'Setting a Research Agenda' Workbook

Setting a genuine research agenda, one that has meaning for you, requires a certain amount of self-reflection. It has much in common with 'life planning', and so you might want to look up a copy of Bolles's 'What Colour is Your Parachute' – he does a professional job, whereas this is ad hoc and quirky. This 'workbook' is meant as a private exercise to remind you that you know the answers, or maybe help you think about it if you don't.

A note on setting priorities:

This workbook uses the list-making approach to planning, which requires that at least some lists are put into priority order. The decision-making literature is full of prioritising strategies. Here are three that we use at home:

pair-wise comparison
Compare the items on the list two at a time, each time deciding which has the higher priority. Keep track. Finally, count up the number of high marks per item. Order from highest number to lowest.

take-away
You have group of options. Choose one that's of low priority, and remove it from the group and stop thinking about it. Repeat. When you get down to a small number (three or so), prioritise those remaining.

identify the real discriminator
Sometimes the thing that really matters is not the factor we first think it is. This strategy is about getting yourself to expose the real discriminator – which is often something you haven't articulated yet. (This one works best when there aren't too many things on the list – for example, when you're down to three after playing 'take-away'.) Start with a pro's and con's analysis – you can set it out as a three-column list (options, pro's, con's), or you can set it up as a matrix (options against criteria).

Now start taking away things that don't really matter that much. If there are two options that have much the same profile, consider: why are these both here? If you notice that you're filling in a value 'just because it's there', cross the criterion out. Look through the criteria; if any aren't informative, (e.g., for which the options all have the same value) cross them out. Run through the remaining criteria asking yourself: 'Does this really matter?' If you find that an option comes low according to the criteria, but you don't want to give it up, consider: why is this really important?

If you haven't had the 'ah hah' yet, then try a pair-wise comparison of criteria. The true discriminator is often not on the first list.

The usual metrics:

A word about the 'public' role of a research agenda, and the 'public' story about research...It's worth understanding the greater 'game', in order to understand your relationship to it.

the three key metrics for research:
- **publications**: papers published in leading international journals and conferences
- **money**: external funding, including industry funding
- **students**: PhD completions

other metrics:
- significant awards and honours
- editorial leadership (leading journals, leading conferences)
- keynote and invited addresses
- external seminars
- organisational activity: conference committees, SIGs, etc.

What makes an outstanding c.v.?
Consider the metrics above.
Add time.
What else do you think matters?
How does your c.v. stack up against these metrics, and what would you like to improve?

Motivation

Your mother asks you: *Why do you want to do research?* What reasons do you give her?

flippant reasons	genuine reasons

Mark up you responses; are your motivations internal (e.g., I can't help myself) or external (it is expected of me)?

What rewards matter to you?
- ☐ respect
- ☐ adventure
- ☐ challenge
- ☐ stimulation
- ☐ discourse
- ☐ 'the chase'
- ☐ intellectual sparring
- ☐ fun
- ☐ patents
- ☐ publications
- ☐ royalties
- ☐ awards
- ☐ promotion
- ☐ fame

What gives you research 'buzz'?:
- ☐ social contact
- ☐ great reviews
- ☐ generating theory
- ☐ building models
- ☐ formalising ideas
- ☐ analysing ideas
- ☐ finding gaps or conflicts
- ☐ finding patterns
- ☐ gathering evidence
- ☐ nailing down the statistics
- ☐ designing experiments
- ☐ tinkering with widgets
- ☐ leading a team
- ☐ coordinating a team
- ☐ articulating concepts,
- ☐ finding or inventing terminology
- ☐ mapping literature
- ☐ taking the next step
- ☐ going one better than the professor

Now list all the stuff I've missed...

What do you want to be when you grow up?

If you could have one research accomplishment to your name, one research 'claim to fame' what would it be? (And why *not* a Nobel prize?)

If you could give a keynote address at one conference, which would it be?

If you could be editor-in-chief of one journal, which would it be?

If you could impress one colleague or researcher in the domain, whom would it be?

What do you want to accomplish in the next year?

In the next 5 years?

Before you die?

Looking back:

projects you have known	stuff you didn't like or that didn't work for you	stuff that would have made a difference	stuff you did like

Now mark it up, noting the stuff you're good at, and the stuff you're not so good at.

Summarise:
The parts of the research process you like the most (including research techniques you like):

The parts of the research process you hate the most (including research techniques that make you want to break something):

(and how you've gotten around them in the past)

What usually gets in the way...

<u>Identify the community:</u>

Where is the discourse in your domain? Who forms the community?

Who are the key players?
    - where do they discuss
    - where do they publish

groups

lists

journals

conferences

key institutions

How can I find out who, and where?
Find a role model, a researcher whose work you admire or whom you'd like to admire your research.
    Where do they publish?
    Which program committees and editorial boards are they on?
    Whom do they cite?

Find another one, and repeat.

Environmental factors

physical working environment

stuff that makes you feel ready to work (e.g., a window you can look out, an orderly filing system)	stuff that gets in the way (e.g., open-plan seating, too many meetings)	

Prioritise.
Sort out what you need to change soon, and use the third column to note appropriate actions–specific things that will make a difference.

management environment

management that helps you work better (e.g., regular input, regular team meetings)	stuff that distracts you from work or gets in your way (e.g., micro-management, too many meetings)	

Prioritise.

Sort out what you need to change soon, and use the third column to note appropriate actions.

social context

You prefer to work:
- ☐ alone
- ☐ with one person
- ☐ with a number of different people, pair-wise
- ☐ with a small group
- ☐ with a larger group
- ☐ as the decision-maker
- ☐ as one decision-maker among equals
- ☐ as a team member,where someone else is responsible

time

How much time do you have for research?
each day?

each week?

in a year?

How do you prefer to organise research time:

- ☐ a little each day
- ☐ a day or two each week
- ☐ an intensive, uninterrupted block of days

What sorts of research activities can you do:
a little each day?

a day or two each week

an intensive, uninterrupted block of days

Collaboration:

People you like to work with:

Your best collaborators have been...

What characterised them as good collaborators was...

Things they had in common were...

From the research day in Stony: name two people in the department you want to talk to about research:

Name two people outside the OU you want to talk to about research:

    Where are you likely to meet them?

    Which paper of yours might you send them, and why?

    What three questions would you most like to ask them?

    1.

    2.

    3.

<u>Funding:</u>

Where *outside the OU* can you go for funding? Try to list 10 realistic possibilities.
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

What's stopping you from bidding? (No, really)

When was the last time you rooted around the EPSRC web site?
Or the OU Research News web site?

Who in industry would be interested in your research ideas?

What do you want from an industry collaborator or funder?

What contribution can your work make to industry, i.e., if they invest in you, what do they get for their money?

Can you work in their timeframe? (Do you know what the industry timeframe is?)

When was the last time you checked out relevant umbrella organisations: trade associations, chambers of commerce, DTI, etc.?

Working from ideas to plans

Identify three *research questions* that interest you; describe, prioritise:

1.	2.	3.

For each question:
> Why is it a good question?
> How might it be answered?
> What evidence would contribute to an answer?
> Why bother?
> What next?

For each question:

	What do you need to find out?	Where can you find it? (e.g., key literature)	Who knows what you need to know?
1			
2			
3			

Prioritise the first column.

For your top question:
Identify three ways you might investigate the question.
Consider: What are the models in the literature?

	1	2	3
Describe the approach.			
What evidence will it deliver?			
What are the strengths of this approach?			
What are the limitations of this approach?			
What does this approach deliver that another would not?			
What would it take to implement it?			

What, the page is too small? Of course it is. And of course the exercise is not complete (we'd need to iterate on the last row, and add a timeframe). But it's a start.

Writing a 'public' research agenda

A public research agenda is meant to set out: *aims, objectives and their operationalisation.*

'In the wild' agenda statements occur naturally in a variety of contexts, e.g.: cocktail party introductions (1-liners), research prospectus entries (1-paragraphers), introductions for prospective industrial collaborators (1-pagers).

A typical form for a 1-liner is: I want to investigate A, by doing B, in order to learn C.

Here is a recipe for a 1-2 page statement:

- statement of area
- statement of focal questions
- justification (Why bother? Who cares?)
- identification of the community -- key players, potential collaborators
- approach to be taken (general approach, perhaps a prioritised list of subsidiary questions and how to approach each of them)
- key activities (prioritised)
- predicted outcomes (with timeframe)
- identification and justification of publishing targets (key journals, key conferences)
- identification of funding opportunities (with timeframe)

The general form is the same, whether it's a 'find a question' agenda (e.g., a pre-agenda) or a 'seek an answer' agenda. In other words, 'finding a researchable gap in the obfuscation literature' is a perfectly acceptable form of focal question.