

KNAER MATH KNOWLEDGE NETWORK (KNAER-MKN)

GUIDING PRINCIPLES

1. **Addressing teacher-identified needs.** Mathematics teaching and learning needs identified by teachers will be at the core of our work by engaging teachers in reform that is personally and professionally meaningful and rewarding.
2. **Changing attitudes towards mathematics.** We will engage teachers in co-designing mathematical learning experiences for students that offer surprise and conceptual insight, and opportunities to share their learning with family, their peers, and the wider community.
3. **Fostering inclusion.** Some groups are more marginalized than others when it comes to mathematics education. We will aim to enhance learning and participation opportunities for all learners.

COMMUNITIES OF PRACTICE

1. **Mathematics Leadership.** Supporting teachers/leaders to develop powerful, evidence-based models for enhancing mathematics learning and teaching.
2. **Critical Transitions in Student Mathematical Development.** Focusing on transitions proven to be challenging for students (e.g., K to Grade 1, elementary to secondary).
3. **Indigenous Knowledge and Mathematics Education.** Advancing mathematics learning for First Nations, Métis and Inuit students through the identification of effective pedagogical practices connecting existing mathematics within traditional technologies and design; exploring how and when culturally based Indigenous Knowledge and activities can be used within all classrooms.
4. **Computational Thinking in Mathematics Education.** Integrating computational thinking in math instruction to facilitate conceptual development through dynamic modelling and active learning.

OUTCOMES

1. **Resource Production.** Actionable evidence-informed, differentiated resources. Research Syntheses.
2. **Capacity Building.** Networking and scaling-up. MKN-initiated institute. MKN-AP leadership workshop. CoP-led workshops. Funding for expanding the work of the MKN
3. **Web-based Communication.** Project website. Social media.
4. **Knowledge Dissemination.** Arts-informed knowledge dissemination. TVO's TeachOntario. Conferences & publications. Government advocacy.

GOALS & TIMELINES

Duration of KNAER-MKN

- 5 years, (formally) starting January 2017

Short-term goals (Spring 2017):

- Organize/form the four CoPs;
- Establish collaborative work space groups at TeachOntario for the CoPs;
- Set up the MKN website;
- Establish the MKN-AP;
- Establish a network for face-to-face as well as remote collaboration;
- Establish the annual reporting/survey structure.

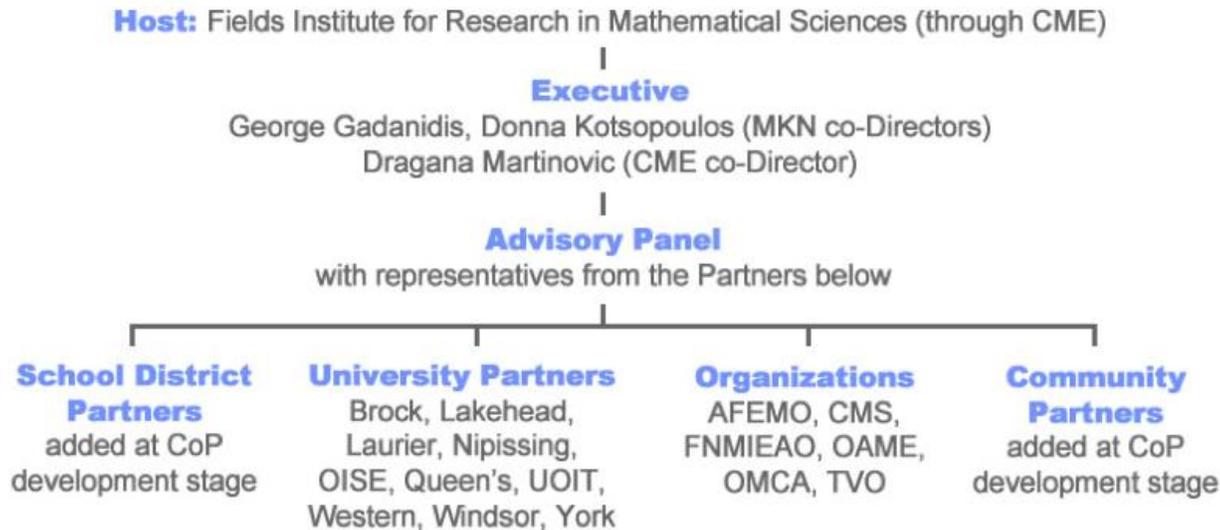
Medium-term goals (Fall 2017)

- Launch the activities of the CoPs;
- Organize and host the first MKN Symposium;
- Connect with community and parent organizations through intentional joint activity;
- Engage in sustainability activities aimed at enhancing resources during the five-year mandate.

Long-term goals (on-going)

- Build math understanding and knowledge in the teaching sector as well as knowledge and understanding of effective math teaching practices through regular professional learning opportunities;
- Identify long term goals and objectives for student engagement and student success in mathematics education in Ontario;
- Develop self-sustaining, user-driven networks.

NETWORK STRUCTURE



LEADERSHIP RESPONSIBILITIES

MKN Co-Directors: George Gadanidis & Donna Kotsopoulos

- Liaise with the Ministry of Education and the KNAER Secretariat. Oversee the strategic direction of the MKN. Develop annual reporting structures for the CoPs and the MKNs. Chair all meetings of the MKN-AP. Oversee the content developed for the web pages. Oversee the budget.

CME Co-Director: Dragana Martinovic

- Represent CME in the MKN. Represent MKN at CME outreach activities such as the Fields Math Education Forum. Participate in the activities and decision making of MKN-AP. Liaise with Fields on behalf of the MKN.

Fields Deputy-Director: Huaxiong Huang

- Contact and local coordinator at Fields.

MKN Executive

- Provide input on the strategic direction of the MKN. Review of annual reports of the MKN. Participate in the MKN-AP.

MKN-AP

- Approval of MKN policies. Organize, host, and participate in the annual MKN Institute. Participate in the CoP and/or provide leadership to the CoPs. Provide input on the strategic directions.

CoPs

- Identify CoP leads/lead institutions. Establish a proposed annual budget. Conduct KMB activities (in accordance with Section 4 of proposal).