Towards post-doctoral research: Preparing a research grant proposal
Lynn McAlpine, October 2019

Academic genres

Q: What is a genre? A: A category of writing characterized by similarities in purpose, form and style
1. What academic genres can you think of? Make a list, putting a tick next to the ones you feel you know well.

2. Discuss with the person next to you and add to your list.

Thinking about grant proposals generally

1. What makes a research proposal stand out as a genre?
   ◦ A promissory note: Problem-oriented, promotional and persuasive
   ◦ Who are you trying to persuade?
2. What genres make up the grant writing genre system? Hint: Pre-submission, post-submission

What is the research proposal genre system? Add any new items to your genre list above.
Focus on the proposal

Brainstorm in pairs a list of what makes a good research proposal.

English-language research proposal moves

Connor’s studies, one in the US (National Science Foundation) and the other in the EU, analyzed research proposals (she also interviewed the authors). Individuals recognized the following moves as core to research proposals (and could recognize them in their own proposals). Country of origin and discipline had little influence. Feng & Shi (2004) found similar moves in Canada (Social Sciences and Humanities Research Council) and noted both ‘move mixing’ and ‘move re-occurrence.’

NB The first move in italics below was only in EU proposals, and the second and third in SSHRC grants: a result of requirements. Of course, all moves may not be present in any one proposal or presented in this order.

Territory
• The situation in which the research is placed: there are two ways to demonstrate this – the world outside of academia, and that of the field of research.

Previous research
• Either by the proposers or others.

Gap in knowledge/problem in the territory
• Whether in the real world – for example, environmental commercial, financial – or in the scholarly world, for example, pointing out that something is not known for certain; this explains motivation for the study.

Goal statement, aim or general objective
• What the researcher wants to do.

Means
• Methods, procedures, plans of action and the tasks that lead to the goal.

Achievements
• Anticipated results, findings, or outcomes of the study.

Benefits
• Intended or projected outcomes of the study; could be useful to the real world outside the study itself, or the research field.

Competence claim
• Demonstrates the individual/group proposing the work is well qualified, experienced, and capable of carrying out the tasks.

Importance claim
• How the proposal, its objectives, anticipated outcomes, or the territory are particularly important or topical, much-needed or urgent.

Compliance claim
• This makes explicit the relevance of proposal to EU objectives, usually with highly specific reference to directives and/or the set goals of the program in question (EU).
Communication of results
• Anticipated audience & means of communicating (SSHRC).
Content organization
• Use of meta-discourse (SSHRC).

Additionally …

1. Another way of thinking about the moves in research proposals is three ‘big’ steps with sub-steps:
   • Establishing territory for study: indicating a niche linked to real-world or gap in knowledge, proposer's own research as part of research territory/competence
   • Describing means: outlining research objectives, describing research method
   • Claiming potential contributions: claiming importance, achievements, benefits

2. While the above moves will be present in most proposals, they may not necessarily be in this ‘lock-step’ order. Some strategies:
   • Setting the scene for the reader: e.g., objective and benefits emphasized in many sections; this strategy suggests ‘setting the scene’ for reader is seen as important; more important in soft domains
   • A re-occurring niche-centred tide-like structure: re-occurring moves a tide, one wave after another moving the topic forward; in literature review, can serve a promotional purpose; the wave pattern, territory and gap/niche, avoids negative evaluations of previous research, tones down criticism, heads off possible objections and shows spiral development of research
   • Mixing moves to serve promotional purposes: consciously used to express private intention, e.g., objective ⇒ benefits and objective ⇒ communication of results in one sentence (sometimes also due to syntactic convenience); overall creatively exploits the generic feature of one move to express the communicative intention of another

Pair work: Successful Marie Curie summaries

Below you will find two different successful summaries: one fish farming and the other music.

Individually,
• Read through each and mark the moves using the table below each text if you wish
• Then compare and contrast as to what stands out about each that might make it successful

In pairs,
• Compare how you have marked the moves
• Discuss what you each see as successful elements
Sustainable expansion of European fish farming is dependent on feeds relying less on fishmeal. European researches and industry initiatives over the last decade have resulted in a significant decrease in the share of fishmeal in fish feeds, but current replacement rates seem to be close to the physiological capacity of the different species. This project will use one of the most important cultured fish in Europe (Sparus aurata) as an animal model, to look for a novel strategy for increasing the use of soybean meal in aquafeeds, addressing a key question in today’s nutrition research: can early diet influence long-term outcome? Hence, the main objective is to assess if early manipulations in fish larva can encourage a better use of plant proteins in later life. This issue (nutritional programming, in its wider sense) has been poorly studied in animals other than humans and mammalian models. The project will focus at four different levels: epigenetic programming, compensatory responses, microbiota changes, and growth outcome produced by early exposure to plant proteins and pro/prebiotics. The multidisciplinary nature of the project is strong, involving a combination of well-developed biochemistry, molecular biology, microbiology and aquaculture. This proposal includes both the transfer of knowledge to the host institution and the training of the candidate in new advanced techniques. Results have the potential capacity to increase the competitiveness of the Mediterranean aquaculture and provide room for further studies at the fundamental and applied levels in S. aurata, and other European cultured fishes. This project is in line with the EU strategy for the sustainable development of aquaculture.

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Comments:
Music is an art form with a very long history and continues to engage millions of people today. Music Information Retrieval (MIR), the exciting interdisciplinary science that brings together music and computer science, is a growing field of research with the potential to enrich pure computer science knowledge while creating real-world applications that the general public can benefit from. While the marriage of art and science is often troublesome, MIR has the benefit that many aspects of music are highly structural and have been subject to rigorous formalisation for a long time. Formalisation and computers go hand in hand, and MIR researchers have therefore been developing models of musical structure for many years, and putting them to use in several applications. However, such models, so far, have had limited impact; they are commonly restricted to one specific aspect of music (such as harmony or form), can be hard to implement computationally (due, for example, to the way ambiguity is handled), and are often too technical to be used directly by musicologists who are not familiar with programming language details.

However, models are valuable. Unlike machine learning approaches, model-based MIR provides a real insight about the underlying structure, and can benefit from the input of musicologist experts. Furthermore, a single model can be applied to multiple important MIR tasks (such as retrieval, analysis, and automatic composition). The research goal of this project is thus to give musical models the impact they deserve, advancing the practical embodiment of hierarchical musical structure—in its various forms—in computer science through the development of new, functional Models of Structure in Music (MoStMusic). Specifically, I intend to develop functional models of musical form, melody, and harmony that enable an easy, fast, and flexible way of creating model-enhanced MIR applications. Being executable, these models will pave the way for true content-based music analysis and retrieval—an underestimated and underexplored area. As a showcase of a model-enhanced application, I will create an online music analyser that automatically computes the structure present in a user-submitted piece, and displays it in an interactive interface that highlights the structural shape of music.

I have previously developed a functional model of structure in musical harmony, creating a model that is easy to understand, directly linked to an efficient implementation, and applicable to several common MIR tasks. This work lead to several publications in top-quality venues, and to the creation of a very successful internet start-up company. With the foundational theory already in place, and given the growing interest in model-based approaches in the MIR community, the time is right for pursuing this line of research. This promising undertaking will greatly expand my knowledge in MIR and musicology, and help me develop into a leading independent researcher. At the same time, the proposed application has great outreach and commercialisation potential, thus contributing to the research output, visibility, and economy of Europe.

### Analyze the text

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Comments:

**What will you do next?**
Take a moment to reflect on what we have done and answer these questions.

- What have you learned?

- What action items do you have? What are your deadlines?

References
Appendix

1. **Linguistic markers of voice** (Hyland, 2000; 2002; 2008)

- *Hedges*: explicitly qualify writer’s commitment, e.g., ‘it is possible,’ ‘perhaps…,’ ‘however…’
- *Attitude markers*: express writer’s affective attitude to propositions, e.g., ‘it was surprising that …’
- *Emphatics/boosters*: express certainty and stress shared knowledge/agreement with reader, group membership, e.g., ‘clearly, x is the case’
- *Relational markers*: directly address reader, focus attention or invite participation, e.g., 2nd person; questions and statements that invite engagement, e.g., ‘is it, in fact, necessary to ..?’
- *Self-mention markers*: explicit author presence in the text, i.e., 1st personal pronouns/ possessive adjectives, e.g., ‘I believe,’ ‘we will undertake,’ ‘our project’

Find the markers in summary 2 – underline them and decide what kind of marker they are.

2. The questions below come from George Heilmeier, Director of the American Defense Advanced Research Projects Agency in the mid-1970s. These questions, which he said every science proposal should address, are a good way to assess your own ideas in creating a persuasive proposal, especially as regards means and social impact. (Note the links to the different moves.)

- What is the problem, and why is it hard to answer?
- How is it being dealt with today?
- What is the new idea you are contributing that can make progress in dealing with the problem?
- What will be the impact if successful?
- How will the program be organized?
- How will intermediate results be generated?
- How will you measure progress?
- What will it cost?

3. **External proposal structure**

- Who: PI, other researchers, location, time frame, keywords
- Background/ theoretical background: e.g., topic and method arising from PhD
- (Research) Objectives: itemized
- Research methods, material and ethical issues: research methods, data analysis, research ethics, data archiving, risk management
- Implementation: timetable/schedule, budget, distribution of work (*tables*), publications & dissemination
- Researchers, research environment and mobility: e.g., international collaborations and 2-way mobility (*table*)
- Expected results
- Key literature cited

NB Careful use of formatting to highlight elements