Mcubed Executive Committee

- Mark Burns (Mcubed Executive Director, Engineering)
- Valerie Johnson (Mcubed Managing Director)
- June Howard (LSA)
- Lisa Lattuca (Education)
- Gary Luker (Medicine)
- Charlotte Mistretta (Dentistry)
- Ann Verhey-Henke (Engineering)
- Nick Tobier (Art and Design)
• Mcubed 3.0 Timeline
• Overview of Mcubed 3.0
• Mcubed 3.0 Program Requirements and Details
• New Mcubed Website: How to Form/Request a Cube
• Diamond Program, Students Program
• Discussion, Questions, Feedback
October:

- Mcubed to host campus-wide info sessions (AA, Dearborn, Flint)
- Website opens for project creation on **Wednesday, October 10**
- Update profiles
- Create projects, invite collaborators, and request cube funding
Mid-November:
- Deadline #1 for requesting cubes: **November 14**
- First cubing event:
  - Will distribute at least 100 cubes

Early Winter 2019:
- Website opens again for project creation
- Second cubing event
  - Amount of cubes TBD
Rapid distribution of seed funding to self-organized, multi-unit faculty/student teams to initiate innovative projects

No traditional peer review!
● Review in traditional funding mechanisms biased against novel, interdisciplinary research

● Need to keep pace with rapid flow of information in today’s research and scholarship environment

● Challenge of locating collaborators in decentralized university environment, especially when complex problems require expertise from multiple fields
Accomplishments to Date

Mcubed 2.0 (2015-2017) – Self-reported

- Over $50M in externally-funded grants (*over $120M across both cycles*)
- Over 200 publications (*over 320 across both cycles*)
- ~50 scholarly/artistic products
- ~20 invention disclosure reports/patents
Program Requirements

- Cube = 3 faculty from at least two different units
- Must be new research/scholarship and new team, not on same externally-funded grant
- Cubes hire personnel with 50% of funding: undergrads, grads, postdocs
- Other 50% of funding is flexible: research-related travel, equipment, subject incentives, etc. (no faculty salaries)
- Symposium participation = only required deliverable
Each eligible faculty member gets one virtual token for Mcubed 3.0

Token is worth:

- $20K in a classic cube ($60K)
- $5K in a mini-cube ($15K)

Number of funded tokens determined by unit leadership

3 tokens = a cube:

- Classic Cube: $20K + $20K + $20K = $60K
- Mini-Cube: $5K + $5K + $5K = $15K
How does it work?

- Project owner posts project(s) to website
- Project owner commits token to one project
- Then, invites two other faculty members to join
- Two collaborators commit their tokens to project
- Project owner requests the cube funding
- On November 14, Mcubed pulls all cube requests; awards cubes (semi-random distribution)
How does it work?

Collaborator profiles w/ token status

Cube cards w/ project status
### Mcubed Decisions

<table>
<thead>
<tr>
<th>What Mcubed Decides</th>
<th>What Unit Leadership Decides</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Program Requirements</td>
<td>Specific Campus/Unit Requirements</td>
</tr>
</tbody>
</table>
| Rules for cube formation:  
  - At least two units per cube  
  - Must be new research/scholarship  
  - No formal peer review | Definition of eligible token holders by group or category  
  - Example: all tenure/tenure-track faculty with at least a 50% appointment |
| Schedule of cubing distribution:  
  - Semi-random cubing  
  - First-come, first-served cubing | Maximum support by campus and unit  
  - Maximum financial commitment for cubing |
| Rules for spending:  
  - 50% on undergrads, grads, post-docs | Funding model per token  
  - Classic and Mini-Cubes |
Who pays for the token?

Classic ($20K token, $60K cube)

$A (Unit/Dean) + $B (Faculty Member) = $13,333
Mini ($5K token, $15K cube)

Who pays for the token?

$A$ (Unit/Dean) + $B$ (Faculty Member) = $3,333
How much do I have to pay?

- Mcubed website financials page
- or Your Dashboard:

Faculty contribution for participation in classic OR mini-cube

<table>
<thead>
<tr>
<th>Unit</th>
<th>Faculty Contribution (Classic)</th>
<th>Unit Contribution (Mini)</th>
<th>Max Classic Tokens</th>
<th>Eligible Token Holder</th>
<th>Limit 1 Token per Cube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>$6,633</td>
<td>$6,700</td>
<td>3</td>
<td>Tenure track faculty with a 50% or greater appointment</td>
<td>No</td>
</tr>
<tr>
<td>Art &amp; Design</td>
<td>$0</td>
<td>$13,333</td>
<td>6</td>
<td>Tenured and Tenure Track Faculty</td>
<td>Yes</td>
</tr>
<tr>
<td>Business</td>
<td>$5,000</td>
<td>$8,333</td>
<td>14</td>
<td>Tenure, tenure-track, clinical-track and research track faculty with current active sponsored research or recently submitted sponsored research grants within the last 12 months exceeding $50K</td>
<td>No</td>
</tr>
<tr>
<td>Dentistry</td>
<td>$8,333</td>
<td>$5,000</td>
<td>30</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
How many tokens are available?

### Status of All Tokens Table

<table>
<thead>
<tr>
<th>Unit (faculty in system)</th>
<th>Available</th>
<th>In Requested Cubes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture &amp; Urban Planning (57)</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Art &amp; Design (58)</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Business (110)</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Dentistry (64)</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Education (42)</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Engineering (469)</td>
<td>150</td>
<td>0</td>
</tr>
<tr>
<td>Information (58)</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Institute for Social Research (149)</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Kinesiology (31)</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Law (83)</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Libraries (170)</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Life Sciences Institute (24)</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>LSA: Humanities (323)</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>LSA: Natural Sciences (365)</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>LSA: Social Sciences (203)</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Medicine (3, 460)</td>
<td>200</td>
<td>0</td>
</tr>
<tr>
<td>Music, Theatre &amp; Dance (153)</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Nursing (28)</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>
Collaborations across Campuses

- U-M Dearborn joined Mcubed 2.0; U-M Flint joins Mcubed 3.0
- Teams can form on same campus or across campuses
- U-M Dearborn and Flint units mapped to Ann Arbor (Mcubed) units
- Cubes must be interdisciplinary (*same program requirements*)
  - Education (AA), Education (D), Education (F) = **CAN’T CUBE**
  - Education (AA), Education (D), Public Health (F) = **CUBE**
How to Create Project & Request Cube

Step 1: Faculty create or search for projects on Mcubed website

Step 2: Faculty member who posts project (owner) commits token
-------Must decide which project is worth *one and only token*

Step 3: Project owner invites 2 faculty (from at least 2 units) to join; collaborators commit tokens

Step 4: Project owner requests cube

Step 5: Semi-random lottery to award cubes
-------Selected teams get $60K (classic) or $15K (mini) to execute research
Step 1: Create or Search for a Project

Sign in Mcubed website:

Uniqname & kerberos password
New Feature: Dashboard with Notifications

- Find cubes & collaborators
- Token status
- Select: “Create a Project”
- Edit profile
- Your financial contribution
- Tokens available in your unit – real time!
Step 1: Create or **Search** for a Project

**Click “Find Cubes & Collaborators”**

**Click “All Cubes”**

- 3D Technology
- Academic Innovation
- Arts, Stories, Identity
- Atomic Level Phenomena and Science
- Biotechnology
- Brain Function
- Cancer
- Cities: Infrastructure, History, Culture
- Civic Engagement and Government
- Data Collection, Analysis, and Visualization
- Disease Diagnosis
- Diversity, Equity, and Inclusion
- Economics
- Environment and Sustainability
- Healthcare
- Molecular Manipulations
- Pharma and Drug Delivery
- Social Media
- Transportation and Mobility
- Women's Health
Step 1: Create or **Search** for a Project

**Search by keyword or title**

**Select cycle: Mcubed 3.0**

**Click “I’m Interested” to leave a comment**
Step 1: **Create** or Search for a Project

What do I need to create a project?

- Cube title
- Overarching thematic category (select from list)
- Descriptive keywords
- Short description of project (1 or 2 paragraphs)
- Choice of classic ($60K) or mini-cube ($15K)
- Uploaded image (*be sure you have the rights to the photo*)
- Agree to U-M research/scholarship terms & conditions
- Post project!
Step 1: **Create** or Search for a Project

**Basic Info**
Please use this form to provide some basic information about your project. Content will be showcased on your project's card on the M-Cubed website.

**Project Title**
Enter your project's title.

**Project Category**
- Select a value -

Please select a category from the options listed in the dropdown menu which most closely aligns with your project's topic. The selected category will help users on the M-Cubed website search for projects related to overlapping themes.

If you feel that none of the category options align with your project, please select "Other" and send us your suggestion for a new category. Suggestions for new categories will be reviewed by the M-Cubed Leadership Team.

**Keywords**
Start typing to select from the dropdown list. Use commas between words.

If a keyword does not appear in the dropdown list, type your new keyword and press enter. Be sure to use commas between each keyword you select or add.

**Description**
Please type a short description about your project. This description should be similar to an abstract and provide basic details about the proposed project concept.

**Full Description**

**Photo & Terms**
Click on the box below to add an image or photo which represents your project.

**Project Image**
One file only, 100 MB limit.
Allowed types: png gif jpeg.

**Cube Size**
- Classic Cube ($60K) - Mini Cube ($15K)

**Terms & Conditions**
I certify that I agree to the Responsible Conduct of Research and Scholarship at University of Michigan.

Save and Continue
Step 2: Commit Your Token

You've successfully posted your project. To proceed with forming this cube, you must first commit your token.
Step 2: Commit Your Token

1. User Shortcode

2. Overdraft Shortcode

3. SAPOC Uniqname
   (person who manages your research accounts)
Step 3: Invite Collaborators

Discover Collaborators

Search by name/uniqname/keyword

Filter by unit or token status

Click on profile to invite collaborator
Step 3: Invite Collaborators

Invite Collaborator

Andrej Lenert
Academic Title: Assistant Professor
Unit: Engineering
Campus: Ann Arbor
Department: Chemical Engineering
Ph.D., MIT, 2014
S.M., MIT, 2010
B.S.Eng., University of Iowa, 2008

Email
734-647-4107

RESEARCH SUMMARY
We study transport at the nanoscale and apply this knowledge to develop tailored materials for system-level improvements in power generation, energy storage, thermal management and desalination. Here are several avenues of our ongoing research efforts:
- We focus on solar energy systems that utilize the full spectrum of sunlight and are compatible with inexpensive storage such as thermal and chemical.
- We study and develop nanoporous composites with tailored transport properties and control over the spectral content of energy flow for applications in building thermal management.
- We probe fundamental transport at the nanoscale by integrating optical and micro-fabricated platforms with environmental and thermal control.

RECENT PUBLICATIONS

MY PROJECTS
Nanoporous infrared windows for radiative sky cooling
Status: Cubed
Step 4: Request Cube

Owner Clicks Request Cube
Step 4: Request Cube

Confirm cube size, title, description, SAPOC

Complete regulatory log

Request cube
Step 5: Cube Awarded by Mcubed

- Add cube accomplishments
- Add additional faculty
- Add personnel
- Form a block of cubes
Mcubed Scholars Program

- Summer internships for undergrads (2019 and 2020, TBD)
- Partnership with UROP and UMOR

Mcubed Diamond Program

- Cubes fully funded by donors/sponsors who issue the challenge
- Faculty pitch ideas; project owner forms cube as usual
IP-X Research Stimulus

- Up to 4 fully funded $60K cubes: Effects of interprofessional health care on patient outcomes, population health, health care costs and clinical care
- Up to 4 fully funded $15K cubes: Effects of interprofessional education on student knowledge, attitudes, skills and behaviors
- Sponsor: U-M Health Sciences Council & Center for Interprofessional Education
- Mixer Event: Thursday, Nov 1, 1:30- 4:00 p.m.
  - Palmer Commons, Great Lakes South
Biomedical Brainstorming Sessions

- Thursday, November 1st, 9-10:30 a.m.
  NCRC Building 10, Research Auditorium

- Thursday, November 8th, 3-4:30 p.m.
  BSRB, Kahn Auditorium

Hosted by Fast Forward Medical Innovation (FFMI)
Questions, Discussion, Feedback?

mcubedinfo@umich.edu

mcubed.umich.edu