

Collana editoriale

**Scienziati in affanno?**

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Consiglio Nazionale delle Ricerche



## **Scienza, politica e società:**

l'approccio post-normale in teoria e nelle pratiche

**a cura di**

Alba L'Astorina e Cristina Mangia

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## Qualità, integrità, crisi della scienza, nuove pratiche di ricerca: i temi dei Simposi della PNS (2014-2020)

Dal 2014, la comunità di ricerca che si riconosce intorno ai principi della scienza post-normale si ritrova per discutere, in Simposi internazionali che si svolgono in città sempre diverse, i vari aspetti riguardanti i cambiamenti della scienza nella sua relazione con la politica e gli impatti sulle pratiche di ricerca. Tra i temi trattati: qualità della ricerca, integrità della scienza, post-verità, conoscenze scomode, demarcazione, comunità estesa di pari, controversie scientifiche, crisi della scienza, fiducia, pratiche di ricerca, fatti e valori, democratizzazione della scienza. Qui di seguito l'elenco degli ultimi Simposi, con una breve descrizione degli argomenti affrontati e i link ai siti da cui è possibile accedere a tutti i lavori presentati, che in alcuni casi hanno prodotto *Special Issues* su riviste scientifiche.

### **PNS 1 Symposium** **Science for Policy: Post-Normal Science in Practice, Bergen,** 10-11 dicembre 2014

Post-normal science is an approach to interface science and policy in cases where decisions need to be made before conclusive scientific evidence is available. Often, a single and conclusive scientific answer will not be available for highly complex systems such as fisheries, climate, society and the human body. In such cases, more research does not necessarily lead to less uncertainty, but can lead to unforeseen complexity. Values are often in dispute when the potential impacts of decisions based on uncertain science have very large consequenc-

es. The motivation of this symposium is the arrival of our new professor, Jeroen van der Sluijs, from the University of Utrecht. Jeroen just started his position at our Centre in November, and since he was the first to put into action the post-normal science approach and the NUSAP scheme to a methodology of Knowledge Quality Assessment in the late 1990's, we are hosting a symposium to highlight the development in this area.

Per accedere ai lavori: <https://www.uib.no/en/svt/81853/science-policy-post-normal-science-practice>

### **PNS 2 Symposium** **New Currents in Science: The Challenges of Quality,**

JRC, Ispra, 3-4 marzo 2016

Each sector of science now has distinct challenges of quality. For scientific research, it is reproducibility; for application, consequences; for science advice, acceptability; and for the autonomous 'citizen' and 'DIY' sciences, governance. This workshop will consider current challenges to quality assurance in science and their effects on the trustworthiness of science, as knowledge, in applications and in policy. The challenges originate from the previous transformation from community-based 'little' science to industrial-scale 'big' science, which had effects on research-incentives and thus commitment and morale.

### **PNS 3 Symposium** **'Post-Truth' and a Crisis of Trust?**

Tübingen, 25-26 settembre 2017

Discussions of recent political events – most notably the presidential election in the United States and the referendum in the United Kingdom to (Br)exit the European Union - frequent-

ly refer to ideas of ‘post-truth’, ‘post-evidence’ or ‘post-factual’ politics. In its ambiguity, the idea of a ‘post-truth’ age manifests a crisis of trust in both democratic and scientific institutions. At the same time, it implies the untenable assumption that politics and policies were once, and should be again, based on a unique truth provided by science (comprising the whole spectrum of natural and social sciences, and humanities). Since the early 1990s, the post-normal science approach has been applied to issues in the science-society interfaces characterised by uncertainty and complexity, including a plurality of legitimate perspectives. These cases have been described in terms of uncertain facts, high stakes, disputed values and urgent decisions. In light of this, the conception of science as a privileged ‘fact-provider’ for governance seems increasingly unsatisfying and problematic.

This third PNS Symposium [PNS1 in Bergen, NO and PNS2 in Ispra, IT] intends to provide a space for discussing the current predicament of declining trust, increasing complexity and uncertainty in the science-society interfaces by deploying a variety of critical framings including, but not limited to, those inspired by post-normal science. The purpose is to challenge current ideas of ‘post-truth’, as well as reductionist interpretations of facts and evidence, and explore ways for advancing the quality of knowledge inputs to policy-making. A parallel purpose is to show examples of communities beyond the scientific domain engaging to co-create usable knowledge, which has been dubbed “extended peer communities”.

Per accedere ai lavori: <https://uni-tuebingen.de/einrichtungen/zentrale-einrichtungen/internationales-zentrum-fuer-ethik-in-den-wissenschaften/das-izew/archiv/abgeschlos->

[sene-projekte-und-veranstaltungen/projektseiten/pns-3-symposium-post-truth-and-a-crisis-of-trust/](https://www.uni-tuebingen.de/einrichtungen/zentrale-einrichtungen/internationales-zentrum-fuer-ethik-in-den-wissenschaften/das-izew/archiv/abgeschlossene-projekte-und-veranstaltungen/projektseiten/pns-3-symposium-post-truth-and-a-crisis-of-trust/)

## **PNS 4 Symposium**

### **Post-Normal Science as a Movement: Between Informed Critical resistance, Reform and the Making of Futures,**

**Barcellona, 15-17 novembre 2018**

Science, as it stands today, faces a crisis of public and political trust, combined with an inner erosion of standards of quality and integrity. Scientific findings are increasingly recognised as neither as reliable nor reproducible as they used to be portrayed. Beliefs in and self-declarations of the disinterestedness of scientific endeavours, separated from vested interest, political agenda or social and cultural context are recognised as empirically and philosophically problematic. Scientific elites are, for better or for worse, challenged by an erosion of trust on a par with that experienced by political elites in modern societies. Scientific institutions charged with higher education face demands of high societal relevance and impact which they do not know how to meet and how to prepare for. This crisis on multiple fronts calls for a fundamental reform. Post-normal science (PNS) offers direction to such a reform, as a critical concept challenging mainstream practices of science, as an inspiration for new styles of research practice, and as an inspiration and support for new conventions of research quality assurance that better respond to the post-normal conditions of today’s societal challenges. This multifaceted nature of PNS is both descriptive and normative. It provides a framework for describing and diagnosing urgent decision problems – post-normal issues – characterized by incomplete, uncertain or

contested knowledge and high decision stakes, and critical reflection on how these characteristics change the relationship between science and governance. At the same time, PNS inspires a movement of critical resistance and reform towards a new style of scientific inquiry and practice that is reflexive, inclusive (in the sense that it seeks upstream engagement of extended peer communities) and transparent in regards to scientific uncertainty, ignorance, values and framings, and moving into a direction of democratisation of expertise. Per accedere ai lavori: <https://symposium.uoc.edu/17275/programme/post-normal-science-symposium-barcelona.html>

### **PNS 5 Symposium Knowledge, Science Practices and Integrity: Quality through Post-Normal Science Lenses,**

Università di Firenze, 21-25 settembre 2020 (Il Simposio si è tenuto in modalità virtuale, causa Covid-19)

As science's inter-penetration with technology, finance, politics and mass-media becomes ever more profound, new challenges arise. Scientific practices are becoming increasingly diverse — for example, as citizen science, DIY and makers movements gain prominence, and traditional, local and indigenous knowledge are (re)valued. Plurality in the forms of knowledge increases complexity. In this context, the protection of integrity and quality of knowledge includes critical thinking about science itself. New demarcations are needed, between science practices with qualities that are negotiated with society, and practices that are shoddy, entrepreneurial, opportunistic, reckless, vacuous, or outright dirty. Confronting issues at the science-technology-policy interface with PNS

lenses yields something more rigorously managed than politics, less precise than laboratory science, more challenging than either of them, and with the potential to restore integrity to science practice and prudence in policy advice. Per accedere ai lavori: <https://pns5.biostatistica.net>



Per anni l'interazione tra scienza e politica è stata rappresentata come una relazione di tipo unidirezionale, nella quale gli scienziati fornirebbero ai politici una conoscenza neutrale, obiettiva e affidabile a supporto del processo decisionale. *La complessità delle sfide attuali, in cui "i fatti sono incerti, i valori in discussione, gli interessi elevati e le decisioni urgenti", ha reso questa narrazione inadeguata sul piano della conoscenza e della sua condivisione pubblica.*

Questo volume racconta il cambiamento di tale interazione a partire dall'approccio della "scienza post-normale" (PNS), proposto negli anni '90 da Jerome Ravetz e Silvio Funtowicz. Esso ospita le riflessioni dei due ideatori sull'attualità e sul futuro della PNS e raccoglie i contributi di oltre 50 autrici e autori che esplorano le sfide che la PNS rappresenta sul piano teorico e su quello delle pratiche di ricerca partecipativa e di *public engagement* diffuse in Italia.

Il libro è il primo della Collana Editoriale del CNR "SCIENZIATI IN AFFANNO?" ideata e diretta da Alba L'Astorina, Cristina Mangia e Alessandra Pugnetti che affronta i cambiamenti in atto nella ricerca in un contesto in cui le relazioni scienza, società e politica sono oggetto di discussione e ridefinizione pubblica.

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