

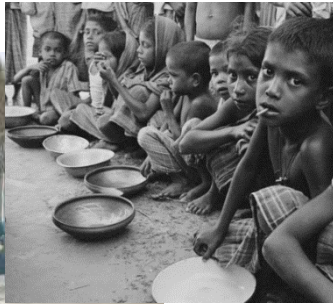
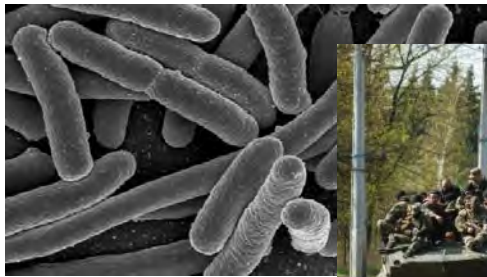
Global Materials Network for Young Researchers (GMN)

R.P.H. Chang
Northwestern University
IUMRS



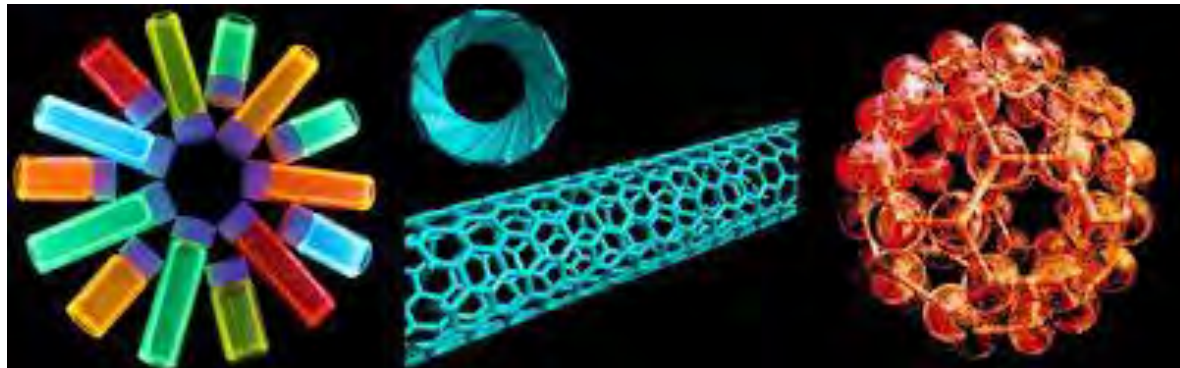
Global challenges

Top 10 global issues facing the 21st century



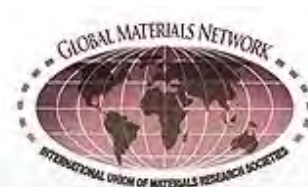
The importance of MSE

- Materials science and engineering (MSE) has been the generator of advanced technologies over the centuries. It has:
 - Helped economic development
 - Improved the quality of life



The importance of MSE

- MSE is anticipated to play a key role in providing solutions to global problems in **energy, environment, health, and security**

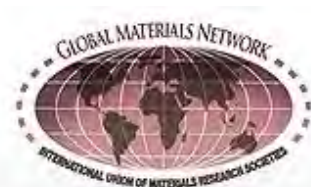


Rationale: Finding a solution *together*

- While the technology for a solution may be there, implementation will require the participation of all countries and citizens
- No one country or region can solve the highly coupled problem alone



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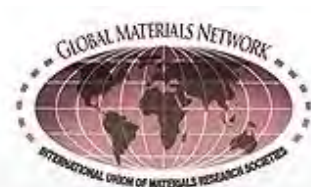
GMN: Mission and Goal

The Global Materials Network (GMN) will unite young materials researchers around the world and promote their global collaborations in materials research and education through a **network platform with nodes existing across the globe.**



R.P.H. Chang

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Implementation

While opportunities for face-to-face, real space interactions will be available through meetings and workshops, the GMN website will serve as a virtual space to enable continuous connections and ongoing dialogues for materials scientists and engineers to stimulate communication and collaboration





► **ABOUT**

The Global Materials Network (GMN) of Young Researchers was launched in 2012 by IUMRS to provide a platform for dialogue and collaboration among materials scientists and engineers.

[Read more](#)

► **RESEARCH**

Our research and education programs focus on nine thematic areas: metals, polymers, ceramics, nanomaterials, energy, environment, health, security, and semiconductors.

[Read more](#)

► **EDUCATION**

Our educational efforts span across many ages and focus on spreading materials and engineering knowledge on a global scale.

[Read more](#)



Oussama Moutanabbir

- [International Conference on Materials for Advanced Technologies \(ICMAT\) of the MRS and IUMRS](#) (June 28, 2015 09:00)
- [IUMRS ICYRAM 2014](#) (October 24, 2014 09:00)
- [5th International Symposium on Transparent Conductive Materials](#) (October 12, 2014 09:00)

News

[The First Global Materials Network Workshop - Montréal, May 23, 2014](#)

Main Affiliation:
Ecole Polytechnique de Montreal

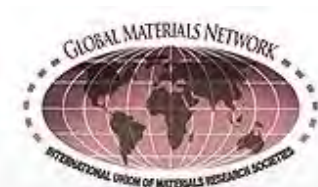
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Remember me



Examples of exciting activities

- Every 2 years, there will be an ICYRAM meeting where researchers will get together to share research and educational findings and develop collaborations
- A Young Researcher Awards and recognitions will be given at ICYRAM meetings
- The GMN website will be for interactive dialogue and collaborations. The website is user-driven and managed.



GMN Expansion plan

- The Global Materials Network will evolve to be a dynamic website serving **millions** of users from academic, industry, government, and non-profit sectors
- The website and ICYRAM meetings will become a **central destination** for innovators and visionaries to create solutions for global problems together



Initial launch



Conference Registration

IUMRS-ICYRAM 2012 in Singapore served as the inaugural launch of the Global Materials Network



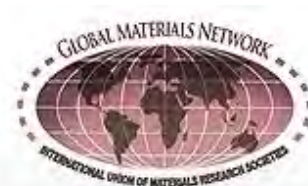
Dinner Buffet



ICYRAM Lecture: "Mentorship for Young Scientists: Developing Scientific Survival Skills" – Federico Rosei, Universite du Quebec, Canada



ICYRAM Leader Addressing Focus Group



ICYRAM 2014 in China

- The 2nd **I**nternational **C**onference for **Y**oung **R**esearchers on **A**dvanced **M**aterials was held at the Hainan International Convention & Exhibition Center in Haikou, China, October 24-27, 2014.
- With ~1,000 attendees
- Technical discussions, collaboration planning, and culture tour



ICYRAM 2016

Contact office@mrsi.org.in



ICYRAM 2016 will be held

IISc, Bangalore, India

<http://www.iumrs-icyram2016.org.in/>



Regional nodes will support workshops, schools, and new initiatives

Initiatives such as...

- *Workshops* to share knowledge
- *Discussions* to open dialogue
- *And collaborations* to empower one another and join efforts

...will be held at

- Global
- Regional
- And community scales



...to benefit ***all citizens***, from middle and high school children to professors and professionals!

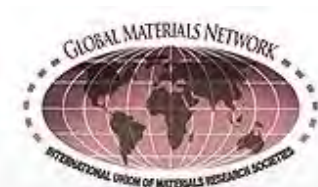


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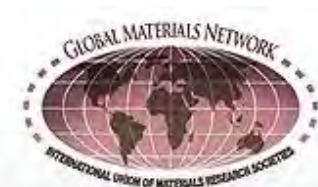
GMN Research & Education Nodes under development

- 2-D Materials (Singapore)
- Hybrid Materials (Canada)
- Amorphous Oxides (US)
- All solid state batteries (Japan)
- Ten more nodes under planning



Preparing future science and engineering literate citizens

- Technology alone will not solve the world problems. All citizens around the globe need to participate to make a change by:
 - Changing living habits and attitudes towards global cooperation
 - Adopting new technologies
 - This requires *education!*



**Thank you
and
Please join us at**

globalmaterialsnetwork.org

