

# How to Approach Cross Programs

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*Largo* from Handel's *Xerxes* / *Serse* sung by Andreas Scholl:

<https://www.youtube.com/watch?v=ybc7o0hpfZk>

(Complete piece starts around 1:22:55; we'll watch about 45 seconds.)

Differences in types of talks:

- In most situations, the speaker and the audience expect that the audience will understand a presentation.
- Science research talks are different.

Looking online for advice on giving a good talk, you find

- “Try to make sure everyone can follow the first 10 minutes of the hour.”
- “Explain the background and motivate for your work for about 20 minutes before getting into details and your own results.”

(These are intended as *improvements* over most talks.)

## Uri Treisman

- director of the Dana Center at UT Austin, about “dismantling barriers in science & math education”  
<https://www.utdanacenter.org>
- professor of mathematics & professor of public affairs
- MacArthur fellow
- developed Emerging Scholars Program at UC Berkeley, UT Austin, and adapted widely throughout the U.S.

Along with extra TA sessions and collaborative work on rich problems beyond the homework, Treisman has these students attend mathematics research talks!

# Like going to the opera

Treisman preps the students for attending research talks by explaining that opera patrons pay good money and enjoy productions although

- they don't usually know the language being sung;
- even if they do, the words are often hard to understand;
- the plots are often silly.

Rather, they enjoy the singing, the orchestra, the sets, the interactions of the characters, etc.

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(In *Ombra mai fu*, the playboy King of Persia is praising the shade of a tree.)

When attending a cross-program where you feel you may not have much background, consider these tips.

- Dispense with the idea that you should understand everything and be happy with anything new that you learn.
- Look for things to appreciate: structure, patterns, context, motivation, pretty pictures & videos, funny asides, etc.
- Approach a research presentation like an opera.

As I told the research working group, whatever we manage to glean from the undergraduate low-dimensional topology class is great.