

## Retrospective IWFAC's scope study using mind maps approach

Leshchev D.V.\*<sup>1</sup>, Leshcheva I.A.<sup>2</sup>

<sup>1</sup>*Center for Advanced Studies, St. Petersburg State Polytechnic University,  
195251, St. Petersburg, Russia*

<sup>2</sup>*Graduate School of Management, St. Petersburg University, 199004, St. Petersburg, Russia  
\*e-mail: dimvovich@narod.ru*

A retrospective study of IWFAC's scope of subjects is represented. This work is a pioneer in using of mind map approach to study processes in time. A mind map [1, 2] is a diagram used to represent words, ideas, tasks or other items linked to and arranged radially around a central key word or idea. It is used to generate, visualize, structure and classify concepts, and as an aid in study, organization, problem solving, and decision making.

For this investigation the abstracts published in the IWFAC books of abstracts from 1993 to 2009 were used. For every workshop a mind map of the subjects was created. Nine obtained mind maps were merged to the general one using conjunction method. Then particular mind maps were reengineered relative to the general and lined up by the time. Evolution of mind maps and trends in areas through nine workshops was observed.

Typical scenario of topic development consists of three main stages: birth, upgrowth and stagnation. Length of life cycle and maximum number of papers in the best period of topic development were evaluated and compared. Correlations between life cycles of different topics with time shift were calculated. But built mind maps can be used to obtain more benefits.

General mind map presents in a visual structured form the current state of the art and may serve as the basis for comparing papers and pieces of research in the nanocarbon area. It can be used as a roadmap for researches especially who just wants to joint the IWFAC community. The created mind maps can be used for estimation and even prediction of particular topic evolution. They can help to answer question in which research area is reasonable to invest.

[1] Busan, T.:Mind Map Handbook. Thorsons (2005).

[2] [http://en.wikipedia.org/wiki/Mind\\_map](http://en.wikipedia.org/wiki/Mind_map).