科技寫作(Scientific Writing)

Week 4 (Sept. 29 – Oct. 03)

Position Application (Ph.D. / Postdoc)

Ph.D./Postdoc職位申請寫作基本原則

南朝-劉勰<文心雕龍‧徵聖>

泛論君子，則云「情欲信，辭欲巧。」此修身貴文之徵也。
然則志足而言文，情信而辭巧，迺含章之玉牒，秉文之金科也。
…

…

文成規矩，思合符契。或(1)簡言以達旨，
或(2)博文以該情（但講重點），
或(3)明理以立體，
或(4)隱義而藏用。

寫作基本原則

南朝-劉勰<文心雕龍・明詩> -> 多練習！！！

　　然詩有恆裁，思無定位，隨性適分，鮮能圓通。
　　若妙識所難，其易也將至。乎之為易，其難也方來。

南朝-劉勰<文心雕龍・體性> -> 找合適的文章模仿其寫作手法
　　　　　　　　　　　　　　　但不要抄內容！！！

　　故宜摹體以定習，因性以練才。

寫作基本原則

Examples (not hard to find MANY, by googling):
   https://mills.ku.edu/#resources

Guides (not hard to find MANY, by googling):
   https://www.astrobetter.com/wiki/Graduate+School
   ->
https://drive.google.com/file/d/1tIZ9YTo8Oyv8EP2g_sSehhzaK0MPTA0
2/view
   https://astrobites.org/2022/08/02/guide-to-postdoc-apps-part1/
   https://astrobites.org/2022/08/03/guide-to-postdoc-apps-part2/

基本原則

同理目標讀者。將心比心。(請想像你是要花錢聘人的老闆將心比心)

目標讀者: An expert who has limited funds

There is a stake!
You succeed, he/she succeeds.

You fail, he/she fails!

(Everybody in his group will be fired.)

請經常維護自己的CV

任何時候都要在已經準備好申請工作的狀態
以此規範平日的工作進度及紀律

寫作兩大目標: Convincingly Match

1. 我是您聘僱方最佳的選擇
2. 聘僱方是我最佳的選擇

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1. 我是您聘僱方最佳的選擇
2. 聘僱方是我最佳的選擇

需要有針對性。聘僱方的工作性質是怎麼樣？
工作文化是怎麼樣？
有什麼研究或教學資源(是對我有利的)？
提供什麼樣的機會(是對我有利的, e.g., 合作單位?)

(謹慎說加入XX組是為了要被交換出去。不見得留下好印象。
 1. 聘僱方可能需要人力
 2. 你想被交換去X大，是不是因為你自己沒本事申請上？
    不夠格? 有示弱味道。
)

架構(postdoc)
1. Cover letter (摘要式介紹申請文件)
2. 經歷(條列)
3. 論文發表紀錄(條列)
4. 研究/學習背景(及其它特殊經歷)
5. 研究計劃

架構(Ph.D.)

1. Statement of Purpose (SoP)
   (1) 摘要式介紹
   (2) 研究/學習背景(及其它特殊經歷)
   (3) 研究計劃
2. 經歷(條列)
3. 論文發表紀錄(條列)

Cover Letter (1 page at most!)
1. 我申請的是什麼職位？
2. 這份申請包含什麼內容？
3. 我的相關經歷
4. 我過去的研究或學習經驗
5. 我未來的研究計劃(互惠！)

Cover Letter (1 page at most!)

1. 我出生在一個溫暖的家庭
2. 我國小的時候就對X很有興趣
3. 我很會講日文(?)

Cover Letter (1 page at most!)

1. ~~我出生在一個溫暖的家庭~~

2. ~~我國小的時候就對~~x~~很有興趣~~

3. ~~我很會講日文~~(?)

~~你是好人~~（什麼背景跟什麼需求相關，自己說清楚）

Cover Letter – 範例 (https://mills.ku.edu/#resources)

Dear Sir or Madam:

I am applying for the Jansky fellowship program, to be based at the National Radio Astronomy Observatory in Socorro, New Mexico. My curriculum vitae, a list of my publications, a summary of my past and current research, and a proposal for the research I will carry out while a fellow are enclosed for your review. Given my extensive radio and millimeter observing experience and my history of involvement with NRAO, I would appreciate your consideration for this fellowship position. My ongoing research projects to study the Galactic center using NRAO facilities are an ideal match for the resources and research environment of NRAO-Socorro. As a recent participant in the Resident Shared-Risk Observing program in Socorro, I had an opportunity to observe with the cutting-edge capabilities of the Karl G. Jansky Very large Array, and to take advantage of local expertise which greatly increased my productivity and efficiency in analyzing the data. As a Jansky fellow based at the Science Operations Center, I would continue to both assist with the ongoing commissioning activities and to benefit from the opportunities to utilize the latest capabilities of the VLA.

With collaborators at both NRAO and New Mexico Tech, I am leading exciting research projects using NRAO facilities including the detection and characterization of a widespread, hot component of molecular gas in the Galactic center using the Green Bank telescope, and a new high-resolution survey of Galactic center gas using the VLA which is discovering widespread maser activity, and will yield the first resolved temperature maps of Galactic center molecular clouds. I propose to expand on these projects by undertaking complementary surveys with the VLA and the Atacama Large Millimeter Array to study the density structure of Galactic center clouds. Together with my existing work, this will allow me to study the physical processes which cause gas conditions tin the Galactic center to be different than those in the Galactic disk, and to constrain the initial conditions of Galactic center star formation. As a Jansky fellow, I will continue to further my collaborations with NRAO staff and lead independent research projects using the unique capabilities of NRAO facilities including the GBT, VLA and ALMA.

Sincerely,

Elisabeth Mills

經歷 (善用條列)

1. 求學及工作經歷
2. 論文發表
3. 及其它特殊經歷

強調對聘僱方重要的經歷

越重要的，越優先出現
(不重要的不要亂寫。填充版面反而會留下重要內容不足、缺乏自信的不良印象。)

經歷 (善用條列)

1. 求學及工作經歷
2. 論文發表
3. 及其它特殊經歷 (e.g., 中文化Linux, etc)

強調對聘僱方重要的經歷

越重要的，越優先出現
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Past and current research

照重要性以及科學的邏輯寫，不是照時間排序！

1. Some necessary background introduction to people who are NOT in your research field.

2. What I can do
(i) what kind of instrument I can use
(ii) what kind of analysis I can carry out (e.g., using certain codes? Do I have programming skills?)

3. Am I disciplined?

4. Am I productive?

5. How am I compared with my peers?

Plan for future

照重要性以及科學的邏輯寫，不是照時間排序！

1. Why it is important
2. Why me
3. Why the position I am applying for
4. Timeline! How can I finish the proposed study in time? (use figure if you do not need to use text)

期中報告(每組一個30 mins口頭報告)

1. Spreadsheet (example: https://docs.google.com/spreadsheets/d/1EQ2TGs-BgEK_iaS6AJCfJ8qGp5HWR255Agg_w0wL9YE/edit?gid=0#gid=0)
   9間美國的學校，6間台灣的學校

   (i) application deadlines
   (ii) 申請材料
   (iii) 跟你研究領域相關的老師，大致研究方向，軟硬體資源, etc
   (iv) 其它應注意或可注意資訊

2. 三份申請(選擇略高於自己目標的學校，且不可以是中山大學)，包含

   SoP (3 pages)
   CV
   口頭報告說明自己的研究背景及研究計劃