

ETHICS IN CHEMISTRY



Participants:

Francesco de Angelis (Aquila, Italy), Luigi Campanella (Rome, Italy), David Cole-Hamilton (St. Andrews, UK), Hartmut Frank (Bayreuth, Germany), Modest Gertsjuk (Kyjiv, Ukraine), Henning Hopf (Braunschweig, Germany), Roald Hoffmann (Ithaca, USA), Wolfram Koch (Frankfurt/M, Germany), Jan Mehlich (Münster, Germany/Taichung, Taiwan), Anca Silvestru (Cluj-Napoca, Romania), Brigitte van Tiggelen (Louvain, Belgium), Ferruccio Trifirò (Bologna, Italy), Hans-Georg Weinig (Frankfurt/M, Germany).

The programmatic symposium of the Working Party (WP) "Ethics in Chemistry" took place on September 25th and 26th in Frankfurt/Main, Germany. The main intention of the symposium was to develop a sustainable structure of the WP in order to ensure its future growth in members and activities, and to define major lines of activities. Thirteen members and supporters of the idea of the WP from seven countries came together to exchange views, discuss the administrative structure, and to identify topics for future activities.

Hartmut Frank opened the workshop on Friday (25th) morning, summarizing the aims and goals of the symposium and emphasizing the timeliness of new activities, as, e.g. the Organisation for the Prohibition of Chemical Weapons (OPCW) in October 2015 issued the new "Hague Ethical Guidelines" (<https://www.opcw.org/special-sections/science-technology/the-hague-ethical-guidelines/>). HF thanked Harald Schwalbe, the local Chair in Organic

Chemistry, and his secretary, Mrs Paulus, for logistic support, Luigi Campanella and Francesco Dondi (University of Ferrara, Italy) for their untiring promotion of the general idea and of various past WP meetings, and Jan Mehlich for his initiatives to promote the internal discussions about important fields of activities. HF also acknowledged the financial support of GDCh.

The group payed tribute to the late Carl Djerassi who had passed away on 30 Jan 2015, not without having expressed his intentions in an email 10 days earlier - in his typical strong and often ironic way of addressing human and scientific problems - to participate posthumously.

In their welcoming remarks, David Cole-Hamilton, President of EuCheMS, and Wolfram Koch, GDCh Executive Director, pointed out their belief in the importance of ethical reflections of chemistry-related topics within the chemical community and beyond. By this,

they both expressed their personal and their institutions' support for the WP and encouraged the members to continue their efforts in establishing and nourishing the WP.

Jan Mehlich's talk, taken as a meta-ethical approach to structure the reflections on meaning and importance of Ethics in Chemistry, attempted to facilitate the discussion on objectives, goals and strategies of the WP. He identified two "domains" of ethical aspects of Chemistry: an internal level ("good scientific practice", issues related to publishing, mentoring, education, etc., covered by profession ethics and research ethics) and an external level (Chemistry's impact onto society, mankind and environment, Chemists' responsibility, aspects of risk and safety, etc., covered by S&T ethics, environmental and bioethics, Technology and Risk assessment, ELSI research). A focus of his talk was on the role of chemists in ethical debates on chemistry-related topics: Why should Chemists get involved with active participation, and how can they contribute? He suggested the following as major objectives of the WP:

Collect, analyse and communicate cases

- Literature review
- Cases reported by Chemists

Support and advise Chemists in Ethical dilemmata

- Upcoming questions in specific cases
- Encourage and support "whistle-blowing"

Provide a platform for the collaborative elaboration of educational material

Convince Chemists of their role in ELSI research, motivate and support their active participation

Provide a communication and networking platform and a contact pool for interested Chemists and legislators/policy-makers/TA, ELSI, sustainability, risk researchers/Ethicists/media/etc.



During the following discussion, Luigi Campanella expressed his agreement with the suggestions of JM to set priorities in a) formal structure and of organization of the WP, and b) subjects to be classified in internal or external domain; he asked the question whether the WP can become a Division of EUChEMS. Other unresolved points of his concern were how the membership should be balanced in respect of geographical and social representation, the location of a secretariat, and the financial foundations of the WP.

After this first session the participants discussed the structure of the WP in the framework of the EuChEMS. David Cole-Hamilton and Francesco De Angelis brought in advises from their profound experience. HF suggested a 5-member steering committee (Chair, Past Chair, Vice Chair, Secretary, Treasurer) to be elected as soon as possible, around the turn of the 2015/16. It was discussed whether it is necessary to take aspects of geographical or gender representation into account. However, at the current state of the WP and with the given number of (active) WP members such questions appear to be secondary. Selecting 5 WP members for the steering committee is a task for the following weeks. From WP-internal correspondence a first suggestion can be deduced: Chair: Henning Hopf, Past Chair: Hartmut Frank.

In the afternoon of the first day, Roald Hoffmann's lecture at the University of Frankfurt was attended by the group, following the social part of the event (dinner and informal discussions).

The first session of the second day started with a selection of exemplary topics of "Ethics in Chemistry". Ferruccio Trifirò, in his function as member of the scientific advisory board of OPCW, reported on activities in elaborating a "code of conduct" to reach the goal of banning the use of chemical warfare agents internationally and what kind of challenges and difficulties have to be faced and overcome. Modest Gertsyuk explained by the example of one of his environmental research projects how normative viewpoints across national borders have to be discussed in international science cooperations in order to achieve sustainable and ethically sound progress. Anca Silvestru told the group about educational aspects of Ethics in Chemistry and how young chemists need guidance in professionalizing their eth-

ical decision-making skills. In the discussion following her talk it was pointed out that "sustainable education for ethics" in the field of Chemistry is one of the WP's major objectives and can only be achieved in strong collaboration with the national chemical societies.

Roald Hoffmann gave an insightful talk about his points of view concerning ethical issues in Chemistry. He approaches the topic from a philosophical starting point, drawing parallels to ethicists David Resnik and E.O. Wilson. His claim is that "Ethics in Chemistry" is not a luxury add-on to the professional "daily business" of a chemist, but pervades this scientific discipline from its foundations on. Very basic Philosophy of Science influences our perception on what is "ethically right chemistry", for example the difference of deterministic and holistic conceptions of science, or the validity of the Galileian science ideal (hypothesis, experiments, analysis of results, revision or refinement of hypothesis and theory). From this it becomes obvious that it is inevitable for Chemists to reflect on ethical implications of their daily professional work, be it in aspects of science governance and regulation, risk communication to workers, citizens and policy-makers for prevention of harms and risks, or the promotion of a "better science" (example: science communication since the "natural vanillin forgery").

Hoffmann highlighted that "ethics in chemistry" cannot and should not be a repetitive individual subjective value judgement, but ideally roots in universal principles and cultural normative frameworks.

The afternoon session was dedicated to a summarizing discussion of the topics and future prospects, facilitated by Brigitte van Tigelen and Hans Georg Weinig. Next steps are:

Writing a Statute of the working party including descriptions of:

- Position in the chemical community
- Objectives and goals
- Communication strategies and channels
- Target groups
- Expectations on achievements and their impact
- The 5-membered steering board (including the names of the assigned WP members)

Communicating the outcome of this workshops

- Minutes for internal information and for the EuChEMS leading board
- Information for the Chemical community about our activities
- Joint publication (journal article) on "Ethics in Chemistry"

Planning and organisation of a "Ethics in Chemistry" special symposium at the EuChEMS conference in Sevilla (September 2016). This will then be the next WP meeting at the same time.

In conjunction with and conclusion of the symposium, the theatre play by RH "Was Euch gehört" ("Something that belongs to you") was presented on Saturday and Sunday evening.

We want to express our deep gratitude to Francesco Dondi, emphasizing the great importance of his untiring work and support in all the activities leading to the foundation of the Working Party, and for his participation in the planning of this Programmatic Symposium. Unfortunately, due to illness he was not able to come to Frankfurt to participate. And most lamentably, in the meantime, on 30 Oct. 2015, Francesco, this excellent scientist, extraordinary scholar, and always dependable friend, left us for ever.

