



## »Metode u molekularnoj biologiji« – *Methods in Molecular Biology: a journey from the bench to a comprehensive textbook*

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A year has passed from the day of promotion of our book: »Metode u molekularnoj biologiji« (Methods in Molecular Biology), edited by Andreja Ambriović Ristov (editor-in-chief) and collaborators: Anamaria Brozović, Branka Bruvo Mađarić, Helena Četković, Maja Herak Bosnar, Dubravka Hranilović, Silva Katušić Hećimović, Nevenka Meštrović Radan, Snježana Mihaljević, Neda Slade and Dušica Vujaklija. In that period the editors had time to reexamine the achievement.

Everything started some years ago, at the time when we were working on our PhD theses. While drinking our early morning or late afternoon coffee we were discussing our work and always complaining about the same things: how to apply a new method, how to make a method that works in all labs in the world work in our hands, too? Who to ask, who to consult? How to make experiments with limited budgets? After completing our graduate study programs we did not forget in the problems we had encountered. They were still on our minds and our hands and as postdocs we were still stumbling across the same problems. But this time we were more experienced and under less stress and time pressure. An idea arose in the mind of Andreja Ambriović Ristov to organize methodological courses which would enable young scientists to learn new methods and novel techniques required in the work on their PhD theses, the methods that could be offered also to senior scientists who want to introduce some novelty to their labs. With the help of the Ruđer Bošković Institute management and especially the former head of the Institute Professor Stjepan Marčelja, this initiative became reality. A large number of students passed through our laboratories learning basic and specific techniques: PCR, Western blotting, immunocytochemistry, apoptotic assays, fluorescent microscopy and many others.

After two years of the course program it became clear that we have to write a book – a practical guide that would be useful to researchers in Croatia and possibly in the whole region. The book was anticipated to be not only a methodological guide that would just summarize a number of commonly used techniques, but also give advice on how to perform specific methods in our environment with limited budgeting, how to make a method work, and to pay attention to those little hints and laboratory secrets nobody ever tells you.

Dr Ambriović Ristov chose ten collaborators – editors (noteworthy – all women). At the first meeting of our editorial board the following issues were discussed: the content, format and length of the book. It seemed so simple and we thought it would be finished in no time. In a



**Figure 1.** The cover page of the textbook »Metode u molekularnoj biologiji« – *Methods in Molecular Biology*.

month or two it became clear that we were writing a comprehensive textbook. Upon interviewing scientists throughout Croatia we realized that enormous amount of knowledge was kept hidden in laboratories in all of our academic institutions and that it was high time to dig it up and make it publicly available. The textbook summa-

ri- zed the methodological knowledge of 119 authors from all parts of Croatia. The stand point of the editorial team was not only to keep track of the work the authors were doing and finally to collect the contributions but also to make them do it on time in a prescribed format. The most complicated task was to harmonize the scientific language with the standard Croatian language. The English expressions predominantly used in our labs could not be simply translated to Croatian. The text would be completely misunderstood by the readers and the textbook would be hardly usable. The Croatian translation of every English term was always a compromise accepted by the entire board (the suggestions of the authors were taken into account). The protocols were several times read and revised by all of the editors and the whole book multiply read by the editor-in-chief.

After months of work the textbook was finally completed. The comprehensive volume of 990 pages demonstrated enormous piece of work – a textbook that can easily be compared with similar examples in foreign literature. It comprises the techniques associated with experimental systems, DNA and RNA associated methods, cloning, sequencing, protein analysis, transfections, microscopy, specific methods associated with plants, microorganisms, yeast and a lot of others. Every technique was described in detail, followed by troubleshooting with possible answers if experimenting goes wrong and useful tips which reveal little laboratory secrets. Extensive index at the end of the textbook enables the reader to move through the book with ease and more precision and also helps to find the appropriate chapter through synonyms in English which are commonly used in laboratory language. The book was revised by 21 reviewers, specialists in respective fields.

The book was published in December 2007 with the financial support of the Croatian Academy of Science



**Figure 2.** The Editorial Board after the promotion of the textbook at Faculty of Science, Zagreb, December 2007.

and Arts and the Ruđer Bošković Institute that was also the publisher. For all this we owe a great deal to the head of the Institute Professor Mladen Žinić and Dr Jaroslav Horvat. It has been accepted as a regular textbook by the University in Zagreb, and expected to find its way to students of different profiles who use the molecular biology techniques in their studies (future biologists, medicine and veterinary doctors, agronomists). Since it is written in Croatian it makes strolling through the methods easy for students and young scientists in Croatia and, possibly, in countries across the borders. To make the textbook accessible to students, the Croatian Ministry of Science, Education and Sport, with the help of Professor Dražen Vikić-Topić, made a generous donation which enabled us to significantly reduce the price of the book for undergraduate students. We have promoted the textbook at the Faculty of Science in Zagreb, but also at the Osijek Agricultural Institute and at the Genetic Engineering and Biotechnology Institute in Sarajevo.

We are proud to announce that the book has received the Josip Juraj Strossmayer award, as the best publication achievement in science in Croatia in 2007.

In conclusion, all of the above demonstrates that much can be done in small – marginal scientific communities, that ideas still matter, and that a lot can be achieved with hard work and, even more, with good organization. We hope that this book will find its way to every laboratory in this region and make experiments better, cheaper, more accurate and easier to perform than before.

All additional information about the methodological guide: »Metode u molekularnoj biologiji« can be found at <http://www.mmb.irb.hr/>.

*Acknowledgements: I thank Dr Andreja Ambriović Ristov for suggesting me to write this small note in the name of the whole editorial board.*