AT THE CEMC, WE BELIEVE THAT COMMUNITY MAKES EDUCATION BETTER. WE’RE COMMITTED TO BUILDING THAT COMMUNITY WITH TEACHERS IN CANADA AND AROUND THE GLOBE TO SPARK INTEREST IN MATHEMATICS AND COMPUTER SCIENCE AND ENCOURAGE THE NEXT GENERATION TO PURSUE CAREERS IN BOTH. WE WANT TO GIVE YOUNG PEOPLE THE TOOLS THEY NEED TO BE ABLE TO SAY, ‘YES, I CAN DO THIS.’

IAN VANDERBURGH
DIRECTOR, CEMC
CANADA’S LEADER IN MATHEMATICS AND COMPUTER SCIENCE OUTREACH

Positioned at the intersection of the worlds of mathematics, computer science, and education, the Centre for Education in Mathematics and Computing (CEMC) is cultivating a love of math and computer science – and building pathways to careers in both – among learners across Canada and around the globe.

NATIONAL IMPACT AND GLOBAL REACH

With more than 40 dedicated faculty and staff and hundreds of committed volunteers, the CEMC is the largest organization of its kind in Canada.

Our size and expertise mean we’re uniquely equipped to reach students across the country and beyond. More than 275,000 elementary and secondary school students from around the world participate in our contests and workshops, and our online resources and courseware reach more than 1 million students and teachers each year.

With the recent international successes such as our train-the-trainer programs in Indonesia, the CEMC is poised to expand its scope with new initiatives in Africa.
PROVEN LEADERSHIP

We bring over 50 years of experience to the work that we do. Our story began in 1963 when a group of high school teachers developed the first mathematics contest in Ontario. From that spark, the CEMC has grown into Canada’s foremost authority on the development of interest and ability in mathematics and computer science among young people.

AWARD-WINNING PROGRAMMING

The CEMC is committed to supporting learners of all abilities, from exceptional students searching out new challenges to students seeking additional curricular resources in mathematics, and students exploring computer science for the first time. Our comprehensive programming and resources have resulted in national recognition, including the NSERC Award for Science Promotion and the Canadian Mathematical Society’s Adrien Pouliot Award.

PARTNERS IN EXCELLENCE

Teachers are key to the success of Canada’s youth. That’s why we offer support and training to educators as well as learners, and why we collaborate with teachers in everything that we do. CEMC faculty include many former secondary school and elementary school educators, and our volunteers are teachers who bring fresh ideas and their unique expertise to the CEMC’s contests and outreach efforts.
"OUR COUNTRY’S PROSPERITY DEPENDS ON BETTER PREPARING THE NEXT GENERATION FOR THE FUTURE OF WORK.

FOSTERING A GREATER INTEREST AMONG YOUNG PEOPLE IN MATH AND COMPUTER SCIENCE IS CRITICAL TO THIS EFFORT. IT’S WHY I SUPPORT THE WORK OF THE CEMC AT THE UNIVERSITY OF WATERLOO. WE NEED ORGANIZATIONS LIKE THE CEMC TO HELP US MOVE THE DIAL FORWARD ON OUR COUNTRY’S FUTURE COMPETITIVENESS BY INSPIRING CANADA’S YOUTH TO CONSIDER CAREERS IN MATH AND COMPUTER SCIENCE.

DAVID MCKAY
BMATH ’87, DMATH ’18 (HONOURARY)
CEO, ROYAL BANK OF CANADA"
MOST PEOPLE THINK CREATIVITY AND MATH ARE SEPARATE SPHERES. MY FAMILY KNOWS OTHERWISE.

WRITING CEMC MATHEMATICS CONTESTS IN HIGH SCHOOL GAVE ME AN OUTLET FOR CREATIVE PROBLEM SOLVING THAT ENCOURAGED ME TO PURSUE MY INTEREST IN MATH — AN INTEREST THAT LED ME TO A CAREER AS A SOFTWARE DEVELOPER, INCLUDING FOR A STINT AT RIM, NOW KNOWN AS BLACKBERRY. MORE RECENTLY, I’VE SEEN FIRST-HAND THE BENEFITS OF CEMC AS EXPERIENCED BY MY SON. THE ONLINE RESOURCES AND CONTESTS CHALLENGED HIM TO REACH BEYOND WHAT HE WAS LEARNING IN SCHOOL, MAKING CEMC A VERY WORTHWHILE, AND ENJOYABLE ENDEAVOUR FOR US BOTH.

LOUISE MACCALLUM
BMath ’85
CO-FOUNDER, MUSAGETES FOUNDATION
INSPIRING THE NEXT GENERATION

Mathematics and computer science are two of the most important drivers of today’s knowledge economy. Join the CEMC in inspiring the next generation of creators, innovators and leaders in STEM.

CEMC VISITS SCHOOLS

Our CEMC Visits Schools program connects young learners to math and computer science with face-to-face workshops right in their own schools. CEMC faculty lead workshops in over 300 elementary and secondary schools and reach 18,000 students each year – that’s 175 schools in Canada and 130 schools in countries around the world, from India to Indonesia to Trinidad and Tobago and more.

We owe it to young people to give them opportunities to thrive. Our workshops focus on developing problem solving skills and introduce young people to the bright futures that studies in mathematics and computer science bring: careers in fields as wide ranging as medical and scientific research, technology, financial services, engineering, teaching and more.

18,800 STUDENTS REACHED ANNUALLY

300 elementary and secondary schools through CEMC faculty-led workshops
MATHEMATICS AND COMPUTER SCIENCE CONTESTS

Over 265,000 students from more than 80 countries register each year for the CEMC’s internationally recognized mathematics and computing contests. Our contests inspire students in Grade 5 and up to get excited about math and computer science and hone their problem solving skills.

We know that it’s not just the hours spent writing a contest that matters—it’s the problem solving and teamwork that they inspire that really count. We work hard to make sure that the contests that we offer are open to all and challenge even the top mathematics students. The CEMC is one of the only organizations in the world that administers full-answer, non-invitational contests on a large scale.

“IT IS HARD TO OVERSTATE THE IMPORTANCE OF THE CANADIAN COMPUTING CONTEST ON THE QUALITY OF MY COMPUTER SCIENCE PROGRAM. THE CONTEST IS WELL ORGANIZED, FOCUSES ON KEY COMPUTING CONCEPTS AND ALGORITHMS, AND HAS AN EXCELLENT GRADATION OF DIFFICULTY WITH THE QUESTIONS. THIS CONTEST ACTS AS A PRIMARY FOCUS FOR MY COMPUTER CLUB AND HELPS MY STUDENTS PUSH THEMSELVES TO A HIGHER LEVEL OF EXCELLENCE.”

RON MCKENZIE
TEACHER, WINDSOR, ON
DURING OUR SCHOOL’S INVOLVEMENT OVER THE LAST 20+ YEARS, NOT ONLY HAVE THE CONTESTS SERVED AS A POSITIVE STUDENT OUTLET FOR CREATIVITY AND PROBLEM-SOLVING, THEY HAVE INSPIRED OUR STUDENTS TO:

(1) THINK BEYOND CURRICULUM, (2) FORM “BIG-PICTURE”, AND NOVEL, CONNECTIONS BETWEEN TOPICS, AS WELL AS (3) GENERATE MEANINGFUL ACADEMIC DISCOURSE. MOREOVER, WE HAVE FOUND THAT REGULAR ROUTINE PARTICIPATION IN CHALLENGING, YET REACHABLE, ACTIVITIES SUCH AS THE UNIVERSITY OF WATERLOO’S MATHEMATICS CONTESTS TRULY FOSTERS THE DEVELOPMENT OF CRITICAL PERSONALITY TRAITS SUCH AS: (1) RESILIENCE, (2) ADAPTABILITY, (3) PERSISTENCE, AND (4) STRATEGY-BASED THOUGHT. FROM OUR PERSPECTIVE, WHAT A WONDERFUL AND UNIQUE WAY TO PREPARE YOUNG MINDS FOR BOTH THE RIGOURS OF POST-SECONDARY STUDIES AND THE UNPREDICTABLE CHALLENGES FACED IN EVERYDAY LIFE!

GEORGE LIN
TEACHER, COQUITLAM, BC
I never believed Think about Math! would change my life the way it did.

Today I’m in Waterloo’s double-degree Mathematics and Business co-op program. Whenever I doubt myself, I always go back to that inspiring day at Think about Math! and remember that I can do it.

Sophie Janszen-Spitman
2016 Think about Math! participant
BUILDING BRIDGES TO SUCCESS

A strong education system values diversity and inclusion. At the CEMC, we’re committed to helping bridge the gaps between students and success in mathematics and computer science.

PROGRAMS FOR UNDER-REPRESENTED YOUTH

Ensuring that more women are entering STEM fields is a priority for the CEMC. Since 2002, more than 2000 students have participated in CEMC events designed to spark interest in mathematics and computer science among young women as well as trans and non-binary youth. In 2019 alone, almost 120 students attended Think About Math!, a day-long program that brings secondary school girls and trans and non-binary teens together to challenge stereotypes and explore how math can make a difference in their lives.

And we’re expanding our outreach efforts to reach more youth who otherwise may not have accessible opportunities for enrichment in mathematics and computer science in their communities.
OPEN ONLINE COURSEWARE

We know that the price of textbooks can be a barrier to learning. Our online courseware is free, doesn’t require registration to use and has minimal software requirements. Developed by experienced and outstanding educators, the CEMC’s comprehensive courseware gives students and teachers access to over 300 video lessons and more than 1000 interactive mathematical activities that follow the mathematics curriculum from Grades 7 to 12 and cover key areas of computer science.

CEMC courseware empowers students to set the pace of their own learning with unlimited opportunity to practice with instant feedback. And teachers benefit, too – our courseware is a resource for teachers looking for ideas and approaches to better engage learners.

FREE WEB RESOURCES

In addition to our comprehensive courseware, the CEMC develops free resources, like our Problem of the Week, seen by hundreds of thousands of students weekly in four different languages, that help students push the boundaries of their learning, discover new ideas and dive deep into problem solving. Our resources provide enrichment opportunities to students from Grades 3 to 12 with a mix of online games, video lessons, exercises and challenge problems.

1000+ interactive mathematical activities and 300 video lessons
THE BILL & MELINDA GATES FOUNDATION BELIEVES THAT EXCELLENT SCHOOLS — LED BY TEACHERS WHO FOCUS ON CONTINUOUS IMPROVEMENT GROUNDED IN DATA AND EVIDENCE — ARE WHAT HELP STUDENTS SUCCEED MOST. CEMC EMBODIES OUR BELIEF WITH ITS UNWAVERING PASSION AND FOCUS OF SUPPORTING TEACHERS IN THEIR LEARNING JOURNEY.

WE ARE PROUD OF OUR DECADE-LONG PARTNERSHIP FOCUSED ON ENSURING ACCESS TO OPPORTUNITIES FOR STUDENTS AND THEIR TEACHERS.

AMY CARTER
DEPUTY DIRECTOR OF FAMILY INTEREST GRANTS AT THE BILL & MELINDA GATES FOUNDATION
EMPOWERING EDUCATORS

We know that teachers make a difference in students’ lives. That’s why the CEMC invests in teachers with teacher training programs and conferences. Help us build stronger mathematics and computer science education from the ground up.

TEACHER CONFERENCES & WORKSHOPS

Curiosity and excitement are contagious. Our teacher conferences and workshops ignite renewed engagement in math and computer science among teachers, leading to more opportunities on which students thrive. By bringing teachers together, we’re fostering a community of educators dedicated to continuous learning.

200 teachers attend CEMC Teacher Conferences annually
MASTER OF MATHEMATICS FOR TEACHERS

With the CEMC’s fully online Master of Mathematics for Teachers (MMT) program, secondary school teachers can earn a Master’s degree from anywhere in the world. Hundreds of MMT alumni and 300 teachers currently enrolled in the MMT have deepened their understanding of the core foundations of the mathematics curriculum through this part-time program and are bringing that knowledge back to their classrooms for improved student learning.

INTERNATIONAL DEVELOPMENT

The CEMC brings its collaborative approach to teacher training to strengthen mathematics education internationally.

Our work with universities in Indonesia and with the African Institute for Mathematical Sciences are founded on a train-the-trainer model that gives educators the support they need to better engage young people in science and mathematics.

HUNDREDS

of MMT alumni and 300 teachers are currently enrolled in the MMT
I BELIEVE THAT A SYSTEMATIC AND LONG-TERM COLLABORATION WITH THE CEMC WILL PRESENT RWANDA AND THE WIDER AFRICAN CONTINENT WITH THE OPPORTUNITY TO EXPOSE MORE OF ITS STUDENTS TO THE BEAUTY OF MATHEMATICS PROBLEM SOLVING DURING THEIR FORMATIVE YEARS AND IN THE LONG TERM PROVIDE AN AVENUE FOR SHOWCASING AT A LARGER SCALE, THE MATHEMATICAL PROWESS AMONGST AFRICA’S SECONDARY STUDENTS TO THE WORLD.

DR. HERINE OTIENO-MENYA
DIRECTOR, TEACHER TRAINING PROGRAM (TTP)-RWANDA
AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES (AIMS)
I grew up in an era where it wasn’t cool to be proficient in math and science, much less to actually enjoy them. Today, technology is such a large part of all our lives, and there’s an overwhelming demand for STEM skills. The CEMC is doing urgently needed work — they encourage young people to celebrate their interest in math and science and accelerate their growth in both. That’s why I support the CEMC.

DAVID YACH
BMATH ’83
CO-FOUNDER AND CTO, AUVIK
DREAM BIGGER: INVEST IN THE FUTURE WITH THE CEMC

Math and computer science can prepare the next generation to help solve some of the world’s toughest challenges, like climate change, food sustainability, global health and more.

AN INVESTMENT IN THE CEMC IS AN INVESTMENT IN THE FUTURE. MAKE A COMMITMENT TO THE CEMC AND HELP US:

INSPIRE THE NEXT GENERATION OF LEADERS
Your gift can enable the CEMC to expand its reach with more CEMC Visits Schools programming in remote and urban areas. We want to close the gap that keeps under-served students out of futures in STEM.

LAUNCH IMPACTFUL NEW PROGRAMS
With your support, the CEMC is set to develop new programming for elementary school students and teachers and online resources, highlighting careers in math and its real-life applications. Help strengthen pathways to futures in math and computer science for students from primary school to secondary school.

EMPOWER MATH EDUCATION GLOBALLY
A commitment to the CEMC is a commitment to improving mathematics education in Canada and beyond. Your contribution can help us expand our international development work into parts of the world where it’s needed most.