PRISM: Collaborating with students for effective educational enhancement in the STEM disciplines

Dr Samantha Pugh* and Michael Grove

University of Leeds

@SamLP

What is PRiSM?

- Pedagogic Research in Science and Mathematics at the University of Leeds
- Academics in:
  - Maths
  - Physics
  - Chemistry
  - Engineering

Enhancing Student Education through enhancement, pedagogic research and evidence-based practice

The Partnership

We work in close partnership with students in all aspects of student education

Students

We will:

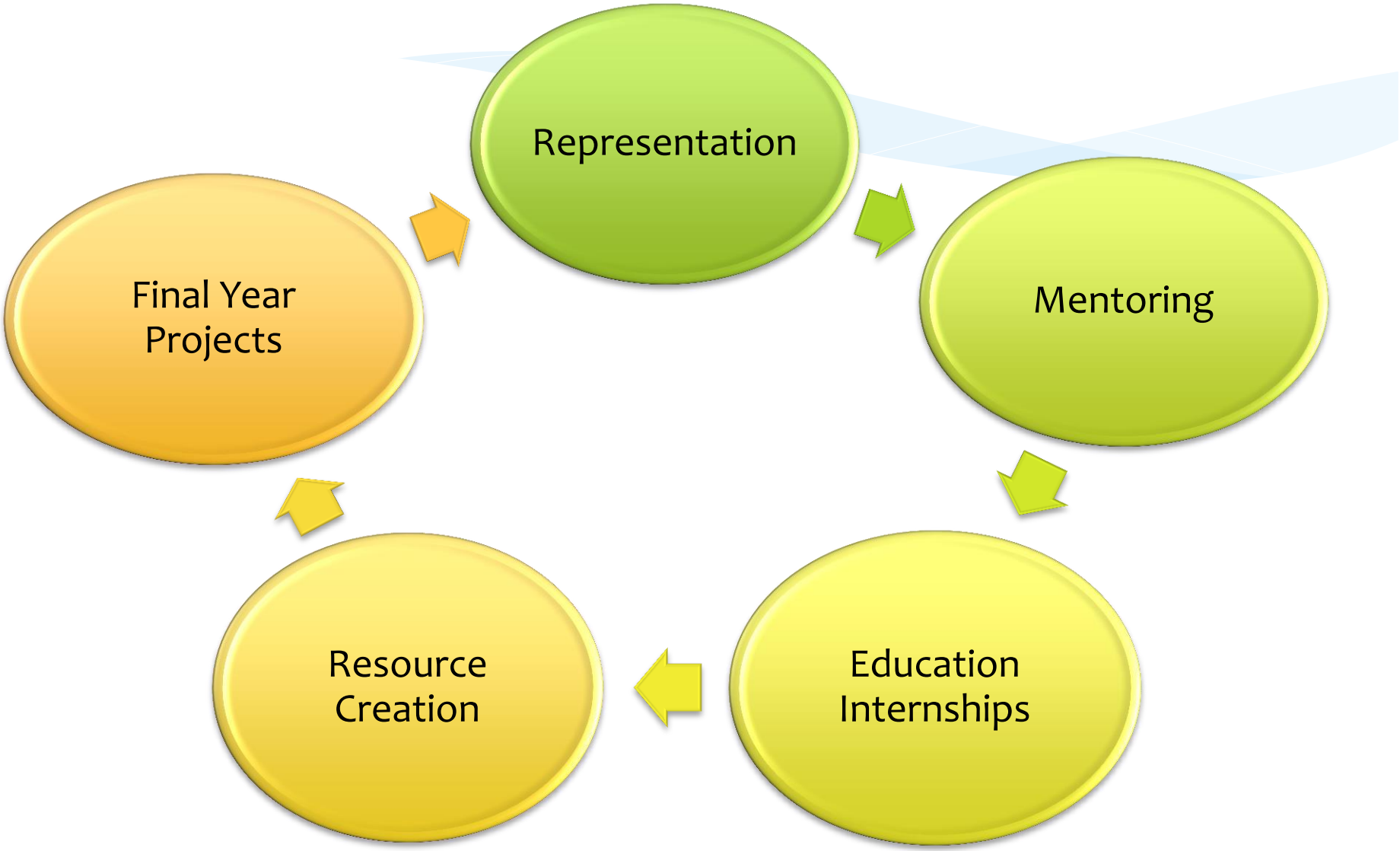
Be responsible, accessible and respectful

Prepare for, engage with and contribute to learning at Leeds

Help each other to reflect, develop and improve

Staff

Partnerships with students



Representation and Mentoring

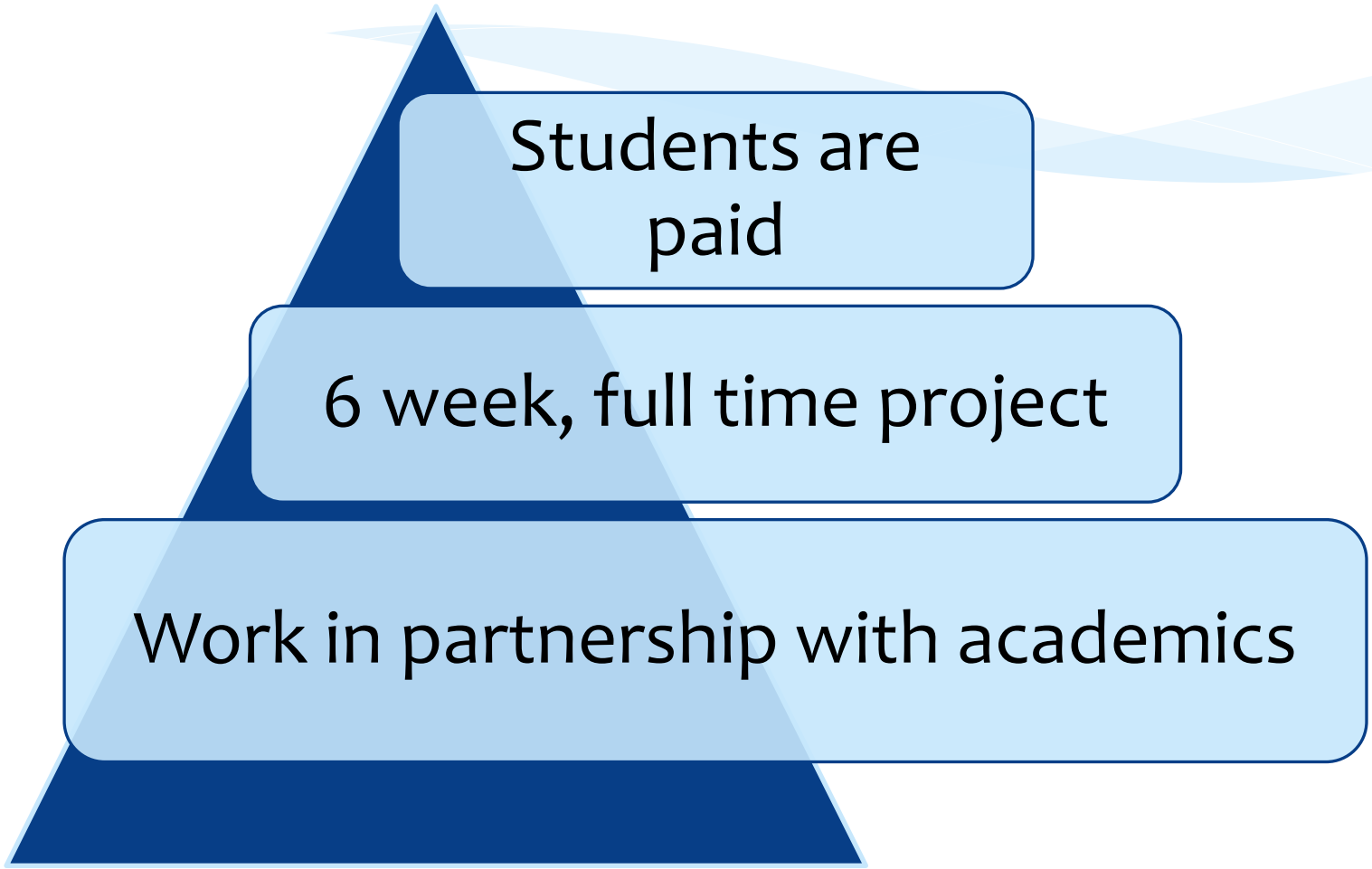
Student representation:

- Throughout the deliberative structure
- In curriculum development
- Leading projects and activities

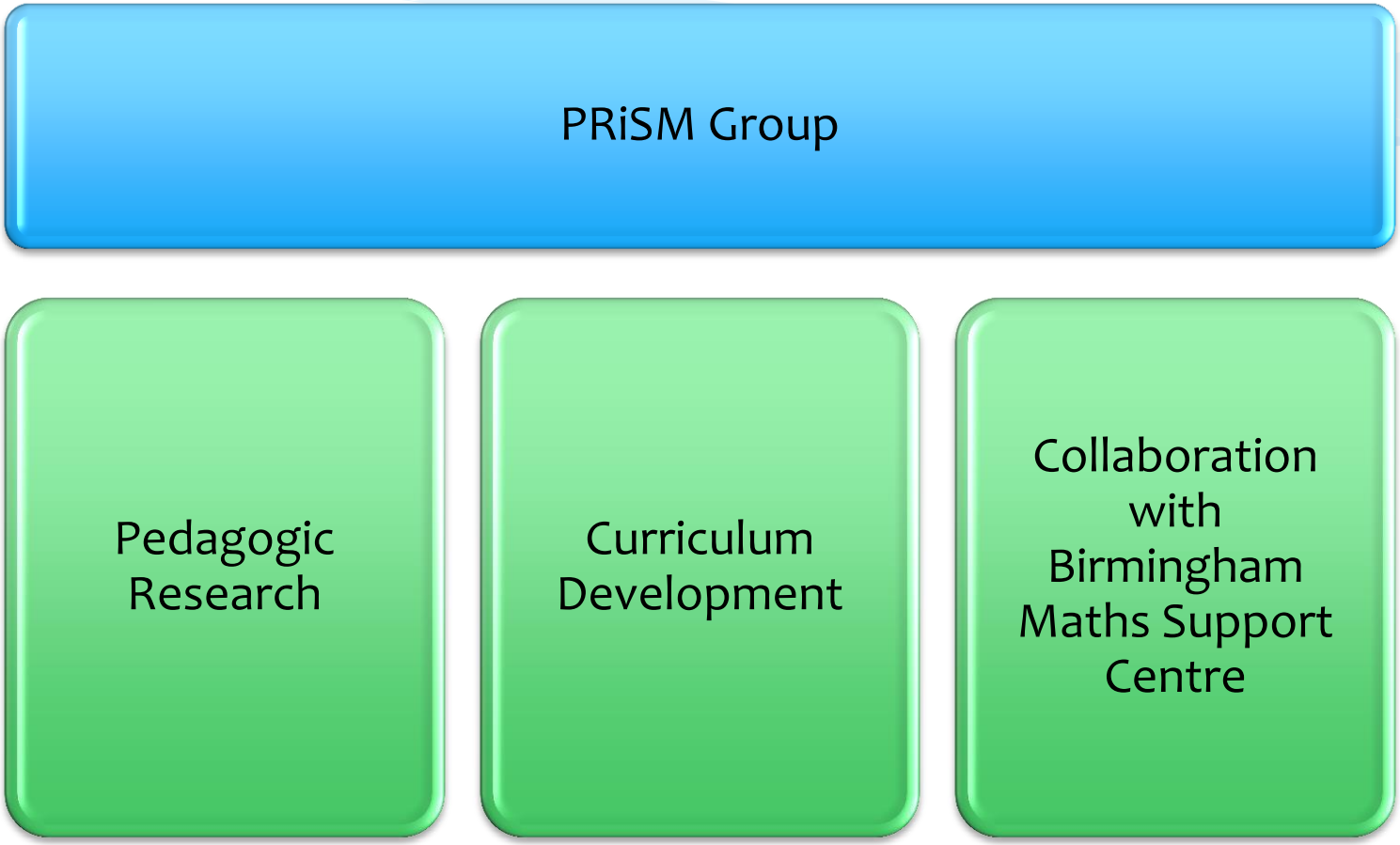
Mentoring:

- Peer Assisted Learning
- PAL2/drop ins
- Student Employability Mentoring Scheme

Summer Education Internships



Education Internships



Some PRiSM pedagogic research projects…

- The Sophomore Slump in Physics
- Understanding Mathematics in a Chemistry Context
- Articulating Undergraduate Research Pathways
- Understanding Employability in Physics
- E-assessment in Mathematics
- School – University Transition in Physics

Provides proof of concept…

Resource development

- Contemporary Science Debates module
- C/PBL – Chemistry Careers in SMEs
- Science communication (Waste to Wealth)
- Maths for Chemists e-book
- Mathematics Resources for Civil Engineers

Understanding Mathematics in a Chemistry Context

- Data analysis of student performance in maths-based chemistry modules
- Interviews with staff and students
- Creation e-book for maths support

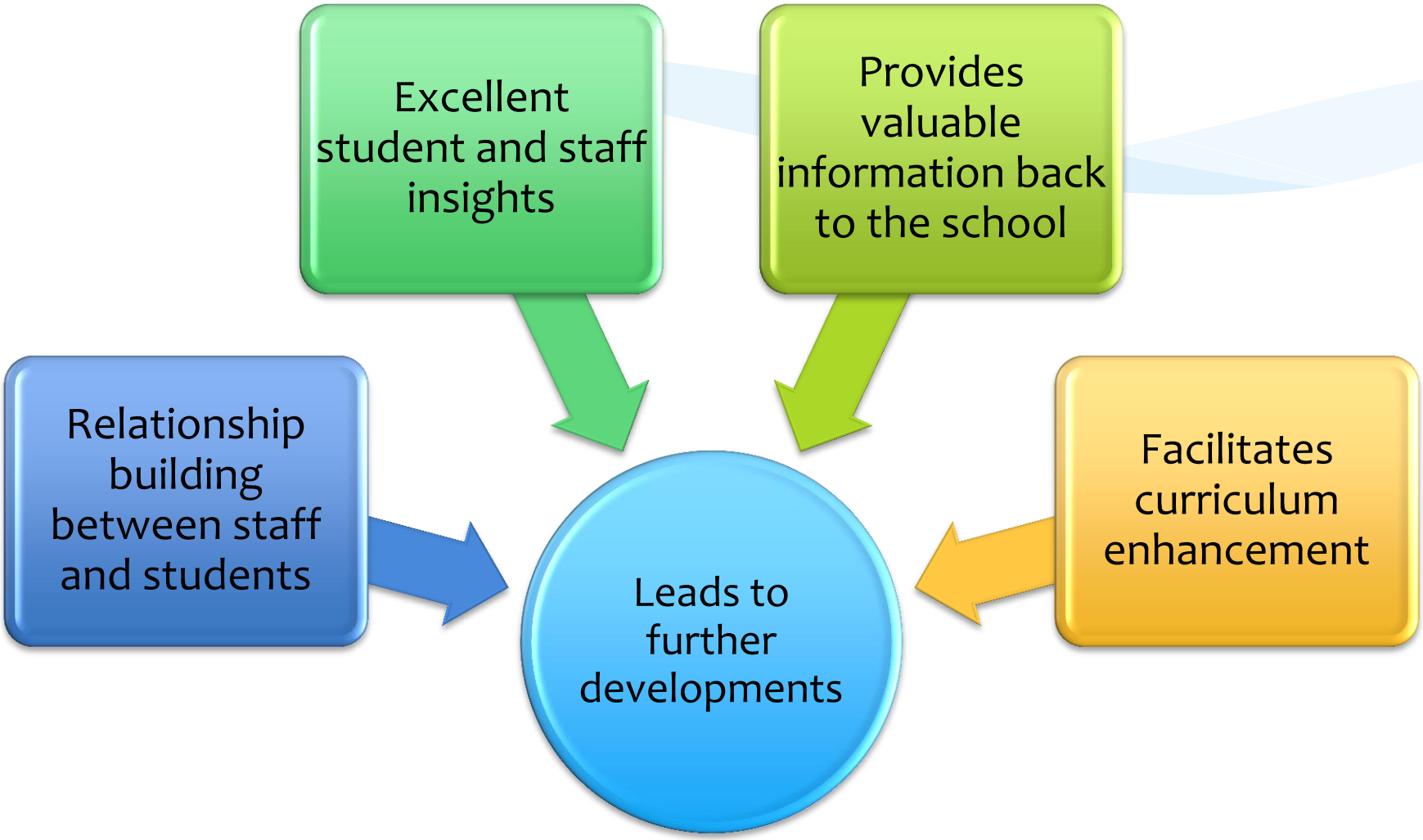
Careers for Chemists: SMEs Problem based learning

- Scenario based learning
- Students select an SME
- Developed with support from UG and PGR students

STEM Education Final Year Projects

- Summer internships provided proof of concept
- Great opportunity for BSc students who don't intend to be research scientists.
- Qualitative and Quantitative Research
- Staff and students as participants in the research

Benefits


Excellent student and staff insights
Provides valuable information back to the school
Relationship building between staff and students
Facilitates curriculum enhancement
Leads to further developments

What makes partnerships work?