

Editorial

The past of *Cellular Oncology*

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I was pleased, when the new editor of *Cellular Oncology*, Gerrit Meijer, asked me to look back at my five years as editor-in-chief of *Analytical Cellular Pathology* and to write an editorial of my experience of this time. A farewell-for *Analytical Cellular Pathology* by me [1] and a hello-to *Cellular Oncology* by the president of the society [2] has been already given in the last issue of *Analytical Cellular Pathology*. The present editorial will therefore concentrate on the several hundreds of contributions published during my five years as editor of *Analytical Cellular Pathology*, and I aim to illustrate the wide spectrum of topics covered in these papers, and to indicate the journals impact by highlighting some important articles. As this selection is my personal choice, it will be necessarily subjective. However, in the end the appreciation of these *Analytical Cellular Pathology* contributions by the scientific community, expressed as the number of times these papers are cited, is the true objective evaluation. This is a better and more meaningful judgement than the journal's impact factor. The impact factor, one can reasonably argue, overemphasizes methodological type novelties at the expense of revealing real, true scientific novelties by considering only citations of the last two years.

In the first years after taking over, – and at a time when I still had to fill twelve issues a year – most contributions were in the field of morphometry and image analysis. Serving as important examples may be the work by Schulerud et al. [3] on the caveats in statistical nuclear image analysis and propagating learning and test set approaches for reliable analysis, the review on feature extraction methods by Rodenacker and Bengtson [4], together with Tsybrowsky and Berghold's study on the application of multilevel models to morphometry [5,6]. The recent work by Poulin et al. [7] on the precision of nuclear morphometry and the article by Swartz et al. [8] on the distinction between normal and abnormal gland structure are demonstrating the whole spectrum of combining morphometry with

image analysis on both the cellular and tissue level. Interesting applications of automatic image analysis are the work on blood vessel quantitation [9] and the Vancouver's group continuous work on "malignancy associated changes" (MACs) [10]. This dominance of morphometry based articles reflected, of course, the composition of the membership of the European Society of Analytical Cellular Pathology (ESACP). A change towards the direction of molecular related articles was only gradually achieved during my five years office as editor, despite an active help by Thomas Ried, the well known editor for genetic and molecular pathology. The articles by Aubele et al. [11,12] and Blegen et al. [13] were steps in that direction. Similarly, on a methodological level, the article by Heinmöller et al. on microdissection and molecular analysis of single cells [14] and Mattfeldt et al.'s article on cluster analysis of chromosomal regions studied by comparative genomic hybridization represent this change [15].

With the emphasis in Europe on the analysis of DNA content in Feulgen stained nuclei and the assessment of ploidy by image cytometry, it was natural for the society and the journal to support and develop this technique further. Thus a "global molecular marker", was brought to tumor biopsies analysis by tissue section examination, i.e. thin sections for histo-pathology and thick ones for ploidy assessment. Due to the clinical relevance of aneuploidy in "prognostic oncology", the society took up, at a very early time, the problems of standardisation DNA image cytometry. As the first task force leader, together with A. Böcking, G. Haroske and F. Giroux, we presented a consensus, on how to perform DNA measurements [16]. *Analytical Cellular Pathology* was the logical platform for publishing these ESACP consensuses [17–19]. These articles belong to the most cited ones of the journal and have contributed considerably to its impact factor (by the way, it could become similarly important for the society and the journal to wholeheartedly and effectively support the new initiative of a FISH standardisation consen-

sus by Cremer and Hausmann [20]). It would be wise for both the society and the journal to regularly update this consensus on diagnostic DNA image cytometry. This effort would also meet the increasing interest in this diagnostic technique, which now also has been accepted by the scientific community in the US. In fact, at the last two year's conferences of the American Association of Cancer Research (AACR), the term aneuploidy was often mentioned in conjunction with cancer development. There is a double reason for this renewed interest in aneuploidy. First, recent clinical studies have demonstrated its value in prognostic oncology, and second, its relationship to genomic or chromosomal instability, now considered to be at the onset of cancer. Much forthcoming research in fundamental tumor biology will center around telomere dysfunction and centrosome disturbance in relation to chromosomal instability and aneuploidy. As a heritage to my successor, forthcoming issues of *Cellular Oncology* will carry articles about this important and "new" aspect of tumorigenesis. Thus, one of the first issues will publish the results of the first conference on "Aneuploidy and Cancer", organized by P. Duesberg and D. Rasnick in January 2004 in Berkeley, USA, which brought together scientists and physicians working in experimental and clinical cancer research. Hopefully, a better understanding of the biology behind genomic or chromosomal instability in connection with the neoplastic process will be achieved in the near future, and *Cellular Oncology* will facilitate this development.

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