Academic leadership

- Quotes from AustMS medal citation
- AustMS & Heyde medal
- Sole CI Discovery Project
- conferences organised
  (AIM 2012, Banff 2014, Kioloa, Topology)

"begun new fields"
"spearheading an effort with various collaborators"
"considered a leader in his fields"

- MSRI semester proposal on Quantum Symmetries.
  - ~150 people
    - 8 postdoc positions
    - 30 researchers in residence.
- postdocs
- MathOverflow
  - "a game changer in the way current and future mathematicians conduct their research"
  - acknowledged in over 700 research papers
  - mentioned in the NYT.
- plenary speaker at the AustMS 2012 meeting
- lecture series in Australia, Japan, and the US.
- colloquia (Berkeley, Caltech, San Diego, many Australian universities.)

From DP assessments:

"He is very active not only as a researcher but also as a research organizer."

"His publication track record clearly attests to his ability to build and lead strong and productive international collaborations with researchers of high standing".

"Dr. Morrison is undoubtedly an internationally recognised expert in the study of higher category theory and low dimensional topology."

From FF assessments:

AustMS medal citation:

...

Scott's research revolves around low-dimensional ~~topology~~ and quantum topology, and he has made fundamental contributions to link cohomology, subfactors and fusion categories, higher-dimensional homological algebra, and diagrammatic representation theory.

In both blob homology, and the classification of subfactors and their indices, he has begun new fields involving many mathematicians world-wide.

Perhaps his most striking work is in subfactor theory, in which he has brought breakthrough ideas and results, spearheading an effort with various collaborators and significantly increasing the variety of methods.

...

He is considered a leader in his fields, and has collaborated with the very best, including two Fields Medallists.

Scott is a co-founder and moderator of MathOverflow, which has become a leading website where top experts in many fields of mathematics ask and answer questions.
It is seen as a game changer in the way current and future mathematicians conduct their research.

Christopher Heyde medal :
- distinguished research in the mathematical sciences
- up to 10 years post PhD
- rotates between pure/applied/statistics.

AustMS medal :
- under the age of 40 years
- distinguished research in the mathematical sciences.

Grants —

- last week I received a Discovery Project grant
  - ~~$455k~~ over 3 years
  - sole CI
  - categories in 2, 3, and 4 dimensions

- previously:

  DECRA 2012–2014 (~~360k~~)

  DP 2014–2016 (375k) (joint Grossman/Jones)

  (success in 3 out of 5 ARC applications)

  DARPA 2012–2014 (~~490k~~ USD)

  Sloan development grant for MathOverflow. 2013 (8k USD)

Quotable students:

- Talking to friends about student life in other disciplines makes me continually grateful for the encouragement and approachibility that I have seen from ANU's mathematicians.

- (Regarding the essays from Analysis 3)
  I would also like to say that I have found this process amazingly rewarding ... They should make us do it in all our maths courses.

Discovery projects:

Matthew Colless (galaxy redshift survey)

Peter

Timothy Senden (early tetrapod evolution - tomography)

Stephen Eggins (paleoclimate reconstruction)

Lisa Kewley (super-massive black holes)

Next five years

Much of my early work after my PhD was on von Neumann algebras and subfactors, topics arising in operator algebras and mathematical physics.

To me, the most interesting outcome of this work has been the light it sheds on quantum symmetries ...

Going forward, I plan to develop a unified view of quantum symmetries and their connections to other fields.

To date, we've largely been searching for new and scarce examples, and had very limited structure theory.

It's time to make some big conjectures about the general structure of the examples we've found so far, (and hopefully prove these) as well as develop the tools we need to analyse and synthesise particular examples.

At the same time, there are ~~tentative~~
connections with other fields,
particularly rational CFT and
topological phases of matter in condensed
matter physics,
which I'd really like to make much more robust.
In particular, there is a new class of
proposals for engineering quantum symmetries,
which I think can be adapted to prove
some remarkable results (e.g. realizing
every ~~modular MTC as the representations~~
quantum double via a CFT),
and I plan to explore this connection between
mathematics, physics, and solid state engineering.

I'm really excited about the proposal we've
just put in for a semester long program
at the Mathematical Sciences Research Institute,
at Berkeley, at the invitation of their SAC

Challenges facing the MSI / (Associate) Director role

- Importance of service teaching,
  both to our teaching income, and
  the educational requirements of other departments.
- International students, exchange programs with China (China trip)
- Grant funding
  - we do very well from the ARC, but
    have very little otherwise.
- Importance of building relationships with other departments
  - e.g. liasing on service teaching
    e.g. developing a course for quantitative biology students
  - we're hiring in bioinformatics, statistics & probability, financial mathematics.
- New building
- Currently HDR convenor

Don't miss

- Sole CI 2016 DP 45th
- Heyde Medal
- AustMS Medal
- postdocs
- MathOverflow
- MSRI semester
- HDR convenor
- AustMS Council
- arXiv