fredericksen to showcase UR faculty experiences with online learning in November 2021 (recording of the four presentations can be found at: <https://www.rochester.edu/online-learning/symposium/index.html> )

- The Educational IT Governance Committee, co-chaired by \*Fredericksen (in his role as the UR Associate Vice-President for Online Learning) and comprising of representatives of all UR academic units (including \*Dave Miller and \*\*Lisa Brown) has continued to meet regularly to share information and inform decisions across the University.
- Related to his role within the Educational IT Governance Committee, \*Fredericksen’s is also leading a research study of the faculty experience both during and coming out of the pandemic. In collaboration with the Office of the Provost and with support of the Deans, this will include input from UR faculty about their experience and satisfaction with teaching with technology, their usage of specific University provided tools, developing an understanding of the impact of the pandemic on their teaching practices, and capture their thoughts about limitations to using technology for teaching and ideas for improvement. Developing this foundational assessment will be vital as the University moves forward in the “new normal”.
- Nine new awards were made this year as part of the “Educational IT Innovation Grants program” to support digitally-rich instructional innovations at the UR - see <https://www.rochester.edu/online-learning/edtechgov/announcement2022innovationgrants.html> for a list and brief description of each funded project).
- *Warner strategic planning group on Online Learning:* As part of the larger Warner strategic planning efforts, \*Fredericksen led a working group tasked to identify new opportunities for online programs and courses within Warner
- *New online Ed.D. in Health Professions Education:* \*Borasi led the development of a proposal for a first Warner Ed.D. that healthcare professionals could be taken fully online if desired.
- *Distance option for Elementary and Early Childhood Education teacher preparation programs:* LiDA Center staff supported the preparation of a proposal to offer the first “distance” teacher preparation program, led by \*\*Kristen Love, which was submitted to and approved by NYSED in Spring 2022.
- *Exploring Hy-flex:* Recognizing the importance of better understanding how to make the most of “hy-flex” (a new term used to indicate classes where some of the students attend in person, and other synchronously online at the same time), we first organized a debriefing meeting for Warner faculty and a LiDA Colloquium on this topic. The LiDA Center also supported the development of a proposal for an Educational IT Innovation grant entitled “Personalizing the Hy-Flex Learning Experience”, led by \*\*Love and involving \*Cyndi Carson and \*Zenon Borys among other UR instructors, which was among those awarded. Collaboration with \*\*Love on this topic will continue

over the next academic year in the form of a series of processional learning experiences for Warner instructors.

2. **K-12 Digital Consortium** (*Strategic Initiative C*):

PROJECT DESCRIPTION: The LiDA Center is offering some leadership and infrastructure support in the initial stages of the [K-12 Digital Consortium](#)- a collaboration between the LiDA Center and K-12 school districts in the Rochester region interested in transforming teaching practices by leveraging digital technology.

Given the continuing stress the pandemic has imposed on K-12 schools this year, we continued our suspension of regular meetings and Kick-Off Events, and instead reached out individually to district “liaisons” to better understand their situation and offer support as needed. We also invited educators in Consortium schools to participate in our LiDA Colloquium Series to be part of the dialogue around implications of the pandemic we were facilitating.

3. **Noyce Master Teacher Fellows (MTF) Digitally-Rich grant project** (*part of Strategic Initiative C*):

PROJECT DESCRIPTION: This 5-year \$3M grant from NSF is preparing 20 math and science “master teachers” to provide leadership in 7 high-need districts engaging in technology innovations (which are all part of the K-12 Digital Consortium). Each MTF will complete an Advanced Certificate in Digitally-Rich Teaching in K-12 Schools and an Advanced Certificate in Teacher Leadership at Warner (for a minimum of 42 credits per MTF) (see [program description](#)). This project was launched in collaboration with the Center for Professional Development and Education Reform in summer 2018; the leadership team consists of \*\*Callard (as PI), \*Borasi, \*Borys, \*\*Carson, \*\*Daley, Fluet, Kruger, Martin, \*Miller, \*\*Occhino and Staloff.

This year we continued to implement our original plans for this project, with a focus on developing our Fellows' leadership capacity – while also continuing to take into consideration the unique situations and stressors caused by the pandemic for K-12 schools. Highlights from this year included:

- All fellows engaged in a leadership project impacting stakeholders beyond their classroom (e.g. teachers, administrators, or community members). Some notable examples include: developing professional development focused on equity-based grading, connecting with community members to build better relationships between guardians and school, launching a STEM for Women Club, or partnering with the district to take advantage of underutilized outdoor spaces for kindergarten science field trips
- Five fellows represented the program at two presentations during the annual NYSCATE Conference
- Three fellows were featured in a chapter focused on teacher leadership through a digital conversion

This year we also worked towards submitting a new proposal to NSF to prepare another cadre of STEM master teachers that would both lead digitally-rich

instructional innovations and promote equity, building on the work and lessons learned from this project.

4. **“COVID Connects Us” unit (*Strategic Initiative F*):**

PROJECT DESCRIPTION: In response to the pandemic, in Summer 2020 \*\*April Luehmann collaborated with graduates from her Get Real! Science program (including four Noyce Scholars who previously graduated and had teaching positions) to develop a very [innovative science unit](#) around the science of COVID, which she also designed to be used as a start-of-the-year unit setting expectations and practices promoting equity. She reached out to the LiDA Center for help in seeking external funding to support the implementation and study of this unit, as well as further expansions.

\*\*April Luehmann has continued to work on the two grants she was awarded last year (a \$75,000 Greater Rochester Area Foundation grant and a \$1.5M NSF DRK12 research grant) around the “COVID Connects Us” unit she developed in collaboration with Noyce scholars and Get Real! Science graduates.

5. **Bullying Education through Literacy**

PROJECT DESCRIPTION: This project focuses on providing teachers with online supporting materials and information to fight bullying in school using literacy. Started in 2018 with \*\*Carol St. George as the PI, after a year the project pivoted to pursuing their original goal through a rich website that would make the materials created easily accessible everyone. \*Borasi and \*Han, as well as other LiDA research assistants, are part of this project team.

In the period covered by this report, the team has continued to produce and post new materials for the website.

6. **Reading2Babies**

PROJECT DESCRIPTION: This project aims at increasing literacy development in young children, starting at birth. Started in early 2020, and involving a collaboration with the UR OBGYN department, this project involves the creation of another website to disseminate materials and information to support reading and other literacy activities with babies, as well as an “All about Babies” app that will also include other information and guided activities involving health.

This year we have designed and worked at populating the dedicated website intended to complement the planned app by providing more in-depth information about early literacy and possible resources that families could benefit from.

Development of the app has been delayed due to COVID-19 demands on the Medical Center team.

7. **Online AP Music Theory course by Eastman**

PROJECT DESCRIPTION: The Eastman School of Music decided to design and offer a high-quality fully online AP Music Theory course for high school students, led by \*\*Venturino.

\*\*Stephanie Venturino has continued to offer (and improve) the fully online AP Music

Theory course she designed with the support of \*Miller and \*Fredericksen in 2020. For the 2021-2022 academic year, \*\*Venturino led the online instruction across two sections of the course comprised of 26 students across 13 US states plus 1 student from Thailand. To support further growth and sustainability of the program, \*\*Venturino supervised another instructor who taught the other section of the course. She also reported on lessons learned from her experience designing and teaching this course as part of the newly awarded NYSED grant to support high school students' access to advanced courses.

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**GOAL #1b – Increase the number of successful transformative LiDA initiatives, with a focus on preparing high-quality online and blended instructors**

1. **New graduates from Warner LiDA advanced certificates:** In this time period, 10 students completed the Advanced Certificate in Online Teaching and 34 students completed the Advanced Certificate in Digitally-rich Teaching in K-12 Schools (see our up to date [list of LiDA Advanced Certificate graduates](#))
  
2. **Courses on digitally-rich teaching:** High-quality training in blended and/or online teaching was provided through the following graduate courses taught at Warner (see [brief descriptions](#) for each of these LiDA courses), which were all initiated and/or (co)designed by LiDA staff - for a total of 672 semester credits of instruction in the 2021-22 academic year:
  - EDE410: Learning in the Digital Age (\*Lammers) (not offered)
  - EDE420: Introduction to Video Production for Education Research (\*\*Textor) (not offered this year)
  - EDE421: Introduction to Video Editing for Education Research (\*\*Textor) (not offered this year)
  - EDU446: Entrepreneurial Skills for Educators (\*Miller) (Su21=27; Sp22=7)
  - EDE470: Topics in Online Teaching (for UR faculty only) (\*\*Brown) (not offered this year)
  - EDE472: UR Faculty Online Course Development (for UR faculty only) (\*Fredericksen) and \*\*Brown) (special offering for Simon faculty in June 2022)
  - EDU481: Integrating English & Technology (Rosen+) (Su21=5)
  - ED482: Technology & Higher Education (\*Fredericksen) (planned for Fall 2022)
  - EDU483: Integrating Mathematics & Technology (Rosen+\*Borys) (Su21=5)
  - EDE484A: Digitally-Rich Teaching & Learning in K-12 Schools (\*\*M.Daley) (F21=19)
  - EDE484: Online Teaching & Learning (Instructor: \*\*Brown) (Su21=11; F21=9; Sp22=3)
  - EDE486: Designing Online Courses (\*Fredericksen) (Su21=12; F21=7; Sp22=8)
  - EDU481: Integrating Science & Technology (Rosen+\*\*Luehmann) (Su21=8)
  - EDF488: Online Teaching Practicum (\*Fredericksen & \*\*Brown) (Su21=4; F21=8; Sp22=6)
  - EDF490: K-12 Digitally-Rich Teaching Practicum (\*\*M.Daley & \*Miller) (-27 students for the year)

- EDE492: Integrating Technology in Teaching Content Areas (*Rosen*) (Su20=5)
- EDU497: Teaching & Learning in Higher Education & Health Care Settings (*\*Borasi & \*Miller*) (Su21=13; F21=27)
- EDU499: Integrating Social Studies & Technology (*Rosen*) (Su21=3)
- \*EDE545x: Leadership Seminar in Digitally-Rich STEM Teaching (*\*\*Callard, \*\*M. Daley & \*\*Occhino*) (21 students for the year)
- EDU581: Clinical Teaching in Health Care Professions Education: Teaching and Instructional Methods (*\*Fredericksen, Wolf, Lang*) (Sp22=33)
- ED567: Designing Research in Online Space (*\*Lammers*) (not offered this year)

NOTE: Noyce MTFs, who took some EDF490 credits plus EDE545, contributed 78 of these credits, plus also took an additional 126 credits in other non-LiDA courses (see *Goal 1a, #3 for more information about this project*).

3. **Professional development [PD] for K-12 teachers:** This year, all the PD we offered was part of the newly awarded grants from NYSED, and included both programs to improve digitally-rich teaching and to begin the implementation of the NYS Computer Science and Digital Fluency standards released in December 2020:

- **(Strategic Initiative D) Computer Science strand of the WFL BOCES Smart Start grant (CS):**

PROJECT DESCRIPTION: This 5-year NYSED Smart Start grant was awarded in 2021 to the Wayne-Finger-Lakes (WFL) BOCES to better prepare K-8 teachers in their region to implement the new NYS Computer Science and Digital Fluency Standards for K-12 schools. Several rural and small city districts from this region are participating in this project. Each year up to 60 K-8 teachers from these districts are eligible to participate in the year-long fully online professional learning offered by this grant, and includes a 3-day-equivalent Summer Institute followed by two 2.5 Zoom sessions over the school year for all participants (for a total of about 24 PD hours), and additional work within a mentored Professional Learning Community (PLC) for Tier 2 teachers; all participants are also expected to create online materials based on their classroom implementations, to be publicly shared with other teachers on the project website. WFL BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver this professional learning. The Computer Science strand of this project is led by *\*Borasi, \*Borays, and \*Miller*.

This was the first year of the grant, so a very important component was the design of the professional learning program as well as the development of a project team to facilitate the PD sessions and serve as mentors to the participants. Besides *\*Borasi, \*Miller and \*Borays*, we were able to recruit as mentors three experienced K-12 teachers (Marie Rice and Michaela Marino, two former MTF2 Fellows, and Seth O’Bryan, a Warner doctoral student) as well as *\*Carson*. The program we implemented in this first year (see the [public description](#) provided to the participants at the time of their recruitment) overall worked well. 34 participants attended the 2021 Summer Institute; over

the course of the school year, we lost a few participants, but with very few exceptions because of health reasons or because they moved to different districts (which made them not eligible to continue); 24 participants created [online materials](#) for other teachers, to be posted in this WFL Smart Start website (created by Gordon Baxter, the program coordinator, with support from LiDA staff).

- ***(Strategic Initiative F) Transforming Teaching with Technology (T3) - GST BOCES Smart Start grant:***

PROJECT DESCRIPTION: This 5-year NYSED Smart Start grant was awarded in 2021 to the Greater Southern Tier (GST) BOCES to better prepare K-8 teachers in their region to leverage technology in their teaching. Several rural and small city districts from this historically underserved region are participating in this project. Each year up to 60 K-8 teachers from these districts are eligible to participate in the year-long fully online professional learning offered by this grant, which is equivalent to 30 hours of PD and includes a 3-day-equivalent Summer Institute, followed by monthly Zoom meetings and support from a mentor, and culminating in the creation of online materials to be publicly shared with other teachers. GST BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver this professional learning. This project is led by \*Borasi, \*Borys, \*Miller and \*Carson.

This was the first year of the grant, so a very important component was the design of the professional learning program as well as the development of a project team to facilitate the PD sessions and serve as mentors to the participants. Besides LiDA staff \*Borasi, \*Borys, \*Carson and \*Miller, PLC members included 3 Center for Professional Development & Education Reform staff (Stephanie Martin; Jenifer Kruger; \*\*Mike Daley), 2 former MTF2 Fellows (Tiffany LaPrade & Kim Saccardi), and other 3 teachers from the LiDa Community (\*\*Heather Boyle; \*\*Keirah Comstock; \*\*Nick Lind). The program we implemented in this first year (see the [public description](#) provided to the participants at the time of their recruitment) overall worked well, although we are planning a few refinements for next year, based on what we learned in this first implementation. 37 participants attended the 2021 Summer Institute; over the course of the school year, while we lost several participants along the way (mostly due to the stress caused by the on-going pandemic), 17 participants fully completed the program and posted online materials for other teachers in this [GST Smart Start website](#) (created by Ryan Wassink, the program coordinator and a full participant in the professional learning, with the support of LiDA staff).

- ***(Strategic Initiative F) Re-Imagined and Systemic Educational Transformation through Technology (RESET) - GST BOCES Learning Technology grant***

PROJECT DESCRIPTION: This 3-year NYSED Learning Technology grant was awarded in late

2021 to the Greater Southern Tier (GST) BOCES to better prepare high-school teachers (grades 9-12) in their region to leverage technology in their teaching. Several rural and small city districts from this historically under-served region are participating in this project. Unlike the Smart Start grants, this grant supports a “system-change” project, so a key component is to develop a Leadership Cadre comprising of high school “teacher leaders” and school leaders to lead and sustain efforts to leverage technology to improve teaching, in addition to offering a year-long fully online professional learning program (equivalent to about 30 PF hours) to a total of 140 teachers over the last two years of the grant. Therefore, each year of the project has a different design (see a description of the [plan](#) submitted as part of our original application). GST BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver all the professional learning offered by this grant. This project is led by \*Borasi and \*\*Callard, with other members of the project team including LiDA staff \*Borys and \*Miller, Center staff \*\*Michael Occhino and Marla Iverson, and Warner faculty Valerie Marsh and Kevin Meuwissen.

By design, the first year of this grant focused entirely on developing the foundations for the project’s “Leadership Cadre”. This has included the equivalent of a 3-day “Kickoff Institute”, followed by four 2.5 hour “Leadership Cadre sessions” and an additional four 1.5 hour Zoom meetings for the teacher leaders only, as well as individual coaching for the teacher leaders. Because the project was awarded late, we were unfortunately able to only recruit 9 teacher leaders and 2 administrators - so we will need to recruit and add a second group in Year 2 (requiring some adjustments in the original plan).

- ***(Strategic Initiative F) Increasing Advanced Courses Access for High School Students (ACA) - w/GST BOCES***

PROJECT DESCRIPTION: Although the proposal for this 2-year project was submitted before the beginning of the pandemic, NYSED awards for this project were not announced until late 2021. This grant, awarded to the Greater Southern Tier (GST) BOCES, is intended to support collaborative efforts across school districts in the region to offer greater opportunities to their high school students to attend AP, IB and dual credit courses by offering them online and allowing students to attend courses that may be offered by a different school district. GST BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver all the [professional learning program](#) offered by this grant, which is all offered online and includes a 3-day equivalent “Kickoff Institute” about designing and facilitating online courses, a 2.5 hour Follow-up PD while participants are implementing their online advanced courses, as well as a series of 1-hour Zoom “Touch-Points” to provide opportunities for sharing and discussion. This project is led by \*Borasi, \*Borys and \*Miller, and also involves as small group facilitators \*\*Occhino (from the Center for Professional Development and Education Reform), and two Warner graduates from the Advanced Certificate in Online Teaching - \*\*Nick Lind and \*\*Nikki Weaver.

Given the late award of this grant, the original plan had to be modified to a November 2021 start, so the “Summer Institute” had to be somewhat adapted to be taken by participants during the school year, and the rest of the

meetings “condensed” over the Spring semester. This made the participant recruiting more difficult on the part of the grant coordinators, although we were still able to serve the full cadre of 9 “site coordinators” as well as 9 teachers. A new group of teachers will be added in Year 2.

#### 4. Professional development [PD] for higher education [HE] instructors:

- *(Strategic Initiative F)* More than 40 free 1-hour workshops were offered by \*Fredericksen and \*\*Brown (each attended by 15-30 UR faculty and staff) throughout the year - see complete lists for: [Summer and Fall 2021](#), [Spring 2022](#)
- *(Strategic Initiative F)* A debriefing meeting on “hy-flex” was organized by LiDA staff for Warner faculty in Fall 2021.

#### 5. Noyce Digitally-Rich Scholarship grant project:

PROJECT DESCRIPTION: This 5-year \$1.2M grant from the National Science Foundation [NSF] provides full scholarships to a total of 29 pre-service math and science teachers who also complete an Advanced Certificate in Digitally-Rich Teaching in K-12 Schools and commit to teach for at least two years in high-need schools after graduation. This project ([see brief description](#)) was launched in Spring 2018; the leadership team includes Choppin (as PI), \*Borasi, \*Borys, \*\*M. Daley, and \*Miller.

In addition to securing the already mentioned supplement for the “COVID Connects Us” unit, major accomplishments this year included:

- 4 of the 5 cohort1 scholars are teaching science in high need schools in the area, and they all participated in the “COVID Connects Us” unit project.
- 6 cohort2 students completed their program in Summer 2020; 5 of them started teaching in high need schools.
- 5 cohort3 students completed their program by Fall 2022; 4 of them started teaching in high needs schools. .
- 5 cohort4 students started their program in Summer 2021 and are planning to complete their program in Summer 2022
- 3 cohort5 students were recruited this year and are scheduled to start their program in Summer 2021

**GOAL #1c - Increase the number of successful transformative LiDA initiatives, with a focus on influencing educational leaders' decision-making about digitally-rich innovations**

1. **PD for K-12 school leaders on the new NYS Computer Science and Digital Fluency standards:** Connected with the Computer Science strand of the NYSED Smart Start grant, this year we designed and offered a 3-hour PD session to introduce K-12 school leaders to the new standards. This was a synchronous online session which included some individual work (see [detailed plan](#)). This PD was offered twice this year (in February and March 2022), and a total of 26 school leaders associated with the Wayne-Finger-Lakes BOCES attended these sessions and found them very productive.
2. **Collaboration with Warner K-12 Leadership program:** \*Borasi and \*Miller have continued to collaborate with Andrea Cutt, director of Warner K-12 Leadership preparation program, on drawing implications of the pandemic for preparing and supporting K-12 school leaders.

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**GOAL #2a. Advance LiDA scholarship, with a focus on studying transformative uses of technology for teaching and learning**

1. **Scholarship around the consequences and implications of the pandemic for K-12 schools (*Strategic Initiative F*):**
  - Last year \*Miller and Cutt interviewed a total of over 60 school administrators to better understand their experiences during the pandemic and the implications of these experiences moving forward. Findings from this study have already resulted in the following publications and presentations this year:
    - Miller, D.E., & Cutt, A.H. (November 2021). *Using Technology to Address Learning Gaps from the Pandemic*. NYSCATE Conference, Riverside Convention Center, Rochester, NY.
    - Cutt, A.H., & Miller, D.E. (November 2021). *Learning from the pandemic about learning technology: Findings from principal interviews*. NYSCATE Conference, Riverside Convention Center, Rochester, NY.
    - Cutt, A., Miller, D., Borasi, R., & Borys, Z. (October 2021). Lessons learned from the COVID-19 pandemic to better prepare the next generation of school leaders. *The Learning Professional* 42(5).

## 2. Scholarship around the consequences and implications of the pandemic for higher education (*Strategic Initiative F*):

- During this unique time period, Fredericksen has continued to conduct studies of the online learning experiences of graduate and undergraduate students at the University.

## 3. CHLOE Report:

PROJECT DESCRIPTION: \*Fredericksen has been one of the author of the annual report on the state of online education in higher education since 2018, and builds on his national studies of online learning leadership in US Higher Education in 2016 and 2017.

The Changing Landscape of Online Education (CHLOE) 7 report regarding the efforts of U.S. colleges and universities in the Fall 2021 semester was conducted in Spring 2022 and will be published in Summer 2022. We expect that it will be covered widely in the higher education press and media.

## 4. Future of Work at the Human-Technology Frontier projects (*Strategic Initiative D*):

### • NSF Future of Work Planning Grant on Artist-Technologists

PROJECT DESCRIPTION: This 1.5-year \$150,000 planning grant from the National Science Foundation [NSF] supports the exploratory work of an interdisciplinary team of 27 UR and RIT faculty and staff around artist-technologists' creative design at the human- technology frontier - with an initial focus on music (as the artistic domain) and Artificial Intelligence and Augmented/Virtual Reality (as main technologies) (see [public abstract](#)). The project team includes \*Borasi (as PI), \*Borys, Harris, Judge, \*Miller, \*\*Peyre, and \*\*Xu from Warner. After receiving a no-cost extension from NSF, and building on what learned in the previous year from “customer discovery” interviews with over 40 artist-technologists, the project Core Team worked on:

- Building a website with “Resources for Future Artist-Technologists (ATs)”, where we displayed selected inspirational examples of AT products, people, and resources, as well as a summary of key insights gained from our project (see [website](#)).
- Preparing a research proposal for the NSF “Future of Work at the Human-Technology Frontier”, which was submitted in March 2022; this \$2M project includes a few synergistic components intended to develop a new “ecosystem:” that will support future musicians in leveraging AI applications that can enable them to become more self-sufficient in the creation and dissemination of their artistic work (for more information, see this [brief description](#) of the proposed project); the project team, led by \*Borasi, includes 15 UR faculty,

staff and students from Warner, Eastman, and the College of Arts, Sciences and Engineering, as well as Bryan Pardo and a doctoral student from Northwestern University.

- Creating a 3-minute video summarizing key implications of our work for K-12 STEM education, which was presented at the [2022 STEM for All Video Showcase](#); the video was created by \*Borasi, \*Borys, Ben Guerrero, Blaire Koerner and \*Han.

- **Mini-grant on Automatic Rendering of Augmented Effects in Immersive Concerts:**

**PROJECT DESCRIPTION:** This 1-year \$20,000 mini-grant was awarded by the Goergen Institute for Data Science to develop a prototype solution to help musicians be more self-sufficient in creating and delivering “immersive concerts” - where listening to music is augmented by other media such as text, lighting, images, animations, sounds, vibration, water fountain and robot movements, provide audiences with holistic aesthetic experiences. The key to creating successful immersive experiences is to coordinate the music precisely with the multimedia. Up to date, this is achieved in real time either by employing a conductor to ensure that the music follows the other media or by requiring an operator to manually trigger the multi-media events to follow the music in real time. Both strategies limit the complexity of these augmented experiences and constrain many small artist groups who cannot afford to hire conductors and operators for their concerts. The project will develop a computational system to automate the coordination between the music played on stage and the prescribed media, and also study the process as an example of artist-technologist collaboration. The project team includes Zhiyao Duan (Computer & Electrical Engineering; PI), Matthew Brown (Eastman, co-PI), Borasi (Warner, co-PI), Chris W. and Christos xx.

This project was conceived, proposed, awarded and launched this year, as as “spin-off” of the Future of Work planning grant on artist-technologists. The team is currently building the proposed tool in the context of preparing for an actual multimedia concert to be performed by *Table Top Opera* in Fall 2022.

- **Developing UR Capacity to Competitively Engage in Future of Work Projects**

**PROJECT DESCRIPTION:** Recognizing the importance of Future of Work projects for the future of the UR (and other higher education institutions), we are trying to develop interdisciplinary teams of faculty and staff across the UR that will work together to develop the needed cross-disciplinary expertise to collaboratively pursue external funding opportunities around implications of artificial intelligence (AI) and other new technologies for the preparation of future workforces.

With support from an internal mini-grant and in-kind contributions from various UR units, this project was launched this year by instituting 4 new Working Groups (Humanities, Health Care, Climate Economy and Higher Education Student Services), in addition to the existing team working on

the "artist-technologist" planning grant. The entire project team met twice this year in project-wide Touch-point events - a 3-hour [Kick-off event](#) in October 2021, and a 2-hour [follow-up event](#) in January focused on (a) brainstorming implications of our work for the UR strategic plan and (b) providing feedback on the Future of Work research proposal being prepared by the "Artist-Technologist" team. In collaboration with the Ain Center for Entrepreneurship, the project also organized a "[Collision Challenge](#)" event for UR students in February 2022, where participants developed and "pitched" concrete proposals to improve specific student services at the UR.

- **NSF Proposal on Cybersecurity Education**

PROJECT DESCRIPTION: The main goal of this project is to leverage the collaboration between cybersecurity experts and LiDA Center staff to develop two parallel yet interrelated innovative professional learning programs for Cybersecurity Analysts and Cybersecurity Engineers, respectively, to develop the needed mindset, knowledge, and skills to effectively develop and use AI/ML in their work, while also promoting life-long collaboration between these two professions.

\*Miller, \*Borasi and \*Borys have partnered with RIT faculty Jay Yang and Justin Pelletier to prepare an NSF grant proposal to support the development of the program described above. The proposed project will build on the expertise developed by RIT in offering an innovative "cybersecurity bootcamp" for entry-level positions, and the expertise of the LiDA team to design professional learning experiences that are grounded in theory and research about how people learn best as well as make the best use of a combination of face-to-face and online modalities. The team has met weekly over the 2022 Spring semester to conceptualize the program and write the proposal, submitted in May 2022.

5. **Study of new technology-rich post-secondary options and factors affecting their adoption (*Strategic Initiative F*)**

PROJECT DESCRIPTION: A team of faculty from RIT College of Business and the UR Warner School of Education (\*Borasi, \*Miller, Harris and Rubenstein) have come together under Richard DeMartino's leadership to better understand the new post-secondary education options currently available given the advances in online teaching technologies, along with the factors affecting their adoption. The team is also exploring how the situation may have been changed due to how high school students experienced online learning during the pandemic.

After submitting grant applications to various foundations over the past two years, RIT was finally awarded a \$100,000 grant from the Charles Koch Foundation in February 2021 to conduct a pilot study (titled "Moving Towards the Tipping Point: Exploring Shifting Demands for New Higher Education Approaches Post-COVID-19") focusing on secondary students and their influencers'

perceptions about alternatives to traditional college (and the changes that may have occurred due to the pandemic), with special attention to how this may affect their post-secondary education decisions (see excerpts from the [proposal](#) for more detail). This year the team has completed over 100 interviews with students and their influencers from various schools serving a high percentage of disadvantaged students - East, Greece Arcadia, Honeoye, some BOCES programs, The Eagle Academy program in New York City, and also a group of home-schoolers. We also interviewed a group of “innovators” offering alternative post-secondary programs, to better understand the “supply side”. We are currently engaging in analyzing the data collected from this rich set of interviews, from a few different perspectives.

#### 6. **Research on youth digital literacy:**

PROJECT DESCRIPTION: Lammers has been studying youth digital literacy in the United States and in Indonesia, as a means of theorizing global meaning making through digital practices and to inform educators about how youth leverage technology for their own interest-driven learning. Over the period covered by this report, \*\*Lammers' research on this topic has generated the following publications and presentations:

Astuti, P. & Lammers, J. C. (2021, 19 October). [Bagaimana kreator konten bisa menghasilkan karya yang berpihak pada masyarakat dan kemanusiaan](#) [How content creators can produce works that are in favor of society and humanity]. *The Conversation - Indonesia*.

Post-COVID education: Lessons learned from Indonesian global meaning makers. (2021, September 23). Virtual keynote presented at the CELSciTech International Conference, Universitas Muhammadiyah Riau, Pekanbaru, Indonesia.

Post-COVID digital literacy education: Positioning Indonesian students as global meaning makers. (2021, September 17). Virtual keynote presented at the 7<sup>th</sup> Language and Language Teaching Conference, Sanata Dharma University, Yogyakarta, Indonesia.

#### 7. **Research on leveraging the potential of digital literacy in schools:**

PROJECT DESCRIPTION: For the past decade, \*Lammers has been conducting research on students' engagement in fanfiction and other powerful digital literacies, and deriving implications for English Language Arts/Literacy classrooms.

\*\*Lammers work on this topic generated the following publications and presentations in the period covered by this report:

Marsh, V. L., Lammers, J. C., & \*Conroy, E. (2021). Repositioning students as change-makers: Five steps to advocacy research. *English Journal*, 111(2), 56-63.

Marsh, V. L., \*Conroy, E., & Lammers, J. C. (2022, February). Literacies of power: Examining a research-practice partnership to expand youth advocacy. Paper presented at the NCTEAR Virtual Conference.

Lammers, J. C., Magnifico, A. M., & \*Wang, A. (2021, December). Bringing play in from the margins: An argument for fan-based literacies' role in post-pandemic ELA pedagogy. Paper presented at the Literacy Research Association annual conference, Atlanta, GA.

8. **Implications of machine learning for scientific inquiry and science education:**

PROJECT DESCRIPTION: Since early 2019, \*Borasi, \*Miller, and \*\*M.Daley have collaborated with Computer Science faculty \*\*Zhen Bai to explore how machine learning may provide new ways to generate as well as to test hypotheses as part of scientific inquiry - and the implications this may have for how we teach about scientific inquiry in schools and college. This work is intended to leverage and complement ML-powered learning environments \*\*Bai has been developing to make the use of machine learning more accessible to students with limited math and coding background.

The grant proposal submitted last year to the U.S. Department of Education Institute for Educational Studies (IES) to develop and study a new “AI pedagogical agent” (named “CuriDATcity”) that would support high school students' scientific inquiry leveraging machine learning was not funded. However, the team decided to down-scale and revise the project for submission to the NSF program on “Research on Emerging Technologies for Teaching and Learning” (RETTL) in October 2021. While the proposal for this project was once again declined, we were invited to submit a proposal for a 2-year \$300K EAGER grant to explore our original idea - and we are now awaiting response about this grant.

9. **Case Study of the East Irondequoit digital conversion.**

PROJECT DESCRIPTION: The East Irondequoit Central School District has been a pioneer in the Rochester region, since it started its journey towards digital conversion in 2012 under the leadership of Superintendent Susan Allen and Chief Information Officer Joe Sutorius. The LiDA Center has committed to conduct a case study of this experience, as a way to document key decisions made, challenges encountered, and lessons learned that could benefit other districts embarking in similar 1:1 initiatives.

A book chapter focusing on the roles and preparation of teacher leaders at East Irondequoit throughout their digital conversion has been prepared and got published in an edited book about teacher leadership:

- Miller DE, Borasi R, Borys Z, Callard C, Carson C, Occhino M. The Power of Teacher Leaders: Their Roles, Influence and Impact. Bond N, editor. New York: Routledge; 2022. Teacher Leaders' Roles, Preparation, and Impact in a District-wide Digital Conversion.

The entire [book](#) is publicly accessible online through Google Scholars.

10. **LiDA-related doctoral dissertations:** In this section we are listed all “active” UR Ph.D./Ed.D. dissertations on topics related to LiDA, where either the student is

part of the LiDA community, or at least a member of the dissertation committee is a LiDA staff or LiDA community member:

- Aliedim, Riham, *Can We Walk a Mile in Our Patients' Shoes? A Mixed Methods Study on the Educational Potential of Immersive Virtual Reality in Empathy Training for Medical Students* (committee: \*\*Peyre [co-chair], \*Borasi [co-chair], DeAngelis, Nofziger) - proposal defended in summer 2021; completed data collected and currently analyzing the data
- \*Borys, Zenon, *Teachers' Curriculum Practices in the Digital Age* (committee: Choppin [chair], Hursh, Otten) - proposal defended in 2019; data collection and analysis completed
- \*\*Carson, Cynthia, *Coaching from a Distance: Exploring Coaching Practices of Video-based Online Coaches* (committee: Choppin [chair], Luehman, Roth-McDuffie) - proposal defended in 2019; data collection and analysis completed
- \*\*Comstock, Keirah, *ESOL Teachers' Technology Integration While Working with ITLs* (committee: \*Lammers [chair], Ares, Nogueron-Liu - UC Boulder) - proposal defended
- Duan, Xueyan, *Investigating language learning opportunities provided by out-of-school online EFL courses for Chinese K-12 students* (committee: \*Borasi [chair], Shang-Butler, Osburgh) - proposal defended in summer 2021; data collected and analyzed; expected final defense in Summer/Fall 2022
- \*Han, Yu Jung, *Extramural English in an Affinity Ecology: Intersecting Spaces for Interest-driven English Learning* (committee: \*Lammers, Curry, Rebecca Black - UC-Irvine) - dissertation defended in April 2022
- \*\*Textor, Kristana, *Motivation and Minecraft: A Mixed Methods Study on Digital Recreations of College Campuses During the Covid-19 Pandemic* (committee: \*Lammers [chair])
- Buholtz, Kim. *A Program Evaluation of the University of Rochester Medical Center Simulation for Operating Room Safety Program* (committee: Kawakyu-O'Connor, \*\*Peyre, \*Miller) - proposal defended 10-02-2020.

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## **GOAL #2b. Advance LiDA scholarship, with a focus on leveraging digital technologies to more effectively disseminate new knowledge**

### 11. LiDA Center website (part of Strategic Initiative B):

- **On-going posting on the redesigned [LiDA Colloquium Series](#) page:** Selected recordings and other online materials from each LiDA Colloquium have continued to be posted on the LiDA website, as a way to enable interested people to benefit from these events even when they may not have been able to attend the live session.
- The LiDA eModule created in 2020 to support teachers' development of "High-Leverage Teaching Practices for Remote Teaching" ([eModule](#)) has

been used in the 2021 offerings of EDU497 as well as all our professional development on digitally-rich teaching. (NOTE: This eModule includes a diverse set of online resources (including short videos, interactive web pages, text documents, etc.), along with suggestions about different possible uses; it was created by \*Borasi, with input from \*Miller and \*Borys and support by \*Yu Jung Han to create and post the online materials).

**12. “Entrepreneurial Skills for Educators” Open Education Resources (OER) project:**

PROJECT DESCRIPTION: A mini-grant from the UR Libraries is supporting the creation of a set of Open Education Resources (OER) for “Entrepreneurial Skills for Educators,” and course designed and taught by \*Borasi and \*Miller. This set of OER resources will include at its core an open-access and updated version of the manuscript created as part of an Entrepreneurship Education grant funded by the Kauffman Foundation in 2004, that students could use and also contribute to for specific sections. It will also include a companion website for course instructors who may want to access more information about the design of possible assignments as well as other resources. See this [excerpt from the proposal](#) for more details.

Following the award of this mini-grant in Summer 2020, \*Borasi and \*Miller, with the support of librarians \*\*Eileen Daly-Boas and \*\*Kimberly Davies-Hoffman, have been completed a first [Pressbooks version of the book](#). This version has been piloted in the Spring 2022 offering of the course by \*Miller.

**13. Teachers’ online materials created from the NYSED Smart Start grants:**

Building on the format created last year to report on [“lessons learned”](#) by MTF2 fellows during the pandemic (supported by the supplement received from NSF), we develop and implement a format to help participants in the NYSED Smart Start grants create online materials that could be inspirational and useful for other teachers - as illustrated in the websites created for each of these grants:

- [Computer Science - WFL BOCES Smart Start grant website](#)
- [T3 - GST BOCES Smart Start grant website](#)

**14. Other innovative dissemination products:**

- Finalized the format for the **LiDA Annual Reports** and related [webpage](#), and created videos with highlights for the 2020-21 and 2021-22 year.
- Created a new 3-minute video as part of the submission to the NSF 2022 STEM for All Video Conference:

- “A pathway to technology literacy through art creation” - reporting on lessons learned from the NSF Future of Work planning grant to promote technology learning by leveraging students' interest in the arts (presented by \*Borasi, \*Borys, Guerrero & Koerner; produced by \*Borasi; created and edited by \*Han & Guerrero)

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**GOAL #2c. Advance LiDA scholarship, with a focus on developing research methodologies to effectively and ethically make use of digital data**

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**1. Developing research methods to study learning in online spaces**

PROJECT DESCRIPTION: \*Lammers, along with other colleagues and Warner students, has been working on identifying methodological and ethical issues presented by conducting educational research in online spaces, and also offering some solutions and research innovations.

Nothing to report

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**GOAL #3. Achieve visibility for LiDA Center's work**

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**1. Awards and other recognitions:**

- Doctoral students Erqian Xu and Qinqin Xiao were awarded a special \$34,000 NSF-funded fellowship to pursue additional training in VR/AR
- \*Borasi was asked to serve on a university-wide committee developing a proposal for a new Ph.D. in Data Science

**2. Publications, presentations and internet presence:**

- This year, LiDA staff have produced a total of 3 **publications** and 12 **presentations**; in addition to those listed elsewhere in this annual report, these also included:
  - Researching a Problem of Practice: Supporting Teacher Learning During a Pandemic (NYSCATE 2021, \*Borys & Messenger)
  - Teacher Leaders and Digitally-rich Instruction Beyond the Pandemic (NYSCATE 2021, Daley, Miller, Straub, & Crawford)
  - Transforming the Use of Technology in the Post-Pandemic Secondary Classroom (NYSCATE 2021, Kruger & Marino)

- CHLOE 6: Online Learning Leaders Adapt for a Post-Pandemic World, The Changing Landscape of Online Education, Garrett, R., Legon, R., \*Fredericksen, E. E., & Simunich, B. (2021).
- [LiDA Center website](#): Between May 1, 2021 and April 30, 2022, website traffic included 3644 unique users for 4,946 sessions and 8,595 page views.
- [K12digital.org](#): Between May 1, 2021 and April 30, 2022, website traffic included 845 unique users for 1,055 sessions with 1,562 page views.

### 3. LiDA staff's participation in conferences and events:

- 2021 NYSCATE conference (*\*Borasi; \*Borys; \*Miller; \*\*Daley*)
- 2021 OLC Accelerate (*\*Fredericksen*)
- 2021 Literacy Research Association (*Lammers*)
- 2022 CHLOE Executive briefings (*\*Fredericksen*)
- 2022 DSPSA Conference (*organized by the Warner Student Association*) (*\*Borys; \*Carson*)
- 2022 National Council of Teachers of English - Assembly for Research (*Lammers*)
- 2021-22 NSF virtual PI meeting for the *Future of Work at the Human-Technology Frontier* (*\*Borasi*)
- 2022 STEM for All Video Showcase (*\*Borasi; \*Borys; \*Miller*)
- 2022 American Educational Research Association (*Lammers*)

### 4. Contributions to increasing the LiDA Center's visibility within the University of Rochester:

- In his role as **Associate Vice-President of Online Learning** for the entire university, \*Fredericksen organized a Symposium on November 9, 2021, where four UR faculty shared their experiences with online teaching (Jeff Choppin & Andrea Barrett from Warner; Rachel Roberts & John Kapusta from Eastman). Video recordings of each of these presentations are available at <https://www.rochester.edu/online-learning/symposium/index.html>
- The 6 LiDA Colloquia offered this year were advertised across the University of Rochester through @rochester (the UR daily e-newsletter).
- The Future of Work NSF planning grant and UR Capacity Building project, led by LiDA Director Borasi, when combined involved over 30 team members across the University, with representatives from Eastman School of Music, College of Arts, Science and Engineering, Medical Center, Georgen Institute

of Data Science, Ain Institute for Entrepreneurship, and Greene Center for Career Education and Connections.

5. **Contributions to increasing the LiDA Center’s visibility in the region:**

- The five presentations at the 2021 NYSCATE conference, held in Rochester, have increased the visibility of our work in the region
- \*Borasi presented on “Learning in the Digital Age” to the Rochester Women’s Network in March 2022

6. **Contributions to increasing the LiDA Center’s visibility nationally and internationally:**

- \*Fredericksen is serving as Associate Editor of the Online Learning Journal, a top research publication in the field of online education. (Sept. 2020)
- \*Fredericksen continued to serve on the Board of Directors of OLC, the Online Learning Consortium, the premiere national organization focused on online learning.
- \*Fredericksen is serving on the OLC Fellows Selection Committee, the highest level of individual recognition for the OLC organization.
- Lammers delivering keynote addresses at international conferences in Indonesia, giving an invited talk at Lancaster University’s Literacy Research Centre and for the Edmentum EdOptions Academy teacher summit

7. **LiDA Communication Plan** (*Strategic Initiative B*): On hold this year, although we plan to get back to it in Summer 2022.

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**GOAL #4. Create a vibrant and collaborative “LiDA Community”**

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1. **LiDA Colloquium Series**

**PROJECT DESCRIPTION:** Featured LiDA program aiming at creating opportunities for sharing and dialogue about topics related to learning in the digital age for educators across fields.

This year, we chose to continue to offer the LiDA Colloquium Series remotely and focusing on discussing lessons learned and implications of the pandemic (see

<https://www.rochester.edu/warner/lida/programs/lida-colloquium-series/> for recording of the conversation starters for each of these sessions):

- **Fall 2021 season:** During the Fall 2021 season, a total of 152 people registered and 92 attended the following sessions.
    - *What LiDA PROJECTS can be of benefit to you?*
    - *How can we make the most of HY-FLEX?*
    - *How will technology help us address the LEARNING GAPS caused by the pandemic?*
  - **Spring 2022 season:** During the Spring 2022 season, 101 people registered and 70 attended the following sessions.
    - *Implications for the UR strategic plan of technology disruptions accelerated by the pandemic*
    - *Dealing with remote work/ learning “burn out”*
    - *Reignite the “business” of education*
2. **Growth in LiDA community members:** Reached a total of 45 current members (as listed in the [LiDA Community page](#) on the LiDa website).
3. **Active LiDA Working Groups this year:** The following working groups (and individuals identified in parenthesis) have been meeting regularly and/or working on unfunded collaborative projects over the current year:
- **Cybersecurity Education** (*Jay Yang - RIT; Justin Pelletier – RIT; \*Borasi; \*Borys; \*Miller*): Since January 2022, this team has met weekly to work towards the NSF grant proposal described under goal #2a.4.
  - **Disruptive Technologies and Higher Education** (*\*Borasi, \*Miller, Harris & DeMartino-RIT + other*) : This study group, which expanded to include other member of the Coke project team, has been meeting weekly throughout the year to share and discuss data and preliminary findings from this research project.
  - **Machine Learning and Scientific Inquiry** (*\*\*Zhen Bai – UR Computer Science, Jiebo Luo – UR Computer Science; \*Borasi, \*\*Michael Daley*): The team worked together to write the RETTL and EAGER grant proposals submitted to NSF this year.
4. **Other on-going active collaborations:** The following existing collaborations were maintained and/or expanded:

- ***Ain Center for Entrepreneurship - Romania Fellowship program:*** \*Borasi and \* Miller have continued to support the Ain Center’s project of hosting a group of Romanian faculty members in Rochester for a semester to learn from current initiatives related to entrepreneurship, by sharing lessons learned about teaching online as well as launching new university programs; this year this involved two groups of Fellows, 6 in Fall 2021 and 4 in Spring 2022.
- ***WFL BOCES:*** We worked closely with Gordon Baxter to successfully launch the Computer Science strand of the Smart Start grant awarded to BOCES, and then reflect on this experience to improve the program design for Year 2. We also added a PD on the new Computer Science standards for K-12 school leaders that was not part of the grant.
- ***GST BOCES:*** We worked with the GST BOCES grant writers as well as project coordinators to launch the three state grants awarded this year.
- ***Dr. Cesare Wright*** (President of the Kino-Eye Center for Visual Innovation) has participated in the design and implementation of a section of the Computer Science Summer Institute, and plans to continue this collaboration in Year 2. We have also been exploring other potential collaborations.
- **[Warner’s Doctoral Student Peer Support Association \(DSPSA\)](#)** (a self-organized student group for Warner doctoral students): \*Borys has continued to collaborate with this group. The collaboration focuses on supporting doctoral students along their academic journey and empowering them to make the most of the ever-changing list of digital tools available to them. We are planning a series of workshops for the Fall Semester in 2022.

5. **New collaborations:** New collaborations were explored with the following individuals/groups:

- Meghan Plate, in her new position with UR Health Leb
- Nina Deng, as president of the Northeastern Educational Research Association (NERA)
- Jason Green and his colleagues at Learning Innovation Catalyst

**GOAL #5. Assure the resources needed to sustain and expand the Center’s work and its impact**

1. **New LiDA staff positions:**

- Cynthia Carson has joined the LiDA Center staff.

2. **Partnership with the Center for Professional Development and Education Reform:**  
This year, the LiDA Center and the Center for Professional Development and Education Reform (CPDED) have further strengthened their partnership by collaborating in all four professional development grants from NYSED as well as the current NSF-funded Noyce Master Teaching Fellowship (MTF) grant, and also put together a joint proposal for a new Noyce MTF grant, submitted in August 2021.
  
3. **LiDA Center staff working on unfunded infrastructure and core initiatives:**
  - LiDA Director (R. Borasi): 10% FTE
  - LiDA Associate Director for Higher Education (E. Fredericksen): 5% FTE
  - LiDA Associate Director for K-12 Education (D. Miller): 5% FTE
  - LiDA Assistant Director (Z. Borys): 30% FTE
  - LiDA Associate (C. Carson): 5% FTE
  - LiDA Fellow (Yu Jung Han): 30% FTE
  - Additional RA support:
    - Erqian Xu: ~6% FTE (5 hours/week; Fall 2021 only)
    - Elham Tajik: ~12% FTE (5 hours/week)
  
4. **Gifts secured to support the LiDA Center's infrastructure and unfunded core initiatives:** A total of about \$65,000 in gifts has been received to date during the 2021-22 fiscal year to date, and an additional \$140,000 pledged, including contribution directed to support the following core initiatives and positions:
  - Support for the LiDA Assistant Director position
  - Support for the LiDA Colloquium Series
  - General support for the LiDA Center's infrastructure and unfunded initiatives
  
5. **New grants and contracts awarded:**
  - NYSED: All four grants have been renewed for Year 2, for a total of about ~\$200,000 funding for the LiDA Center for next year
  - GIDS mini-grant (\$20,000)
  
6. **New grant proposals submitted (and their status):**
  - New NSF Noyce MTF proposal (BAJEDI - \$3M) - Proposal submitted in August 2021; still *PENDING*
  - GIDS mini-grant (\$20,000) - *submitted in September 2021*; awarded
  - RETTL: CuriDATcity (\$850,000 total) - *submitted in October 2021*; *DECLINED*,

*but with the invitation to submit a request for a \$300,000 EAGER grant, which was submitted March 2022 and is still PENDING*

- NSF: Future of Work (\$2M total) - *submitted March 2022; PENDING*
- NSF: Cybersecurity Education (~\$500,000 total) - *submitted May 2022; PENDING*

**7. Developing Warner doctoral students' capacity (*Strategic Initiative E*):**

- \*\*Erqian Xu and Qinqin Xiao have completed most of the requirements for the Advanced Certificate in Data Science; they were also accepted in a special NSF-funded training program in AR/VR
- \*\*Erqian Xu has continued to participate in the “Artist-technologists” Future of Work planning grant as the research grant proposal was conceptualized and written
- Elham Tajik has started her doctoral program at Warner, and as part of her assistantship she has participated in the UR Future of Work Capacity Building project; she has also completed
- Natalia Puspawati participated in the UR Future of Work Capacity Building project as part of the Health Care Working group
- Two newly admitted Warner doctoral students, Mamunur Rashid and Adma Gama-Krummel, had a “jump-start” on their program by taking *EDU446: Entrepreneurial Skills for Educators* fully online in Spring 2022, before the official start of their program.