

# Developing Collaborative Research

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# Outline

Developing  
Collaborative  
Research

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Introduction

Research  
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Conclusions

- 1 Introduction
- 2 Research Collaboration
- 3 Professional Societies
- 4 Conclusions

# Who am I?

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# Who am I?

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My name is Mark and I am an (engineering) mathematician

# Who am I?

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My name is Mark and I am an (engineering) mathematician

$$y = x^4 + x^2 + 2,$$
$$\frac{dy}{dx} = 4x^3 + 2x.$$

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My name is Mark and I am an (engineering) mathematician

$$y = x^4 + x^2 + 2,$$
$$\frac{dy}{dx} = 4x^3 + 2x.$$

# How you got where you are?

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# How you got where you are?

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1986–1989	Leeds (BSc Hons)
1990–1991	Bath (MSc)
1991–1994	Leeds (PhD)
1994–1997 (Nov)	Leeds



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1991–1994	Leeds (PhD)
1994–1997 (Nov)	Leeds
1997–1999	New Zealand

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1986–1989	Leeds (BSc Hons)
1990–1991	Bath (MSc)
1991–1994	Leeds (PhD)
1994–1997 (Nov)	Leeds
1997–1999	New Zealand
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1999–2000	Leeds
2000–2002	UNSW@ADFA (Australia)
2003–	UoW (Australia)

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1999–2000	Leeds
2002–2002	UNSW@ADFA (Australia)
2003–RIP	UoW (Australia)

# Research Collaboration

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- What is it?
- Who is involved?
- How does it work?
- Pitfalls?
- How many?

# Two famous collaborators

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# Hardy–Littlewood Rules

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- 1 When one wrote to the other. . . it was completely indifferent whether what they wrote was right or wrong.

# Hardy–Littlewood Rules

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- 1 When one wrote to the other. . . it was completely indifferent whether what they wrote was right or wrong.
- 2 When one received a letter from the other, he was under no obligation whatsoever to read it, let alone to answer it.

# Hardy–Littlewood Rules

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- 1 When one wrote to the other. . . it was completely indifferent whether what they wrote was right or wrong.
- 2 When one received a letter from the other, he was under no obligation whatsoever to read it, let alone to answer it.
- 3 It did not really matter if they both thought about the same detail, still, it was preferable that they should not do so.



# Hardy–Littlewood Rules

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- 1 When one wrote to the other. . . it was completely indifferent whether what they wrote was right or wrong.
- 2 When one received a letter from the other, he was under no obligation whatsoever to read it, let alone to answer it.
- 3 It did not really matter if they both thought about the same detail, still, it was preferable that they should not do so.
- 4 It was quite indifferent if one of them had not contributed the least bit to the contents of a paper under their common name.

# One possible scenario

- Someone you already know.
- Working in the same area? Same skills or different skills?
- Who will do the research?
- Who will write the research up?
- Names on papers?
- Who will present the research?
- How much will you contribute? (percentage ?)
- Who is the 'leader' ?

▶ Woman's perspective

▶ Man's perspective

▶ Dealbreaker

▶ Porter

# A woman's perspective on "research collaboration"

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**Step 1** Be crystal clear how you feel about your potential research collaborator **FIRST**.

**Step 2** Does the PRC fit into your circle?

**Step 3** Define **EXACTLY** what the "next level" looks like for **YOU**.

**Step 4** Create the perfect setting.

**Step 5** Be Unattached to the Outcome.

▶ Man's perspective

▶ Dealbreaker

▶ Porter

# A woman's perspective on "research collaboration"

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**Step 1** Be crystal clear how you feel about your research collaborator FIRST.

*"Do you feel in your heart of hearts that they are suitable for your research plan?"*

Step 2

Step 3

Step 4

Step 5

▶ Man's perspective

▶ Dealbreaker

▶ Porter

# A woman's perspective on "research collaboration"

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**Step 1** Be crystal clear how you feel about your potential research collaborator (PRC) **FIRST**.

**Step 2** Does the PRC fit into your circle?  
*"Have you already introduced the PRC to friends and members in your inner research circle? If not, why?"*

**Step 3**

**Step 4**

**Step 5**

▶ Man's perspective

▶ Dealbreaker

▶ Porter

# A woman's perspective on "research collaboration"

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**Step 1** Be crystal clear how you feel about your potential research collaborator (PRC) **FIRST**.

**Step 2** Does the PRC fit into your circle?

**Step 3** Define **EXACTLY** what the "next level" looks like for **YOU**.

*"Whether its a conference publication, a one-off journal publication, a grant application or something more serious you want to have a clear picture of what you want before you have this conversation – NOT what you think the PRC wants or what will be the least likely to scare them off."*

**Step 4**

**Step 5**

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**Step 1** Be crystal clear how you feel about your potential research collaborator (PRC) **FIRST**.

**Step 2** Does the PRC fit into your circle?

**Step 3** Define **EXACTLY** what the "next level" looks like for **YOU**.

**Step 4** Create the Perfect Setting.

*"Where you have the conversation is equally important as what youre asking for. Have the talk either at your place or someplace neutral - like a restaurant, on the beach etc. . ."*

**Step 5**

▶ Man's perspective

▶ Dealbreaker

▶ Porter

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**Step 1** Be crystal clear how you feel about your potential research collaborator (PRC) **FIRST**.

**Step 2** Does the PRC fit into your circle?

**Step 3** Define **EXACTLY** what the "next level" looks like for **YOU**.

**Step 4** Create the Perfect Setting.

**Step 5** Be Unattached to the Outcome

*"Your goal is to stay anchored in the energy of openness and allowing the PRC to make the best decision for themselves."*

▶ Man's perspective

▶ Dealbreaker

▶ Porter



# A male's perspective on "research collaboration"

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- Let the PRC initiate contact.

▶ Dealbreaker

▶ Porter

# A male's perspective on "research collaboration"

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- Let the PRC initiate contact.
- Referencing the future is good.

▶ Dealbreaker

▶ Porter

# A male's perspective on "research collaboration"

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- Let the PRC initiate contact.
- Referencing the future is good.
- Never beg.

▶ Dealbreaker

▶ Porter

# "Research collaboration": the dealbreaker

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# "Research collaboration": the dealbreaker

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Potential Breakup Concern #1 What are your research expectations?

Potential Breakup Concern #2 Do you feel the same about money?

Potential Breakup Concern #3 Do you feel there are any addictions present?

Potential Breakup Concern #4 What are your research requirements?

▶ Porter

# "Research collaboration": the dealbreaker

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Potential Breakup Concern #1 What are your research expectations?

*"Once a research collaboration starts, certain aspects of the PRC's needs and wants may change. "He'll want to submit a grant application after a couple of years of publication". "She'll focus less on being the first-named author after we start publishing together."*

Potential Breakup Concern #2

Potential Breakup Concern #3

Potential Breakup Concern #4

▶ Porter

# "Research collaboration": the dealbreaker

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Potential Breakup Concern #1 What are your research expectations?

Potential Breakup Concern #2 Do you feel the same about money?

*"Will you fight about money? Money can be a huge source of stress between research collaborators. Who earns the most? Who spends it? What do you need to cover your basic needs?"*

Potential Breakup Concern #3

Potential Breakup Concern #4

▶ Porter

# "Research collaboration": the dealbreaker

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Potential Breakup Concern #1 What are your research expectations?

Potential Breakup Concern #2 Do you feel the same about money?

Potential Breakup Concern #3 Do you feel there are any addictions present?  
*"Behaviours that negatively effect your partner's work."*

Potential Breakup Concern #4

▶ Porter



# "Research collaboration": the dealbreaker

Potential Breakup Concern #1 Research expectations?

Potential Breakup Concern #2 Money?

Potential Breakup Concern #3 Addictions?

Potential Breakup Concern #4 What are your research requirements?

*"You don't need to be publishing papers to have a discussion about it. The healthiest of research collaborators are able to discuss their publication needs openly, without it becoming a fight or debate about right and wrong. Issues that require conversations include differences in publication frequency, quality of interaction, and research fidelity. If you aren't on the same page, its time to face this dealbreaker head on and have a talk pronto. "*

# How many research collaborators?

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# How many research collaborators?

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# Professional Societies

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Society for Industrial & Applied Mathematics SIAM News,  
SIAM Review.

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Society for Industrial & Applied Mathematics SIAM News,  
SIAM Review.

Mathematical Association of America The Am. Math.  
Monthly. Focus. (The College Mathematics  
Journal).

# Professional Societies

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**Society for Industrial & Applied Mathematics** SIAM News,  
SIAM Review.

**Mathematical Association of America** The Am. Math.  
Monthly. Focus. (The College Mathematics  
Journal).

**American Mathematical Society** Bulletin (New Series) of the  
AMS, Notices of the AMS.

# Professional Societies

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SIAM Review.

**Mathematical Association of America** The Am. Math.  
Monthly. Focus. (The College Mathematics  
Journal).

**American Mathematical Society** Bulletin (New Series) of the  
AMS, Notices of the AMS.

**Australian Mathematical Society** Gazette. (The ANZIAM  
Journal).

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[Society for Industrial & Applied Mathematics](#) SIAM News,  
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AMS, Notices of the AMS.

[Australian Mathematical Society](#) Gazette. (The ANZIAM  
Journal).

[Institution of Chemical Engineers](#) the chemical engineer.



# Conclusions

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- Research collaboration.

# Conclusions

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- Research collaboration.
- The importance of deadlines: visiting, conference, conference publications, journal publications.

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- Research collaboration.
- The importance of deadlines: visiting, conference, conference publications, journal publications.
- Pitfalls.

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- Research collaboration.
- The importance of deadlines: visiting, conference, conference publications, journal publications.
- Pitfalls.
- Research collaborators:

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- Research collaboration.
- The importance of deadlines: visiting, conference, conference publications, journal publications.
- Pitfalls.
- Research collaborators:

# Conclusions

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- Research collaboration.
- The importance of deadlines: visiting, conference, conference publications, journal publications.
- Pitfalls.
- Research collaborators: **It's OK to have more than one.**

# The End

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(coming soon)

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# The End

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(coming soon)

Imagine how it would FEEL to Finally Have the Trust, Comfort and CERTAINTY from KNOWING that You Have a Research Collaborator who is Genuinely and Deeply COMMITTED to You and Your Research. . .



# The End

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. . . Introducing “Connect And Commit — Taking Things to the Next Level of Commitment.” Soon YOU’LL Be Enjoying the Publications, Grants and Long Lasting Research Collaboration that YOU Deserve!