

A decline and fall in the future of Italian Astronomy?

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ABSTRACT

On May 27th 2010, the Italian astronomical community learned with concern that the National Institute for Astrophysics (INAF) was going to be suppressed, and that its employees were going to be transferred to the National Research Council (CNR). It was not clear if this applied to all employees (i.e. also to researchers hired on short-term contracts), and how this was going to happen in practice. In this letter, we give a brief historical overview of INAF and present a short chronicle of the few eventful days that followed. Starting from this example, we then comment on the current situation and prospects of astronomical research in Italy.

1. What is INAF - a historical perspective

The National Institute for Astrophysics (INAF) was created in 2001 from the merging of 12 Astronomical Observatories (which were previously independent entities, with their own administrations). INAF was conceived with the idea of having one Institute that would plan and coordinate all national astronomical research, as well as promote and manage the Italian participation into European and International projects. The first president of INAF was Prof. G. Setti.

In 2003, a decree authored by the Minister L. Moratti led to a profound transformation of INAF, with the inclusion of other seven Space and Astrophysics Science Institutes of the Italian National Council for Research (CNR) [1]. Minister L. Moratti also nominated Prof. Benvenuti as “Commissioner” of INAF. He was later appointed as INAF president, and resigned at the beginning of 2007. A new officer, Prof. S. De Julio, acted as INAF “Special Commissioner” from May 2007 to February 2008, when the then Minister F. Mussi nominated the current president of INAF, Prof. T. Maccacaro.

The merging process between INAF and the seven CNR Institutes mentioned above was completed only in 2009, with the definition of the legal status of all INAF employees. In December of the same year, a new decree concerning a reform of all research institutes was published [2]. The aim was to guarantee a more productive and efficient use of the public funds assigned to research. Five experts were nominated (in April 2010) by the Ministry of Education and Research (Miur) to

work together with the current Administration Council¹ on the new reform of INAF. The entire astronomical community (including astronomers working at Italian Universities) contributed with comments and practical suggestions on how to make the current organization more flexible and efficient.

In practice, since its very foundation, *INAF has never reached a stable operational state, and it is still waiting for a definitive internal regulation.*

Currently, INAF comprises twenty research institutes, more than one thousand permanent employees, of which about 600 are researchers, and a bit less than 400 researchers working on short-term contracts². About 500 researchers working at Italian Universities or other institutes are associated with INAF, and collaborate actively with INAF staff members. All previous reforms, at alleged zero cost, but actually reducing the available resources, have caused a *long period of adjustment, entrenched with organizational and economical difficulties*. In 2009, INAF has received from the Miur a budget of about 91 millions EUR which, normalised to the number of employees, is one of the lowest among similar research institutes [3,4]. About 89 per cent of this budget goes into salaries and administrative expenses³ [5]. A large part of the remaining 10 millions EUR go into the operation of the Telescopio Nazionale Galileo (TNG - in Canary Islands), the participation to the Large Binocular Telescope (LBT), and in the construction of the Sardinia Radio Telescope (SRT). All these enterprises started before INAF was established. This leaves very little (approximately 1.5 millions in 2009 - the equivalent of one ERC grant for about 1500 people!) to fund scientific projects, to allow researchers to travel and disseminate their scientific results and/or working with collaborators, and to invite collaborators. It is worth noting that many of the projects in which INAF is involved have been significantly reduced already (e.g. TNG has been closed for a few months, and starting from 2010 INAF will not support supercomputing facilities). It is clear that there is very little money INAF can save.

Despite progressively reduced funds and a tormented history, INAF has been (and remains, but see below) an institution of great relevance to Italian science and technology. It occupies a prominent position in research, both at national and international levels, and is involved in a number of outreach and didactic activities⁴. According to the most recent evaluation of research activities in Italy, INAF is the first among the Italian research institutes in the field of physical sciences [6]. An analysis of the scientific productivity carried out by independent agencies (ISI Thompson) shows that Italy is fifth worldwide for activities in the field of astrophysics (10.3 per cent of the world productivity!). Out of the eighty-six Italian researchers who are among the most cited in the world, thirteen work in the field of astronomy, and are either working at or associated with

¹<http://www.inaf.it/struttura-organizzativa/cda/cda.htm>

²<http://www.ced.inaf.it/anagrafica/>

³This percentage keeps rising due to the progressive reduction of funds allocated by Miur to the Institute.

⁴http://193.206.241.5/struttura-organizzativa/dsr_1/dsr

INAF⁵. These parameters have remained more or less constant in the past ten years, thanks to past investments and to the quality of Italian researchers who have partially offset the very low funding level by securing independent research grants and contracts (e.g. from the Italian Space Agency and also from the European Community). Despite the efforts of Italian researchers, a first negative signal concerning the scientific productivity was measured in 2008, and had been anticipated by many reports of external Visiting Committees to the INAF institutes [7]. E.g. from the Report on OA-Trieste: *Vital scientific activities [...] are literally being strangled at AOTS by the current level of funding. The VC believes that AOTS is very likely to undergo a rapid decline of its current scientific and technological level, even of its capability to operate as an effective research institution in the next few years, if the funding situation is not improved.* From the Report on IASF-MI and OA-Brera: *Realizing that such an inappropriate allocation of funds to Institutes which undoubtedly score amongst the very top of Italian Astronomy is a consequence of an inadequate funding of INAF as a whole*

2. May 27th 2010 - Italy turns off the stars

On May 27th 2010, the Italian astronomical community learns with great concern that the government plans to dismantle INAF and suddenly merge it into the CNR, as part of an economic measure made necessary by the recent financial crisis. The community fears that such a decision would have dramatic consequences on the Italian astronomical community, jeopardising the relevant contribution that INAF provides to major European and international projects (e.g. LBT, ALMA, SKA, ELT), and effectively destroying international agreements, with severe consequences for scientific, technological and industrial activities in Italy. INAF would lose its scientific independence to end up in a “cauldron” of large institutes. All this without leading to any appreciable money savings, and without any clear scientific and administrative plan on how this new merging should happen in practice.

As stated in an open letter by the Scientific Advisory Committee of INAF to the President of the Italian Republic Giorgio Napolitano *the government decision sounds like a mockery, in addition to being a tragic mistake.* Ironically, the very same decree discusses about favouring the return of *brilliant Italian brains* working abroad. Why should these ‘brains’ come back to a country where there are no positive perspectives for their future?

The community is astonished, shocked by the news (most of the Italian astronomers - including the INAF president - learned this from the newspapers) that INAF is listed among several institutes considered *useless* [8,9]. An April Fools’ Day prank? No, it is not . . . Messages rapidly overflow all our mailboxes. Is Italy turning off the stars? Is the homeland of Galileo leaving his heirs orphans? What is going to happen to us? And to all young (and not-so-young anymore) people working on

⁵<http://hcr3.isiknowledge.com/home.cgi>

short-term contracts? And to our projects funded on European or International Grants? Several protests take place in Italy, and not just from researchers working at INAF. Several other institutes have gone under the same hatchet.

3. May 31st 2010 - Decision postponed?

On May 31st 2010, the draft of the decree is read and signed by President Giorgio Napolitano. The final version of the decree, that is currently waiting to be turned into ‘law’, does not include INAF among the institutes to be suppressed and/or incorporated in other institutes.

INAF is safe. For now. There is no reason to rejoice though.

It was clear from reading the preliminary draft of the decree already, that even if INAF was saved, life as a researcher in Italy would become more and more difficult. The cuts to the investment in research are conspicuous. Perspectives for new opening positions are scarce: the current measure foresees a reduction of 80 per cent in the ‘turnover’, i.e. for every ten people retiring, only two new positions will be opened.

How is INAF going to survive with a severely reduced budget?⁶ All programmed cuts are likely going to bring to a very significant reduction of short-term contracts and trigger a new brain drain of young (and also not so young) researchers to foreign countries. At the same time, it will become very hard to attract foreign researchers to our country. *This implies that Italian astronomy will lose the most productive and competitive part of their researchers.* Not the best way to save money, at least not on the long term. The prediction is that of a rapid and irreversible decline of Italian astrophysical research.

The cuts are not just for INAF and astronomical research. They represent a constant of the past few years in Italy, and risk to strike the final blow to Italian public university teaching and research [10,11].

4. Adopt an Italian Astronomer

The rapidly worsening conditions and frightening perspectives have led us to the following (provocative) initiative: <http://adoptitastronom.altervista.org/index.html>. At this webpage, you will find a copy of this document, and the CVs of all its authors. This is *what we do*, this is *who we are*. One day (sooner than later?) you might well find all these CVs among the application material you will receive.

⁶At present, there are different interpretations of the economic measure, but they all agree that INAF (and not only INAF) will have negligible funding for research activities.

In the meantime, aware that our astronomical competences risk to be lost, we propose ourselves for a series of lessons/seminars at your Institutes, so as to *plant a seed of knowledge that was born and grew up in our country*. If you wish to give us your support by inviting us to your Institute, please send an e-mail to the address: adoptanitalianastronomer@gmail.com, and help us to circulate this letter within the international astronomical community. We plan to make all seminars and lectures that will be given in the framework of this initiative publicly available.

5. Conclusions

These are very difficult times. 80 million citizens in Europe currently live below the relative poverty line according to EU statistics (10 per cent of the population in Italy) [12]. Explaining how this happened goes beyond the aims of this letter (and the competences of its authors). It is, however, our opinion that the budget currently invested in science and research is *not* among the causes of the current situation, in Italy or anywhere else. Instead, it is our firm belief (which seems to be shared by most countries⁷) that investing in the future of education and research is a top priority, and that this becomes even more important in times of economic crisis⁸. Research and education *do have* mid and long-term positive effects on the economical, technological and industrial situation of a country. *Curiosity-driven* research has itself an important value, being perhaps the only real driver for significant and long term progress (also in economical terms: e.g. the web has been invented by particle physicists!). Cutting on education and research means cutting on the future. As scientists, before than as Italians, we cannot but express our dismay and deep worry that the decisions currently being taken are inevitably leading to a further cultural and economical impoverishment of our country.

The usefulness of basic, intermediate, and high education, as well as of research, is being questioned in Italy, mainly because they do not produce *quick* and *easy* money. We realize that, unfortunately, this approach and way of thinking is not limited to our country (although Italy probably represents a dire example of cultural decay). As scientists, we cannot turn aside from fighting this way of thinking, that we consider *blind, foul, and irresponsible*. It is *not* these principles that we want to hand on to future generations of astronomers, Italians, and citizens of this world.

⁷See e.g. http://ec.europa.eu/invest-in-research/index_en.htm. The Lisbon Treaty, entered into force on 1 December 2009, states that *The Union shall have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encourage it to become more competitive, including in its industry, while promoting all the research activities deemed necessary by virtue of other Chapters of the Treaties*. Italy has signed this Treaty.

⁸See also <http://www.bmbf.de/en/96.php>

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7. References

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