

Representation Theory Monday 05.09.2011.  
Graduate School

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(1) Questions: (a) Why did you come?

(b) Where are you going?

(2) Preparing for career/future: What will people ask me?

Communication skills: (a) Speaking/presenting

(b) Writing

(c) reports, proposals, memos,  
letters, email

Resources: (a) Phone/email/Skype

(b) Books/arXiv/MathSciNet

(c) Internet/Wikipedia/mathOverflow/Facebook

(d) People

Time management:

(a) planning / quantification

(b) organisation / scheduling

For example, ... finishing a paper....

Social management / structure / perceptions.

Algebra - analysis - Topology

Mathematical Societies AMS-EMS-SMF-LMS-....

Personal management.

PROBLEM SOLVING:

Definitions - Proof machine - Structure and form

Questions:

- (a) Positivity on  $E2$  and cobordism
- (b) Formal group laws
- (c) Vanishing cycles
- (d) positivity / fin. dimensionality for motives  $\lambda$ -rings
- (e) equiv category of reflection groups.
- (f) KLR modules for affine case.
- \* (g) Proof of the Weil conjectures.
- \* (h) How can I help you?
- \* (i) How can you help me?