



ECFA

European Committee for Future Accelerators

Evaluations in HEP

**Joint RECFA/ECFA and EPS-HEPP panel:
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Karl Jakobs, Manfred Krammer (ex officio),
Thomas Lohse (ex officio), Claudia-Elisabeth Wulz**

**Guy Wormser, LAL Orsay,
Plenary ECFA meeting,
CERN, November 21, 2014**

Talk outline

- The context and the need
- The method and schedule
- Presentation of the skeleton
- Initial remarks from HEPP-EPS board
- Conclusion

Some ever-standing questions

- How to identify and distinguish the work of our colleagues in the present context of very large HEP collaborations
- How to make sure that our colleagues, and especially our young colleagues, are properly evaluated in circles external to HEP (universities, EU grants, etc ...), especially when competing with non HEP candidates
- General increase of external « standalone » evaluation (eg EU ERC calls where the first step does not imply external referees and where non HEP people are present in the boards)

A problem addressed several times in the past

- This problem was already addressed in RECFA and IUPAP-C11 committees several years ago :
- **Final Report by the Working Group on Authorship in Large Scientific Collaborations in Experimental High Energy Physics (June 2006)**
<http://docdb.fnal.gov/C11-public/DocDB/ShowDocument?docid=4>
- **Assessment of Individual Achievements in Large Collaborations in Particle Physics (Oct 2008)**
<http://docdb.fnal.gov/C11-public/DocDB/ShowDocument?docid=19>
- Mainly focused on the publication policy, just before the start of the LHC experiments

A hopefully new approach

- **Full acknowledgement** of the current authorship and publications practices
 - Produce a document with two **detachable** sections :
 - **Section 1 : for HEP internal usage** : description of HEP current methods used for evaluation with some recommendations
 - **Section 2 : for outside HEP usage** : description of the HEP internal practices regarding evaluation :
- Guide of the Evaluation of a HEP candidate for non HEP experts**

Working method

- Initial discussions during July 2014 RECFA meeting
- Joint committee from RECFA and HEPP-EPS board (M. Cavalli-Sforza, K. Jacobs , C. Wulz, GW) together with the two chairs (T. Lohse, M. Krammer)
- Several phone meetings
- Decision to produce a **SKELETON** to be discussed at HEPP-EPS (Oct 15) and at RECFA (Nov 21) , followed by a **DRAFT** to be finally approved during Plenary ECFA meeting in July 2015
- There will be a small number of writers but **we welcome many READERS for Plenary ECFA, for comments**

Schedule

Discussion of first layout in EPS-HEPP board:	17 Oct. 2014
Presentation/discussion in RECFA:	today
Iterated version for PECFA:	21 Nov. 2014
Draft of full document to be circulated to some HEP and non-HEP circles:	Jan. 2015
Final draft for RECFA:	March/April 2015
Approval of final version by PECFA:	July 2015

The skeleton contents

In blue, some initial remarks from RECFA colleagues

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Skeleton v2.2 - 8 October 2014

1. Motivation and purpose of this document

This document is for candidates and advisers.

Potentially difficult situation for young people to be recognized and properly evaluated , especially when competing in non-HEP contexts

1.A inside HEP

- Not easy in very large collaborations
- Reference HEP evaluation processes
- Identify and encourage best practices

1.B outside HEP

- provide a memento to non-HEP evaluator on standard HEP practices regarding publications and evaluations criteria and processes
- Practical guidelines

2. Evaluation practice and comments for the benefit of the HEP community

2.1 Collecting available facts:

2.1.0. Personal Web page (stress its importance)

Not a very popular practice yet

2.1.1 Publicly available documents:

- publications
- conference presentations, proceedings (of conferences, schools)(contributed, proposed by Collaboration, overview/summary talks), (specify the type of conference - major international, national, topical, ...)
- seminars
- other public documents such as reviewed Collaboration notes (e.g. ATLAS CONF notes, CMS Notes, CMS Physics Analysis Summaries, Letters of Intent, Proposals, Design Reports)
- book contributions, magazine articles
- citation indices, if useful – for experimentalists in large collaborations, indices may not be useful.

Recommendation to collaborations for keeping open public records

2.1.2 Documents that are not in the public domain:

- internal collaboration notes
- software packages for physics analysis, simulation, reconstruction etc.
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2.1.3 Visibility within large collaborations

- top-level positions, convenorships, leading roles in projects or working groups
 - Suggestion to collaborations and agencies: keep public record of such appointments
- Work in editorial boards of collaboration publications
- *Major presentations within collaboration (overview or plenary talks)*

add Analysis review committees

2.1.4 Accomplishments of the candidates

- New ideas, theoretical or experimental
- Contributions to detector development
- Contributions to software and computing

Include Physics analysis

57 2.2 Criteria for evaluation

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59 2.2.1 Factual criteria

60 All of the above plus :

- 61 • Prizes, awards and distinctions
 - 62 ○ including also fellowships, professorships, ...
- 63 • Fund-raising record: National agencies, EU programs such as ERC grants,
 - 64 etc.
- 65 • Participation in committees and boards as chair or member
 - 66 ○ Suggestion to committees and boards: keep public record
- 67 • Refereeing of several types (papers, people, projects..) and reviews of
 - 68 institutions
 - 69 ○ Not always publicly available, and often with some delay
 - 70 (confidentiality, some entities make lists of reviewers public from
 - 71 time to time)
- 72 • Work as editor or in editorial boards of journals
- 73 • Supervision of students and mentoring
- 74 • International experience
- 75 • Outreach participation
- 76 • Training and acquisition of special skills

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78 2.2.2 Subjective criteria, for referees (or letters of recommendation)

- 79 • Scientific contributions, original ideas, initiative
- 80 • Leadership, work in a team
- 81 • Deep and broad knowledge of the field
- 82 • Level of relevant skills (theoretical knowledge, experimental capabilities,
 - 83 engineering)
- 84 • Experience of detector technology, data analysis, computing technologies
- 85 • Language and communication skills
- 86 • Maturity, compared to career level and future growth potential
- 87 • Comparison with other candidates or students at similar career level
- 88 • Outreach skills
- 89 • Teaching and supervising experience
- 90 • Fund-raising experience
- 91 • Ability to work under pressure

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Responsibilities in
home institution

Separate these aspects

Wide spectrum of
competences

94 ***2.3 The letters of recommendation***

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96 Suggested table of contents of recommendation letters:

97 • The potential authors should state their position

98 • They should clarify relationship between author and candidate

99 • Work of the candidate

100 • Facts regarding the candidate

101 • Assessment of the candidate in the context of the evaluation criteria

102 • Final comments, more subjective

103 Remark: Avoidance of unintended gender bias and stereotypes in writing

104 recommendation letters

108 **3. How HEP scientists are evaluated: Info for non-HEP colleagues**

109 Cautionary notes about this document:

- 110 • must not sound like we are telling colleagues what they should do.
- 111 • should not claim that HEP is special. Instead, it is a trend-setter. Other
- 112 branches of science may move in the direction of HEP.

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114 **3.1 HEP experiments context**

- 115 • Front-line work must be done in collaborations that may last decades and
- 116 span from tens to thousands of authors
- 117 • Necessary because of complexity of apparatus and time to take and
- 118 analyze data

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120 **3.2 Publications and authorship practice**

- 121 • List of publications in journals
 - 122 ○ Where to get it: Spires, ResearchGate – explain the differences
- 123 • Exemplify variety of collaboration authorship rules (mention Belle model)
- 124 • Papers typically list all collaboration members, often in alphabetical order.
- 125 • Therefore authors may have many papers.
- 126 • Why? Necessary to keep cohesion over so many years
- 127 • Authorship rules exist, requiring concrete contributions
- 128 • Within HEP community, colleagues usually stress their role in a few
- 129 choice papers.
- 130 • Even with very few authors, hard to differentiate contributions

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132 **3.3 Access to documentation and facts**

- 133 • Articles on refereed journals in general are accessible to referees
- 134 • Caveats on journal impact factors (differences Europe/US/AsiaPacific,
- 135 differences in journal preferences for different fields of physics, ...)
- 136 • Virtually no important HEP papers are sent to Nature or Science
- 137 • Caveats on use of citation indices
- 138 • In our field sometimes candidates need to make available to referees
- 139 unpublished studies, conference talks (which are competitively assigned
- 140 within collaborations), seminars.

Very long lifetime
cycle of our
projects

142 **3.4 Letters of recommendation: who writes them**

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- 144 • In our field, candidates often need letters from colleagues within their
145 large collaboration. This does not necessarily create a conflict of interest

Recommendations from EPS-HEPP board 17 Oct 2014

General:

- Avoid patronizing outside people (or creating the impression to do so); rather work on improving things within HEP
- Document should aggressively address the lack of publicly available information like internal notes (titles, authors), assignment history for management positions, definitions of managing positions
- Make clear that HEP with its large collaborations is not special, it rather is a trendsetter

Recommendations from EPS-HEPP board 17 Oct 2014

Details:

- Say that the note is intended to help the community to become better visible to the outside
- Mention shift and service work and teaching merits in evaluation letters / applications
- Applications should start with a short sentence on author list (normally alphabetical order) and applicants should highlight central papers
- Mention autonomy from tutor or home institution as important aspect for evaluation

Conclusion

- This « Evaluation document » is a **difficult exercise** : several previous attempts had little impact. However, there is large consensus that it is worth trying !
- A pragmatic approach is adopted : dual goal : « **take stock** » of our practices and mainly **explain them to the non HEP world**
- Will nevertheless contain some (hopefully useful) **recommendations to the HEP community** regarding documentation of publicly available informations , recommendation letters, etc...
- We need **some volunteers** to read the future draft and participate to its final edition.