

## YuMi Deadly Centre **People**

### Director

Professor Tom Cooper

### Research and administrative team

YDC's research and administrative team works collaboratively to contribute equally to the centre's endeavours. In 2010 and again in 2016 the YDC staff team received a Vice-Chancellor's Award for Excellence in recognition of exceptional sustained performance and outstanding achievement.

Our leading academic researchers, research associates and administrative team bring a powerful blend of expertise to the centre's activities. To find out more about our team, visit [ydc.qut.edu.au/about/people](http://ydc.qut.edu.au/about/people)



## Evidence of effectiveness of YuMi Deadly Maths

YDC has been providing training in YDM since 2010. YDM training has made a strong difference to mathematics teaching and learning in a number of schools, including several YDM Centre for Excellence schools. If you are interested in YDM and would like to see it in practice in schools, please contact us and visit the YDC website at [ydc.qut.edu.au](http://ydc.qut.edu.au) for more information.

## Aims of the YuMi Deadly Centre

The YuMi Deadly Centre is dedicated to enhancing the learning of all students to improve their opportunities for further education, training and employment, and to equip them for lifelong learning.

Its specific aims are to:

1. facilitate whole school change that builds pride and positive identity, emphasises high expectations, and strengthens relationships with community
2. train and support school staff to teach effectively
3. develop innovative resources and processes to strengthen teaching and learning
4. develop decolonising research methodologies to empower the researched
5. support research capacity, particularly at higher degree research level.



**YuMiDeadly**  
*Growing community  
through education*

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# YuMi Deadly Centre

Faculty of Education

QUT Kelvin Grove



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## About the **YuMi Deadly Centre**

The YuMi Deadly Centre (YDC) undertakes projects and activities to enhance the learning of **all students**, with a particular emphasis on Aboriginal, Torres Strait Islander, minority and low-SES students. It advocates teaching in a manner that is culturally empowering, builds pride and positive identity, and sustains community links.

YDC works collaboratively with schools and communities to enhance the capacity of teachers to teach mathematics using life-related, inquiry-based pedagogies that promote

- deep learning of powerful mathematics
- positive student engagement
- problem-solving skills, creativity and critical reflection
- symbolic language and structure
- overall disciplinary content knowledge

with the aim of improving opportunities for students of all ability levels.

YDC mathematics projects are based on a pedagogy called YuMi Deadly Maths (YDM) and are of three types according to their focus: general pedagogy, accelerated learning, and enrichment and extension.



## **Partner with us** in YuMi Deadly

YDC's projects are based on partnerships with schools, educational systems and government organisations, built around collaborations designed to benefit mathematics teaching and learning within these organisations.

YDC highly values these partnerships and actively seeks new partnerships with schools, government agencies, non-profit organisations, youth sector agencies, private enterprise and other organisations.

If you would like to partner with us in a project or work with us to develop a project specifically for your situation, please talk to us.

## YuMi Deadly **Projects**

### **YDM GENERAL PEDAGOGY PROJECTS**

#### **YuMi Deadly Maths Teacher Development Training (YDM training)**

The YDM pedagogy underlies all YDC projects and is suitable for all students. It is based on big ideas, smooth sequencing and connections between mathematics topics. It focuses on the most powerful forms and understandings of mathematics and has been successful in schools since 2010. YDM training provides collaborative partnership schools with PD, resources and online support to build capacity of teachers and schools to teach mathematics for Years F to 9. It includes 12 days of PD (usually four × three-day blocks) across two years.

#### **Purposeful Rich Indigenous Mathematics Education (PRIME) Futures (2015–19)**

This project delivers the mathematics element of an Indigenous STEM Education project managed by CSIRO in partnership with the BHP Billiton Foundation. PRIME Futures has been subcontracted to YDC and targets Foundation to Year 9 students in mainstream metropolitan and regional schools, using the YDM approach to improve student outcomes in mathematics.

At least 60 schools across Australia with relatively high Indigenous student populations are involved in the project across four years, working together in 10 clusters of at least six schools each. The project provides each cluster with 15 days (five × three-day blocks) of PD across 2.5 years, plus school visits between each block of PD to reinforce in-school trialling and training. The final PD is designed to support sustainability of YDM in the PRIME Futures schools to the end of the project in 2019 and beyond.

### **YDM ACCELERATED LEARNING PROJECTS**

#### **Accelerated Inclusive Mathematics (AIM)**

AIM trials and refines a YDM-based diagnostic and remedial maths pedagogy for underachieving students. It provides a framework to accelerate the learning of these students across Years 7–9 to promote entry into Year 10 mathematics offerings. AIM has been successful in a diverse range of schools and is based on 24 modules that provide vertical sequences of activities and assessment tasks for all mathematics topics.

#### **Accelerated Inclusive Mathematics Early Understandings (AIM EU)**

This adaptation of AIM to the early years combines mathematics learning for Foundation to Year 2 with the understandings normally provided prior to school. It aims to

## YuMi Deadly **Projects** (continued)

improve Year 3 outcomes in schools where students start school with little cultural capital to excel in schoolwork. AIM EU modules are designed to improve teacher capacity through use of diagnostic tools to identify barriers to early understanding and to accelerate learning so all students attain satisfactory or higher levels of mathematical knowledge by Year 3.

#### **XLR8 Mathematics**

XLR8 is an extension of AIM, with units structured both vertically and horizontally, and integrated across topics to support the connections between mathematical topics across strands within real-world contexts. XLR8 provides 15 units covering Years 7–9 and is supported by both written and online resources, including worksheets, templates, extra notes, portfolio tasks, assessment and recording tools.

### **YDM ENRICHMENT AND EXTENSION PROJECT**

#### **Mathematicians in Training Initiative (MITI)**

MITI is designed to enrich and extend the mathematics ability of students through pedagogy and resources that enable deep learning of powerful mathematics. MITI aims to develop students' confidence, motivation and knowledge to increase participation in high-level mathematics subjects and university entrance for STEM careers. MITI's first stage is based on teaching with investigations and planning instruction to ensure smooth sequencing from Year 7 to Year 12. The second stage focuses on digital applications and the use of business/industry/STEM contexts for Years 7–12.

### **YDM INTEGRATED PROJECTS**

#### **Integrated Secondary Schools/Integrated School Mathematics (ISS/ISM)**

These large-scale projects to renew all teaching of mathematics in a school involve two or more of YDM training, AIM, AIM EU, XLR8 and MITI projects, integrated together into a cohesive program that suits each school.

### **OTHER PROJECTS**

YDC projects since 2010 have also included those with a vocational, context-based or community learning focus. In 2016–17 YDC delivered an online training program for the Queensland Government to train out-of-field junior secondary mathematics teachers. We can tailor a project to suit your needs. Please contact us if you are interested in partnering in a project.