

Joint APPEC-ECFA-NuPECC working group

*Recognition of individuals in large collaborations*  
*Summary Report*

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## The issue

- How to recognize individual scientific contributions and achievements of researchers in large collaborations?
- How can these achievements be made transparent for the evaluators and communities outside the collaborations?
- A community wide survey (1355 participants) was launched by ECFA.
- Results indicate significant “unhappiness”, in particular amongst early career scientists in large collaborations, see the extensive report:
  - <https://ecfa.web.cern.ch/sites/ecfa.web.cern.ch/files/ECFA-Survey-Recognition-Results.pdf>
- Follow-up with a combined ApPEC-ECFA-NuPECC working group

## Who we are ?

### **From APPEC:**

- Karl-Heinz Kampert, (Wuppertal) co-chair
- Emmanuel Gangler (LPC)

### **From ECFA:**

- Bogna Kubik (IP2I)
- Djamel Boumediene (LPC)
- Marcel Merk (Nikhef ), co-chair

### **From NuPECC:**

- Eberhard Widmann (OEAW), co-chair
- Gerda Neyens (INRP)
- Nasser Kalantar (Groningen)

## Who did we contact?

- Large collaborations, where large means > 40 authors
- Invitation letters were sent on behalf of ApPEC-ECFA-NuPECC to an initial list of 81 collaborations. 62 provided feedback, and we are grateful for their contribution
  - ApPEC (29)
    - AMS, Antares, Auger, Borexino, CALET, CUORE, DAMIC, DarkSide, Darwin, Einstein Telescope, EUCLID, Gerda, HAWC, HESS, IceCube, JEM-EUSO, Juno, KATRIN, KM3NeT, Legend, LHAASO, Litebird, LSST - DESC, MAGIC, Pamela, Planck, Qubic, Simons Observatory, VIRGO.
  - ECFA (11)
    - ATLAS, AWAKE, CALICE, CAST, CMS, COMPASS, DUNE, LHCb, NA61/SHINE, NA62, SoLid.
  - NuPECC (22)
    - ACTAR-TPC, AGATA, ALICE, BM@N, CBM, CLAS, CRIS, Galileo, HADES, HISPEC/DESPEC, IDS, Isolde, JEDI, Super-FRS EC, MATS/Laspec, Miniball, MPD, NUMEN, n\_TOF, NUSTAR, PANDA, R3B.

## How did we proceed ?

- Given the large number of collaborations, initial conversations and surveys were organized for each subcommunity : APPEC, ECFA and NuPECC separately
  - Questions asked were identical for each subcommunity
- In a second step, each subcommunity provided a summary of their findings, and joint conclusions were drafted
- The report provides both the joint summary, as well as the answers to the surveys for each subcommunity

## The timeline

- 13-7-2019: Installation of the committee in Ghent
- 14-10-2019: First discussions during JENAS meeting in Orsay/Paris
- Feb 2020: Completed list of experiments and spokespersons to contact
- The covid crisis induced a significant slow down of the activities...
  - We felt that senior collaboration leaders had other priorities
- Jul to Oct 2020: Live (remote) discussions with the collaboration representatives
- Dec 2020 to Feb 2021: Survey distributed to the collaborations representatives
  - Open questions to maximize the qualitative feedback
- Oct 2021: First draft distributed to the chairs
  - We intended to gather also feedback from the collaborations, unfortunately the post-Covid restart got everyone very busy at the time.
- Mar 2022: Report sent to the JENAS chairs
- May 2022: JENAS meeting

# *Findings & Recommendations*

## Main findings

- The main driver for the issue is the size of the collaboration
  - All concerns were similar for APPEC, EFCA, NuPECC
  - Issues are much less present in smaller collaborations (<100-150 members) and easier to mitigate
    - Mitigation measures have to be adapted to the size of the collaboration
- Many collaborations have already put in place measures to address these issues
  - Particular awareness in the very large collaborations
  - There is already a wealth of ideas just by comparing what others do !
    - Main recommendation is to consider other collaborations best practices
- Important: the collaborations are the only ones responsible for taking decisions
  - We only provide a catalog of promising best practices
  - No practice can be a fit for all situation, the particulars are important



## The main issues:

- Building a CV that can be properly reviewed by panel outside the field or even the collaboration
  - Most relevant information is internal
  - The timescale of internal analysis and paper reviews is often overrun the timescale of short duration contracts (PhD, postdocs)
- Lack of recognition for “preparatory work” : technical, software, data preparation
- Difficult to take part or to have a voice in the decision making process
- Limited room for creativity
  - Scientific creativity
  - When presenting results

## Best practices addressed

- Publications
- Talks and conferences
- Analysis procedures
- Providing information about individuals
- Promoting juniors
- Recognition of technical/software work
- Governance and decision making
- Prizes and awards

## Publications

- Collaborations pay already a major attention to publication policies that suit them !
  - Each collaboration finds their own policies as « the best » for them
- The strict alphabetical order is the dominant policy
  - Sometimes a corresponding author represents the analysis team
  - The publication board may be able to provide statements of key contributions to the paper
  - Specialized (for instance technical) papers with a shorter author list are sometimes considered
  - Referencing PhD theses in collaboration papers should be considered

## Talks and Conferences

- Conferences are an important venue for individuals to get known
- Fairness in assigning talks is desirable
  - In smaller collaborations it is easier to assign talks to the people doing the actual work
  - Ranking methods according to a person's contribution are also used
  - In some collaborations, individuals can proactively volunteer for giving talks
- (Young) Speakers can be given more freedom in the content of the talk
  - Standardized talks while understandable come with drawbacks for the audience
  - Easier for smaller collaborations to give more freedom
  - Some flexibility can be given to explain the physics analysis and methods
- Conference organizers have a role to play !

## Providing information about individuals

- Making the relevant information of an individual accessible is important for external evaluation
  - Public website sometime lists working group conveners
  - It is better when spokesperson or relevant seniors have the tools to write letters of recommendation
    - One collaboration reported having an extensive database of individuals contributions
  - Some collaborations allow job applicants to share internal documentation with the committee

## Analysis procedures

- Time planning for an analysis is critical for juniors
  - Some contributions shape their analysis to fit the time scale of PhDs and postdocs
  - Some collaborations allow unpublished results to be included in theses
    - These results sometimes may also be shown at national meetings.

## Promoting Juniors

- Juniors are an important workforce of the collaborations ; the recognition of their work is important for their future career
- Collaborations have many tools to promote juniors
  - Some collaboration have junior convenerships
    - At the same time senior scientists should be also present to provide guidance or witness performance
  - More and more collaboration have early scientist panels
    - Some collaborations have early career representative in governance bodies

## Governance and decision making

- A healthy governance is paramount for the success of collaborations
  - Governance is a central place where the recognition of individuals can be discussed and addressed
  - Fostering a friendly, inclusive and diverse environment is of high importance to make sure every voice is heard
  - Clear procedures to appoint individuals at leadership positions are important

## Recognition of technical/software work

- Overall feeling that this kind of work is not sufficiently recognized
- Needs are different for academic and technical careers.
- Current mitigation practices
  - Technical/software papers with shorter author list
  - Dedicated prizes for technical/software work
  - Giving more room at conferences for technical/software work presented by specialists



## Awards and rewards

- Rewards are recognition that can be accessible to any individual who has provided a certain amount of contribution
  - Examples: being part of the author list ; being scheduled for conferences
  - Some collaboration have a *builder* or alike status to recognize infrastructure work
- Awards aim at selecting outstanding individuals
  - Not always seen as good practice
  - Generally well accepted when care has been given to transparent procedures
  - Popular categories
    - PhD prize
    - Young scientist prize
    - Technical award
    - One collaboration reported a reverse Senior prize awarded by juniors.

## Controversial items

- Internal documentation
  - Opening may be desirable because
    - They contain a wealth of details about analysis reproducibility
    - They are a tracer of individual's work
    - This goes in the direction of open science
  - There are also good reasons to keep information internal
    - Quality assurance is difficult for publication
    - Publishing internal material comes with extra burden for collaboration, time can be put to better use.
- Conference talks
  - Sessions dedicated to young scientists for increased visibility
  - New format of talks:
    - Work based on data from the XXX experiment
    - Explanatory talk on the measurement of YYY
    - Local (national, ...) talks are usually given more freedom

## What's next ?

- Final version of the document after this JENAS meeting
  - After fact checking
- Gathering feedback for these recommendations
  - Setting up the framework for a follow-up working group
- Useful to monitor the effect of this study by conducting surveys
  - NuPECC and APPEC to be fully included in the surveys

## Conclusion

We encourage the community, in particular the management of the larger collaborations, to carefully consider best practices that are in use elsewhere in the field and evaluate their applicability in their own collaboration. In particular we hope that some practices mentioned above may be implemented to alleviate the recognition issue.

We encourage the community, when confronted with external evaluation, to keep explaining what are the tracers of recognition within the JENAS community, and what long author lists mean.

**Read the report !**



Questions ?