

A personal experience in preparing an MSCA-IF application

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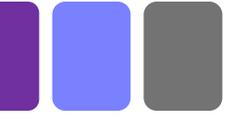
Imperial College London

13 June 2017



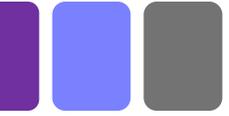
Outline

- Details about my application
- Important points for writing the proposal



Brief bio

- 2008 – 2012 PhD in Biochemistry (Massey, NZ)
- 2012 – 2015 Postdoc in Chemical Engineering (Penn State, USA)
- 2016 Postdoc in Molecular Systems (Imperial/MRC LMS, UK)
- 2017 – 2019 MSCA Fellow (Imperial/MRC LMS, UK)



Motivation

- Prestige
 - Almost a requisite for a faculty position
- Generous salary
- Freedom (decisions on project, collaboration, travel)
- No age/time limit
- Networking opportunities



Timeline

Fellowship timeline



- Call launched: 12 Apr 2016

- Deadline: 14 Sept 2016 (17:00 Brussels time)

My timeline

- Decided to apply
- Outlined project
- Identified and contacted collaborators
- Met collaborators
- Met with the Grants, Engagement & Communication Office
- Conference + travel
- 1st full draft
- 3 weeks of full-time writing



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- Draft review: Postdoc supervisor, Grants officer (Imperial & MRC LMS)
- Oct – Dec 2016: Proposal evaluation
- Feb 2017: Outcome
- May 2017: Signing of Grant Agreement (latest)

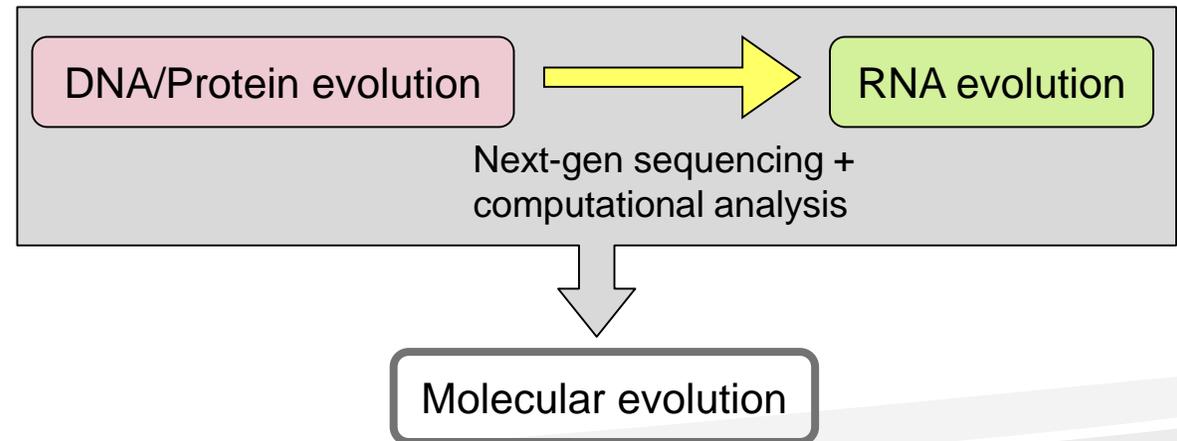


My application

- Horizon 2020 MSCA-IF 2016
- Title: The mutation-buffering capacity of RNA chaperones
- Goal: How mutations that affect RNA structure can be buffered by RNA chaperones
- 24 months
- Scientific Area / Panel: Life Sciences
- Descriptors:
 - “Molecular biology and interactions”
 - “Systems biology”
 - “Systems evolution, biological adaptation, phylogenetics, systematics, comparative biology”
 - “Synthetic biology, chemical biology and new bioengineering concepts”

My application

- No work involving mouse, human, etc.
 - No specific Ethics Issues to be addressed
- Project
 - 50% experimental + 50% computational
- No secondment
- No interview
- Reference letters not required



Overall experience of the writing process

- Training through 2 parts: Research & Transferable skills
 - Research
 - Objective-based
 - Skill diversification
 - Inter- / Multidisciplinary experience
 - Transferable skills
 - Managing research & project finance
 - Communication & outreach activities
 - Training on gender issues
- Research
 - Takes time (as expected)
- Transferable skills
 - Surprisingly hard and time-consuming
- The Application Guide became very tattered

Structure of the application

- Part A (online; 15 pages)
 - General information
 - Abstract
 - Exact date of doctoral degree conferment
 - Place and duration (in days) of activity/residence in the past 5 years
 - Participants & contacts
 - Administrative data of participating organisations, e.g. PIC identifiers, emails, phone numbers
 - Budget
 - Automatically calculated
 - Ethics
 - Read each question carefully, and address appropriately in Part B
 - Call-specific questions
 - Data Management Plan
 - Open Research Data Pilot
- Part B (Word doc; the actual proposal)
 - Document 1 (13 pages maximum)
 - Document 2 (no overall page limit)

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Part B of the application

- Document 1 (13 pages maximum)
 - Start page + List of participating organisations
 - Excellence (50%)
 - Impact (30%)
 - Implementation (20%)
- Document 2 (no overall page limit)
 - CV of the applicant (5 pages maximum)
 - Capacities of the participating organisations (1 page maximum)
 - Ethical Aspects

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ST-LIF 2016: 1,776 proposals

- 11% obtained a score of $\geq 93\%$
- Cut-off was slightly under 93%

Part B – Document 1

- Excellence (50%)
 - 1.1 Quality and credibility of the research
 - Introduction & state-of-the-art
 - Explain what I would do on the 1st page (in the 3rd paragraph)
 - Objectives and overview of the action
 - Three main aims; two specific objectives for each aim
 - Research methodology
 - Originality and innovative aspects of the research
 - Why is my project worth funding?
 - Explain how the high-quality, novel research is the most likely to open up the best career possibilities for the applicant
 - Why this project would allow me to move towards research independence?
 - Gender dimension

Part B – Document 1

- Excellence (50%)
 - 1.2 Quality of the training
 - How will the applicant gain new knowledge?
 - R, Python
 - Knowledge & skills that the researcher will transfer to the host organisations
 - High-throughput mutagenesis, bacterial phenotyping
 - 1.3 Quality of the supervision
 - Qualifications and experience of the supervisor
 - How awesome the supervisor is, i.e. capabilities to guide me through this training
 - Funding history of the group
 - Hosting arrangements
 - How the group had helped me to integrate into the Department
 - Departmental mentors, Postdoc Development Centre, Human Resources
 - 1.4 Capacity of the researcher to reach a position of professional maturity/independence
 - Evidence of leadership in the past
 - First-authored publications, Hamilton Memorial Prize, Graduate Women in Science, Scientific Malaysian

Part B – Document 1

- Impact (30%)
 - 2.1 Enhancing the potential and future career prospects
 - How the planned training in data dissemination would benefit me
 - Leadership in Research workshop, Springboard Women's Development Programme
 - Results would shape the future directions of the host and potentially my own future group.
 - 2.2 Quality of the proposed measures to exploit and disseminate results
 - Publishing in peer-reviewed journals, attending conferences, giving seminars
 - Intellectual property rights (IPR) strategies
 - 2.3 Quality of the proposed measures to communicate to different target audiences
 - Hands-on demonstrations in science festivals
 - Postdoc supervisor's experience in outreach activities

Part B – Document 1

- **Implementation (20%)**
 - 3.1 Coherence and effectiveness of the work plan
 - A realistic Gantt chart
 - Work packages, Deliverables and Milestones
 - 3.2 Appropriateness of the allocation of tasks and resources
 - Why certain tasks were allocated a longer duration, and why some a shorter duration
 - 3.3 Appropriateness of the management structure and procedures, including risk management
 - Organisation and management structure
 - One-on-one meetings with Postdoc Supervisor, progress talks, formal reviews
 - Finance handled by the Imperial Joint Research Office
 - Research and/or administrative risks
 - Experimental risks and contingency plans
 - 3.4 Appropriateness of the institutional environment (infrastructure)
 - Research facilities relevant to my work, e.g. Genomics, Flow Cytometry, Microscopy, Computing



Part B – Document 2

- CV
 - Education
 - Employment
 - Research Experience
 - Publications
 - Fellowships, Awards, Prizes
 - Presentations (Invited seminars, Posters, etc.)
 - Public Outreach
 - Supervising and Mentoring Activities
 - Teaching Experience
 - Service and Leadership (*ad hoc* review activities, committee members, etc.)

Part B – Document 2

- Capacity of the participating organisations (one page maximum)
 - General Description
 - Imperial's reputation and assessment
 - Role and Commitment of Supervisor
 - Postdoc supervisor's research and funding history
 - Key research facilities, infrastructure and equipment
 - Independent research premises?
 - Previous involvement in Research and Training Programmes
 - Imperial's involvement in national and international funding
 - EU Framework Programme 7 (2007 – 2013), Horizon 2020 (2014 – 2020)
 - Current involvement in Research and Training Programmes
 - Number of fellows who receive fellowships, e.g. MSCA-IF
 - Relevant Publications
 - Postdoc supervisor's

Feedback for my application

- Weaknesses:
 - Excellence
 - While the chosen model system is ideal for screening and assessing functional impact of mutations, it does not monitor the acquisition of a new function; thus, links to evolutionary principles may remain indirect or limited.
 - The supervisor heads a relatively newly established group and has had little time to develop supervisory skills and experience.
 - Impact
 - Plans for using online or print media to reach wider audiences are not adequately addressed
 - Implementation
 - None (19.2%; full 20%)



Afterthoughts

- Think about what you want to get out of a fellowship
 - Affects choices in postdoc supervisor(s), project(s) and the writing of the proposal
- Read and follow the Application Guide
- Some sections require contacting various departments and facilities well in advance
- Identify colleagues who have previously been (un)successful in obtaining fellowships
 - Study their proposals, and use them as models (or not)
- Be realistic
 - Is it feasible in your hands with the available resources and within the timeframe of the fellowship?
- Don't assume reviewers will know what you've done and what you can do
 - If something is important, make sure it's stated clearly
- Consistency for all parts of the application
- Get over inhibitions about selling yourself
- Beware of the number of references
 - 26 references for Part B, as footnotes

Good luck!



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