

Rochester STEM Academy District #4204

Emergency Board Meeting 2:00 pm Monday, April 20, 2020

Rochester STEM Academy-415 16th Street SW, Rochester MN 55902

**Vision:**

*A community focused school providing a rigorous STEM education.*

**Mission:**

*The mission of Rochester STEM Academy is to provide a highly supportive learning environment for minority, immigrant, and other students currently underserved in traditional area high schools and greatly underrepresented in Rochester's STEM (Science, Technology, Engineering and Mathematics) industries through a challenging program that emphasizes creativity, accountability, ongoing assessments, college preparation, and high academic achievement.*

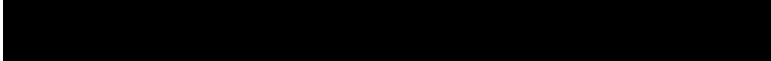
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**Meeting Notice:**

This Emergency Meeting of the Rochester STEM Academy School Board was called by the Board Chair in response to recent events

**Agenda:**

1. Call Meeting to Order:
  - a. Introduction of Guests
  - b. Roll Call
  - c. Community Comments
  - d. Request for any Conflicts of Interest
  - e. Review and Approval of meeting agenda
2. Acceptance of Interim Executive Director Sarah Schlake's Resignation
3. Approval of Charlene Ellingson as the new Executive Director of Rochester STEM Academy
4. Approval of Ali Ashkir as Assistant Executive Director of Rochester STEM Academy
5. Other Business
6. Adjournment
7. Next Meeting (May 20<sup>th</sup>, 2020)



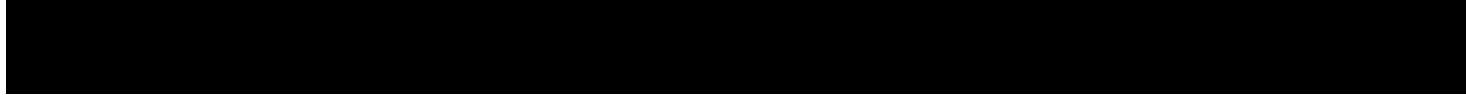
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## Fwd: Important Reminder- Contract Renewal Next Steps

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Sarah Schlake

Wed, Apr 15, 2020 at 11:18 AM



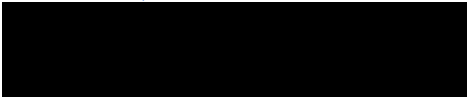
I am prepared to hand in my resignation at the end of the day.

[Quoted text hidden]

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**Sarah Schlake, M. S., Ed.**  
*Interim Executive Director*

Rochester STEM Academy  
415 16th Street SW  
Rochester, MN 55902



January 13, 2020

To Members of the Search Committee:

I am excited to apply for the Rochester STEM Academy (RSA) Executive Director position. My experiences developing STEM programming during my role as the STEM Integration Specialist for Minneapolis Public Schools (MPS) aligns well with RSA's mission and vision. I further honed my expertise with the attainment of my PhD in STEM Education, gaining knowledge of research-informed approaches to STEM Education with an expertise in STEM teacher professional learning and its role in distributed leadership within inclusive STEM schools.

In addition to alignment with professional qualifications, my personal interest in the Executive Director position is based upon the innovative approach RSA has taken to K-12 education and STEM more specifically (Poetry SLAM, STEM Fencers, STEM Personal Learning Plans, PSEO, etc.). Quite simply, I want to be part of building upon the foundation that exists at RSA in Rochester, and Southeast Minnesota more generally.

As a teacher for 15 years in high-poverty, highly diverse schools, I have been drawn to educational innovation to meet the needs of my students. For example, my first teaching position was as a science teacher in a Commercial and Fine Arts Small Learning Community in North Minneapolis. To make science more interesting to my artsy students, I took it upon myself to collaborate with artists to develop art-science integrated curriculum. Later, as the STEM Integration Specialist for MPS, I was tasked with starting a STEM program from scratch for our PreK-8<sup>th</sup> grade students (in a district with over 90 schools). Rather than adopt a pre-packaged program, I took a multi-pronged approach that addressed sustainability but allowed for on-going innovation that included:

- (i) Adopting an elementary program (Engineering is Elementary);
- (ii) Collaborating with classroom teachers to write, implement and evaluate integrated STEM curriculum for 4<sup>th</sup>-8<sup>th</sup> grade;
- (iii) Creation of a professional development program teachers could choose to participate in; and
- (iv) Development a district-university partnership to train classroom teachers in educational leadership so they could train and support other teachers in their buildings

More recently, as a teacher educator, I have been collaborating with organizations and other university faculty on innovative ways to embed culturally relevant pedagogies in science, mathematics and engineering. For example, I worked with NASA to organize a STEM day at Anishinaabe, the Native American school in Minneapolis. NASA brought in a panel of Native American astronauts to share their experiences with students and we created grade-level STEM workshops for students, which the teachers then continued to work on in

their classrooms. Topics included coding, engineering design, and a STEM-literacy session where K-2 students used Legos to prototype stories among other things. My most recent research projects emerged from embedding cultural relevance into mathematics and science, and social justice into engineering methods courses at Minnesota State University, Mankato. Collaborating with a colleague we turned our classroom innovations into research projects to more deeply understand their effectiveness. My current research projects are entitled:

- *A Sociotechnical Approach to Engineering Education: Engineering Social Justice for Elementary Pre-Service Teachers;*
- *Culturally Relevant Mathematics Games: Engaging Teachers in Courageous Conversations;*
- *Storytelling for Collaborative STEM Curriculum Development: Negotiating Discourses of Play and Learning.*

Two of the things that drew me to STEM for my classroom and, eventually, to earn my Ph.D. in STEM Education, were the creativity STEM inspires in students and the innovation it requires of teachers. When students are engaged in problems and issues relevant to society beyond the classroom, in my experience, they cannot help but become motivated to learn and inspired to design creative solutions to old problems. When teachers see their students engaged and successful, teaching becomes more fun. I have personally marveled at the amount of time, effort and attention the teachers I have collaborated with put into becoming more proficient with integrated STEM content and pedagogies, as well as the leadership they have exhibited.

As already mentioned, my interest in the Executive Director position is based on respect for what RSA has already accomplished and my desire to be part of continuing to drive this work forward in innovative ways. My interest is also based upon my deep admiration for teachers, expertise in STEM education, knowledge of curriculum and teacher professional development, and commitment to diversity. Should I be selected, I intend to use my expertise described above as well as those outlined in my Curriculum Vitae (CV) to cultivate a culture of collaboration, teacher leadership and innovative approaches to STEM. I have attached my application, CV and Equity Statement and appreciate your time in considering me as an applicant in this role. I look forward to learning more about your work at RSA.

Respectfully,



Charlene Ellingson  
Ph.D. STEM Education, University of Minnesota

## **Educational Philosophy and Equity Statement**

The day my mother kidnapped me and my brothers and sisters, was just like any other summer day. The sun rose and set as usual, as if my life had not just changed forever. One of the consequences of her actions, once they found us and the foster homes and CPS were done with us, would be that I did not go to school regularly until third grade.

While I had always been curious about the world, I was terribly behind when I finally was able to attend school regularly. Ms. Hartwig, the school librarian, saw something in me and took me under her wing. I learned to read, and school became a safe haven from my home life. When I became a teacher, I knew, from personal experience, that being four years behind was not a life sentence for academic failure.

Because going to school was not something I ever took for granted, it is personally very important to me to make sure that all students have access to high quality educational opportunities.

I believe that education is an act of social justice because it is the means by which we, as a society, ensure that a child does not become their circumstances. I also know that educational opportunities and disparities exist in education, often defined along racial, cultural and socioeconomic lines. As a teacher, instructional leader, and life-long learner, I believe that it is my responsibility to disrupt patterns of inequities in education and ensure *all* students have the personal and academic tools and confidence they need to reach their potential.

## Current Position (2018-19 School year)

**Adjunct Professor STEM Education, Elementary and Literacy Education.** Minnesota State University, Mankato.

**Science Teacher, Minneapolis Public Schools.** On Leave of Absence.

## Education

Ph.D. **STEM Education.** University of Minnesota. 2012-2018

M.A. **Science Education.** University of St. Katherine's, 1998-2001

B.A. **Life Science & History of Science.** University of Minnesota. 1998

## Research Interests

I am interested in collaborative teacher professional learning, and scholarship that is framed in theory; yet, directly applicable to the classroom. At the core of this intellectual work is a commitment to diversity coupled with a belief that different students learn in different ways, and integrated academic content provides a wider range of entry points for students. Current research projects include:

- *A Sociotechnical Approach to Engineering Education: Engineering Social Justice for Elementary Pre-Service Teachers;*
- *Culturally Relevant Mathematics Games: Engaging Teachers in Courageous Conversations;*
- *Storytelling for Collaborative STEM Curriculum Development: Negotiating Discourses of Play and Learning.*

## Research Experience

- *Collaborative Design Capacity for Enactment: A Framework for STEM Pedagogical Design Capacity* Submitted May 2019
- *Altered Reality: An Inquiry-Based Neuroscience Lesson Helping Students Understand Neuroplasticity and its Role in Learning* Submitted December 2019
- *Teachers as Curriculum Designers: Understanding STEM Pedagogical Design Capacity (manuscript proposal)* Submitted December 2019
- *Contributions of Neuroscience Knowledge to Teachers and Their Practice, The Neuroscientist* March 2019
- *Teachers as Curriculum Designers: Understanding STEM Pedagogical Design Capacity (dissertation)* May 2018

- *Storytelling as a Mediating Factor for STEM Pedagogical Design Capacity within Communities of Practice* May 2017
- *Critical Response Protocol: A Tool for Facilitating Instructional Dialog and Academic Literacy in Science Classrooms* 2012-13
- *Science Teacher Authentic Classroom Instruction and Student Neuroscience Learning* 2012-13

### Conference Presentations & Professional Associations

- *Association of Science Teacher Educators (ASTE), Program, Strand Coordinator, Ethnoscience/Environmental Education* 2018-19 & 2019-20
- *Teachers as Curriculum Designers: Understanding STEM Pedagogical Design Capacity (ASTE)* January, 2019
- *Storytelling as a Mediating Factor for STEM Pedagogical Design Capacity within Communities of Practice, Assn. for Science Teacher Education (ASTE).* January, 2017
- *Reviewer for Cultural Studies of Science Education (CSSE)* January 2019-current
- *Critical Response Protocol: A Classroom Tool for Facilitating Instructional Dialog in Science Classrooms. Assn. for Science Teacher Education (ASTE).* January, 2014
- *Learning Neuroscience Through Inquiry Pedagogy: Authentic Classroom Instruction and Student Neuroscience Learning. National Association of Research in Science Teaching (NARST).* April, 2013

### Postsecondary Teaching Experience

- EEC 431-01/02 Elementary Math Methods, Mankato State Fall 2019/Spring 2020
- EEC 456 Special Topics: STEM for Elementary Teachers Spring 2020
- KSP 633 Assessment and Evaluation Spring 2019
- EEC 431-01/02 Elementary Math Methods, Mankato State Fall 2018/Spring 2019
- EEC 322 Science/Health Elementary Methods, Mankato State Spring 2019

- EEC 467/567 I-STEM: Elementary Methods, Mankato State Spring 2019/Fall 2018
- EEC 456 Special Topics: Neuroscience for Elementary Teachers Spring 2019/Fall 2018
- EEC 436/536 Engineering for Elementary Teachers Fall 2018
- EEC 616 Integrating 21<sup>st</sup> Century Skills in Elementary Fall 2018
- EEC 467 I-STEM: Elementary Methods, Mankato State Spring 2017/Fall 2016
- CI 5512 & CI 5597: Secondary Methods & Supervision Fall 2014
- CI 5596 & CI 5597: Supervising Teacher Candidates Fall 2014
- CI 5596 & CI 5597: Supervising Teacher Candidates Fall 2013
- CI 5532 Teaching Secondary School Science Spring 2014
- Neuroscience for Teachers, University of Minnesota. Summer 2013
- From STEM to STEAM: Interdisciplinary Approaches to PK-16 Teaching & Learning, University of Minnesota. Summer 2013

## K-12 Teaching Experience & Certification

- PreK-5 STEM Teacher on Special Assignment.** Minneapolis Public Schools, Jenny Lind Elementary. 2017-2018
- PreK-8 STEM Integration Specialist.** Minneapolis Public Schools, 2015-current. *Specializations:* STEM Integration (PreK-8) and STEAM Integration in PreK-16 Curriculum. 2015-2017
- Roosevelt High School.** Minneapolis Public Schools, 10<sup>th</sup> grade. 2011-2012
- Patrick Henry High School.** Minneapolis Public Schools, 9<sup>th</sup> & 10<sup>th</sup> grades. 2001-2011
- 5-12 Life Science, State of Minnesota 2001-Current
- Minneapolis Public Schools, 9<sup>th</sup> & 10<sup>th</sup> grade Biology. Roosevelt & Patrick Henry High Schools. 2001-2012



- CLASS Observation Certification, Upper Elementary (4-8) 2012-2013
- **Take One!** National Board of Professional Teaching Practice. 2007  
Submission of Inquiry Portfolio based on Five Core Propositions of National Board Standards.
- International Baccalaureate Middle Years Programme (MYP) 2007-2011

### Non-Education Relevant Experience

- Financial Services Industry, -1986-1995
- Treasurer, League of Women Voters, 1990-1995

### Curriculum Development

- **Hands-on Science: Magnets, Bubbles & Slime.** Public Broadcasting Service educational TV show for elementary November 2018  
available at: <https://www.pbs.org/video/magnets-bubbles-and-slime-guofow/>
- **Minneapolis Public Schools STEM Cart Curriculum.** Developed 2015-2017  
STEM curriculum for elementary teachers to accompany a STEM cart for teacher to checkout. Content includes: Bee-Bot Coding, Design in a Bag, Telling Stories with LEGOS, Playground Design Challenge and more.
- **Cooking by Design.** Co-developed a 14-day Summer School Curriculum created for MPS. 2016-2017
- **Balinese Shadow Puppet Design Challenge.** Co-developed a STEM curriculum with *EngrTEAMS* teachers. 2016-2017
- **Powered by Renewable Energy.** Co-developed a STEM curriculum with *EngrTEAMS* teachers. 2015-2016

### Teacher Professional Development

- *STEM Integration Specialist.* Worked to develop STEM curriculum and programming for elementary and middle school across over 60 schools in a large urban district. 2015-2017

- *EngrTEAMS*: Engineering to Transform the Education of Analysis, Measurement, and Science in a Team-Based Mathematics-Science Partnership. A teacher professional and curriculum development partnership between the University of Minnesota's STEM Education Center and Purdue University's pre-college engineering 2013-2018
- ProPay 1-2-3: From Science to STEM - an Introduction to STEM and Engineering Design Process in elementary classrooms 2016-2017
- BrainU 202: Brains to High Schools Summer 2012
- BrainU 101: Inquiry-based Dissection, Co-presenter. National Association of Biology Teachers (NABT) 2005 & 2006

### Grant Writing

- \$9,000 Mississippi Watershed Management Organization Grant to develop educational water quality testing program for Patrick Henry High School. 2009, 2010 & 2011
- \$10,000 Arts for Academic Achievement Grant to integrate the arts into the science curriculum. 2010
- \$235,000 Minnesota Dept. of Education Grant to explore the establishment of an International Baccalaureate MYP at Patrick Henry High School. 2007
- \$125,000 Hewlett-Packard Grant to integrate technology into curriculum. 2005
- \$2,500 NIKE Grant to fund interdisciplinary teaching. 2004
- \$6,200 Learning Community Grant to develop curriculum and purchase lab materials 2003

### Professional Affiliations

- National Association of Research in Science Teaching (NARST)
- Association for Science Teacher Education (ASTE)
- National Science Teacher Association (NSTA)

## Leadership

- Minneapolis Public Schools, co-developed STEM programming for the district, curriculum and STEM carts for teacher checkout and conducted elementary teacher professional development in integrated STEM curriculum.
- *EngrTEAMS: Engineering to Transform the Education of Analysis, Measurement, and Science in a Team-Based Targeted Mathematics-Science Partnership*. A five-year, \$8 million-dollar NSF-funded teacher professional development program, 2012-current. Recruited and supported elementary teachers in developing integrated STEM curriculum.
- SCEP Committee for Interdisciplinary Education Policy, University of Minnesota, 2013-2014.
- Neuroscience for Teachers: BrainU, University of Minnesota, 2013, 2014.
- Arts for Academic Achievement (AAA) 2003-2011 (Coordinator, 2008-2010).
- Arts-Science Integration featured in *Dance of the Trapezoid: Educators use the power of the arts to teach math and science (May 2008)*
- Established the Summer Science & Writing Institute, 2008-09. This program attempted to ease the transition from middle school to high school. Students took this course the summer prior to 9<sup>th</sup> grade, participating in a science and writing intensive program, then served as "Teaching Assistants" during the regular school year.
- Established S.E.A.K. in collaboration with Boys & Girls Club, 2010-Current. S.E.A.K. is an acronym for Scientists Eagerly Acquiring Knowledge and is an after school environmental science program for 9<sup>th</sup> and 10<sup>th</sup> grade students.
- Minnesota Public Television Science Programming (2018): Collaborated to produce an educational science show for elementary students called *Slime, Magnets and Bubbles*. Available at: <https://www.pbs.org/video/magnets-bubbles-and-slime-guofow/>
- Co-developed Observational Drawing Protocol for use in K-12 classrooms. Professional development video made in my class entitled: *Observational Drawing in Biology*, 2010-11. Available at: [http://www.youtube.com/watch?v=VcR72MN3sMo&feature=em-share\\_video\\_user](http://www.youtube.com/watch?v=VcR72MN3sMo&feature=em-share_video_user)

## Honors & Awards

- Haugo Fellowship, STEM Education Center at the University of Minnesota, 2016.

- The Honor Society of Phi Kappa Phi. Graduate students must rank in top 10% of class.  
Current.
- *An Artful Road to Math and Science*, May 2008. Classroom art-science integration practice highlighted in magazine article for National Education Association.
- Medtronic Science Teaching Award Nomination for innovation in science teaching, 2006.

## References

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