RESEARCH AND EDUCATION IN STOCHASTICS AT THE FACULTY OF MATHEMATICS AND INFORMATICS OF SOFIA UNIVERSITY "ST. KLIMENT OHRIDSKI"

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The development of the research interests and topics in Stochastic education, its place in the curriculum and the learning process are followed in parallel, from the founding of the Higher School, the predecessor of Sofia University, up to the "century of stochasticity".

Keywords:. Stochastics, mathematical statistics, education, history of Sofia University

2000 Math. Subject Classification: Primary 01A73, 01A60, Secondary 60-03, 62-03

1. INTRODUCTION

"The theory of probabilities is at bottom only common sense reduced to calculus; it make us appreciate with exactitude that which exact minds feel by a sort of instinct without being able ofttimes to give a reason for it."

Pierre-Simon, Marquis de Laplace [1]

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[1] from the sixth French edition of A Philosophical Essay on Probabilities by Pierre-Simon, Marquis de Laplace translated by Frederick Wilson Truscott and Frederick Lincoln Emory, 1902, N.Y., (http://books.google.com/laplace_A_philosophical_essay_on_probabilities.pdf

This article is dedicated to the International year of Statistics (2013) and the 125-th anniversary of founding the Higher School, now Sofia University "St. Kliment Ohridski" [2]. Why exactly 2013, the thirteenth year of the "century of stochasticity" (see [16]) is chosen for the celebration of Statistics around the world, and is it chosen randomly? We can find explanation in some round and celebrated anniversaries. Undoubtedly, the most interesting anniversary, which can be regarded as a reason for the choice of the year 2013 is, that 300 years ago the famous book "Ars Conjectandi" [5] of Jacob Bernoulli some time after his death (August 1705) was published by his nephew Nicolas. In Chapter 2 it is said:

> "Regarding that which is certainly known and beyond doubt, we say that we *know* or *understand* [it]; concerning all the rest, — we only *conjecture* or *opine*.
>
> To make *conjectures* about something is the same as to measure its probability. Therefore, the art of *conjecturing* or *stochastics* {*ars conjectandi* sive *stochastice*} is defined as the art of measuring the probability of things as exactly as possible, to be able always to choose what will be found the best, the more satisfactory, serene and reasonable for our judgements and actions. This alone supports all the wisdom of the philosopher and the prudence of the politician." [3]

In that book a proof of the theorem with great cognitive significance, now known as the "Law of Large Numbers" is given. Its core is that the observations or data of human experience can approximate (unobservable) model of the investigated object. Particularly, it discovers that empirical distribution is a good approximation of a theoretical model under consideration, and it is shown that the probability of that increases if the number of observations increases and tends to certainty (probability equals to 1). This is the reason that the work of J. Bernoulli launches a new area of Mathematics – Probability theory and Mathematical Statistics or, with one word, "Stochastics".

It is worth noting that the year 2013 marks 250 years since the publication of another remarkable issue for Probabilities, namely the famous essay of Thomas Bayes [4], whose ideas are recently becoming more and more popular.

Let us recall that "mathematics" is a Greek word with meaning "learning, knowledge, science". The derivative word "polymath" is rarely used, but can be found in dictionaries, it means "a person who has studied and knows very much, with encyclopedic knowledge" (similar and with almost the same meaning is "polyhistor", also synonymous, but with some nuance, more widely used of the same type

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[2]A variant of this text was published in Bulgarian in the on-line journal [32], http://probablystatistics.net

[3]Translated into English by Oscar Sheynin, Berlin 2005, ISBN 3-938417-14-5 (http://www.sheynin.de/download/bernoulli.pdf).

is "polyglot"). The uneducated barbarians did not have this concept and adopted the foreign word "mathematics" in their language. The only exception, according to V. I. Arnold [2], is the Dutch scientist Stevin, who managed to keep the Flemish word "wiskunde". Currently, there is no universally accepted definition, but it can be assumed that the science of abstract (imaginary or virtual) models including variables, quantities, relationships, spatial forms is Mathematics.

In Bulgarian language until recently (50-60 years ago) "smyatane" (Bulgarian "смятане"), i.e. "calculus" was a subject in elementary school (along with Arithmetics and Geometry), and the same, but further justified by adjectives such as "differential", "integral", "variational" is studied in higher education. In the meaning of this beautiful word in Bulgarian there is "thinking", and "calculating" and "guessing" and is much more suitable to the lessons in school related to quantities and quantitative variables.

Going further back to Bulgarian tradition, the education starts with "четмо" and "писмо", i.e. numeracy and literacy (although nowadays "четмо и писмо" is translating as reading and writing). In fact, the word "cheta" (Bulg."чета"), in translation "read", in Bulgarian besides its commonly used meaning, makes sense (now defined as outdated and even dialect form) of "count", where its derived words with the same root come from: "cheten" – "necheten" (Bulg. "четен" – "нечетен"), in translation — "even" – "odd", "cheta" – "chetnik" (Bulg. "чета" – "четник"), in translation – "band" and "member of the band", "razchet" (Bulg. "разчет"), in translation — "(cannon) estimate" and others.

Counting and data collection for population, soldiers and taxes are present in the Bible (the second chapter "Numbers") and in old Indian texts there are instructions on how to count the population. Recently, it was announced a discovery of a publication from IXth century, the Cyril and Methodius' time, as the first publication considering frequencies in the data (see [1]). The author Al - Kindi (801 – 873) discussed the possibility of breaking the cryptic messages based on analysis of the frequency distribution of the used symbols. He is an Arab philosopher to whom European civilization owes the numbers and decimal notation, brought from India [14].

The word "Statistics" is relatively new. This is the title of Gottfried Achenwall lectures (in 1749, Göttingen). The root of the word comes from the Latin "stat" (country, state, position) and the suffix for scholarly subject is adopted from "Mathematics". Until recently, the mid twentieth century, Statistics was considered as one of the social sciences, but now in all standards of international studies in classifications of occupations (ISCO) and in classifications in the areas of education (ISCED) we find the inseparable tandem "Mathematics and Statistics" (these were harmonized by the National Statistical Institute, Bulgaria, in 2011 and 2008). The word "Statistics" established itself, because it was widely used by English speakers as a synonym for "Stochastics", bearing at the same time ambiguity like in "recording data" (keep statistics), "data collection" (accumulated statistics), properties of

the data distribution (averages and other descriptive statistics). In any case, the conclusions that follow are based on models of Probability theory or Stochastics.

From the very beginning of the founding of the Higher School, the predecessor of Sofia University, Stochastics has had its own place in the curriculum and the learning process. The "probabilistic revolution" observed in the beginning of the twentieth century [16] has had its role in university life as well, dated from that time up today's "century of Stochastics" as called by David Mumford [20]. We will follow in parallel the fields of research and the topics in Stochastic education as a continuation of publications [30] and [31].

1.2. FOR STOCHASTICS AND THE SOFIA UNIVERSITY

We will follow the development of education and the research at Physico-Mathematical Faculty (PhMF), now Faculty of Mathematics and Informatics at Sofia University "St. Kliment Ohridski" (FMI at SU) in the field of Stochastics structured in the following order:

- 1889 – 1945, The Beginning;

- 1945 – 1971, After the World War II;

- 1971 – 1988, Integration;

- 1988 – 2004, Disintegration;

- 2004 – 2013, Recent years.

Many available sources and articles like [10], [11] and [38], dedicated to anniversaries of the Sofia University, have been used. Of course, the task of presenting a detailed history of Stochastics in Bulgaria can not be done comprehensively in a single article. The solution is to create an accessible digital repository — a project, whose implementation requires the efforts of the whole Stochastic guild. The authors will be very grateful to everyone who can provide adequate information in this direction.

2. THE BEGINNING (1889 – 1945)

2.1. THE FIRST ONES

Soon after the founding in 1888 of the Higher School in Sofia, with a single department "History and Philology", in 1889 was formed the Department of "Physics and Mathematics" with a meaning of "natural sciences", which later becomes a faculty. The students who finished their education obtained qualification as "natural

scientists", "chemists", "physicists" and "mathematicians". The last two were actually combined in one. At that time (see [23]), Mathematics, "the science of quantities" was divided into two parts: "complex" or "physical mathematics", where the variables are related to experiments and observations, and "pure", which includes Arithmetics, Geometry, Algebra, where the variables are studied "abstracted from the perceptions". This duality is perhaps the reason for the confusion of the university clerk in preparing the curriculum for the subjects Mathematics and Physics. In any case, "Probability theory and the method of least squares" is one of the "main" subjects in the curriculum (there were also "supporting" subjects).

Intuitively it is clear that "probability" is a concept of gambling and betting. However, it is also included in the so-called "Political Arithmetics", i.e. in the actuarial accounts in determining the value of the insurance, life annuities and similar quantities related to life expectancy. On the other hand, closer to the physical nature of things are the probabilities of errors in measurements and monitoring, the probabilities in processing and analysis of data from experiments and astronomical observations.

Information of the first university course in "Probability theory" can be found in the "Schedules of lectures" in 1896 [29]. Lecturer was Prof. Atanas Tinterov. We can judge about its contents by the textbook of the teacher Ch. D. Baltadziev [3] prepared for his students in seventh grade of the State High School "Alexander I" in the city of Plovdiv. In 59 pages handwritten calligraphic text 38 paragraphs are presented. We will list a few of the nine paragraphs for dividing the content:

- "Probability of simple events"

- "Principle of the complex event"

- "Probability calculated from observations"

- "On the use of Probability"

- "On mathematical hope"

- "On the games in general"

- "On life insurance"

- "Income protection insurance".

The questions in the last paragraph are solved using "The mortality tables" from the "A. V. Shourekov's logarithmic tables". It becomes clear from the title on the first page that "Probability theory" is a chapter of the subject "Algebra". The same is confirmed in first Bulgarian university textbook. It is actually volume two of N. Obreshkov's "Higher Algebra" [21] subtitled "A theory of algebraic numbers. Combinatorics. Probability theory and applications in Statistics", which lists the four parts of the book. They are distributed approximately as follows: 100 pages

for "Algebraic numbers", 60 pages for "Combinatorics", 240 pages for "Probability theory" and 80 pages for "Applications of Probability theory in Statistics". The last three parts became the base of his textbook "Probability theory", which has two editions published after World War II and was the main textbook on Probability for generations of Bulgarian mathematicians.

In the library of Mathematical Institute (sometimes also called "the office") many books, thoroughly described in a special catalog by A. Shourek (1911) [37], were stored. Under the theme "Theory of Probability" he has classified 19 titles. Among them are "Analytical probability theory" of Laplace (1820, 3rd edition), the relatively modern textbook of Bertrand (1889), textbooks on Probabilities of Borel (1909) and Markov (1908) and others in French, German, Russian and one in Serbian.

Apart from them, five other titles on Mathematical Statistics, assurance and insurance are included in section "Application of Probability Theory". Statistics during that time was only "the science of the state". In Decree No. 712 from 1881 by Alexander I [25] is declared:

> The statistical division of the Ministry of Education to be raised to a separate "Bureau of Statistics". Its purpose is "to collect, process and publish annually statistics of all the branches of the state management and all the phenomena related to the physical, economical, intellectual and moral conditions of the country.

The first director of the Bureau is Mihail Sarafov [19]. He was born in Tarnovo in 1854, worked as a teacher in Tarnovo and was a participant in the April Uprising 1878. He graduated from the Faculty of Mathematics of the Polytechnic in Munich in 1880, and for the period from 1880 to 1881 he was a Minister of National Education in Karavelov's Cabinet. He discussed with Prof. K. Irechek the founding of a Higher School, but a priority became the first Census in the Principality of Bulgaria in the same 1881. Another prominent director of the statistical institution of Bulgaria (the first quarter of the twentieth century) is Kiril Georgiev Popov, who sometimes is mistaken with the famous mathematician, professor at Sofia University, Acad. Kiril Atanasov Popov. There is not much biographical information about him (K. G. P.), it is known that he was a member–founder of the Bulgarian Physico–Mathematical Society in Sofia (1898) [15]. From a brief biographical resume we learn that he was born on December 25, 1869 (old style) in the town of Varna and graduated from the Higher School in Sofia in 1895.

The Faculty of Law of the Sofia University was the third one to open in 1892 with two departments — Juristic and Economic. It functioned similarly and corresponded to the current "business schools" at university level. Statistics was set to be a "legal and public science". In the curriculum we find the first lecturer of Statistics – Assoc. Prof. Bonue Boneff. Later on he moved to the insurance business as Head of Mathematics department in the insurance company "Balkan". In 1920 he prepared and published the first issue of the "Mortality Table in Bulgaria"

[6] subsidized by seven insurance companies of that time. It is worth noting that, in addition to the table as a final result in the book, a fundamental information of the Probability theory and the algorithm used for smoothing of the Curve of Mortality were present. In modern terms, the parameters of the Gompertz – Makeham distribution were estimated and as a local approximation for over 72 years of age a cubic spline – regression was used.

The first textbook for the students of the Faculty of Juristic and Economic Department of Sofia University, for their course in Statistics, "Theory of Statistics" [8], was published in 1931 by Prof. G. Danailov. The textbook contains extensive presentation of the history of discoveries and development of the theory of probability and statistics and the author repeatedly expresses his regrets for the gaps in the explanations due to his lack of enough mathematical knowledge. The book ends with a presentation of the data with descriptive statistics and charts. According to E. Shkodrov and St. Tzvetkov [36], the first textbook in Bulgarian is "A Course of Theory of Statistics" issued in Varna in 1923 by the Russian immigrant N. V. Dolinskiy.

At that time (in the twenties) three economics institutes — Free University of Sofia, The Academy of Economics in the town of Svishtov and the Economics Institute in the town of Varna were founded. So the places to study Business science at university level become four, and Statistics took the place it deserves in each of them.

2.2. 20TH CENTURY – THE UNIVERSITY

The Higher School was raised to a rank of Sofia University with a Royal Decree in 1904. Shortly afterwards came the jeers on Ferdinand and "the university crisis" in 1907. Then the two Balkan wars and the First World War happened. A change of generations at the Mathematical Institute (the union of the four mathematical departments) occurred. New lecturers — Kiril Popov, Ivan Tzenov and Lyubomir Chakalov were recruited (in 1914). They were joined (in 1920) by Dimitar Tabakov, an assistant of Prof. Shourek before the University crisis, and the speedy graduated after the wars Nikola Obreshkov. In 1928 Obreshkov was already a full professor and a head of a department, renamed the same year to "Higher Algebra and Theory of Probabilities" [10].

In the beginning of 20-th century the challenges to Mathematics for the new century were formulated by D. Hilbert, known now as "The 24 problems of Hilbert". The sixth of them is:

6. *Mathematical treatment of the axioms of physics*

The investigations on the foundations of geometry suggest the problem:
To treat in the same manner, by means of axioms, those physical sci-

ences in which mathematics plays an important part; in the first rank
are the theory of probabilities and mechanics. [4]

Nowdays, A. N. Kolmogorov's Axiomatics, first published in 1929 in the Reports of the Academy of Sciences, is accepted as a standard. The Axiomatics earned popularity after its extended version was published in German in 1933 and translated later (1936) in Russian. Thus, the Sixth Hilbert Problem has been partially solved.

In the Jubilee book of Bulgarian Physico-Mathematical Society [15] two out of about twenty mathematical articles are dedicated to Probabilities. They give us an impression about the views and the atmosphere of the scientific research at the climax of the "Probabilistic revolution". The first one is entitled "Evolution in Probability theory" (A. Ivanov). It lists the mathematicians, whose names are "written" in "the development of the Theory of Probability", starting from Pascal and Fermat, Huygens, Jacob Bernoulli and later Laplace, Euler, Poisson, etc. But "in the beginning of this (twentieth) century Mathematics has entered into a stage in which dominates the randomness": and thanks to the hard and successful work of Poincare and others the Probability theory "was established as a separate science and emerged to become a science of the sciences". In the second article in [15] entitled "On the development of the concept of probability", the author R. Zaykov identifies three trends in understanding the concept of probability as "statisticians", "collectivists" and "experimentalists". Representatives of the first one are Karl Pearson, Ronald A. Fisher, Olaf Anderson; according to them, the probabilities are determined by "the statistical distribution". The "Collectivists" – from Richard von Mises to Abraham Wald, define a distribution on unlimited sequences (collectives). The "Experimentalists" (Jerzy Neyman) link the probability distribution to the set of experiments. With the results of the school of "Axiomatists", which replace the "phenomenological" with the "formal – mathematical concept" and the system of axioms of A. N. Kolmogrov, which "fully meets all logical requirements" and its axioms "could be proven by induction from the empirical reality" the Probability theory becomes complete.

The Probabilistic revolution was in its full swing and everybody was hopeful for a successful development of the theory and implementation of diverse and fruitful applications.

During that time the University lecturers have had strong links with the research centers in Europe. The generation of Lyubomir Chakalov, Kiril Popov, Dimitar Tabakov and Ivan Tzenov obtained specialization in European research centers such as Göttingen, Sorbonne, Nice. They maintained their contacts giving talks and presenting reports on their visits to European universities and at international congresses. Following the advice "Our most important task - said to me Einstein - is to find our successors" (from "The Autobiography of K. Popov" [26,

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[4]`www.ams.org/journals/bull/2000-37-04/S0273-0979-00-00881-8 /S0273-0979-00-00881-8.pdf`

p. 127]), they paved the way for the next generation led by N. Obreshkov. These are Arkady Stoyanov, Georgi Bradistilov, Blagovest Dolapchiev and Boyan Petkanchin and the younger Lyubomir Iliev, Alipi Mateev and Jaroslaw Tagamlitzki, the new generation at the Mathematical Institute of PhMF.

In 1942 the Higher Technical School in Sofia was founded. The professors of PhMF became members of its Science executive board and lecturers. In addition, G. Bradistilov and A. Stoyanov moved officially to the new academic body.

Below we list, with no claims for completeness, several publications from this period associated with Probability and Statistics.

K. Popov (according to [26]) published series of articles on the generalization of the concept of derivative in terms of Probability Theory. During his trip to Harvard University for participating in the International Organizing Committee of the Congress of Applied Mechanics, he presented a popular lecture on the principles of insurance for a Bulgarian audience in New York.

N. Obreshkov published two articles in the Proceedings of the Seminar on Mathematical Statistics at the Sorbonne. In the first one a two-dimensional distribution with Poisson marginal distributions was shown, later quoted in Alfred Renyi's book [28] as "Obreshkov Distribution".

In two consecutive issues of the Journal of Physico–Mathematical Society P. Shapkarev presented a research and modelling of time series under the heading "Decomposition of business series in time" [35]. A. Stoyanov is the author of one of publications for the role of Actuarial Mathematics in college education [33].

After breaking off his specialization in France because of the war, A. Mateev was appointed temporarily at the Central Meteorological Institute and published two articles in the collected volumes of the Institute. The first one is an overview entitled "On some methods of Mathematical Statistics for processing results from observations" [18]. In this article we see descriptive statistics, graphical representation, indicators for correlation. The second one [17] illustrates the approximation of an empirical distribution with density of the class of "Pearson curves". Data are from the minimum monthly temperatures in January for the years from 1891 to 1920.

In that period we have to mention the work of the famous Russian–German mathematician at Sofia University Oscar Anderson. He emigrated from Moscow in 1920 despite his leftist beliefs and the offer to work on the planning of Russian economy. On one hand side, he did not feel ready for such a career, and on the other side, he could not accept the attitude of the authorities towards his colleagues at the University. He firstly worked as a teacher in Hungary. From 1924 to 1933 he was a Professor at the Institute of Economics in the town of Varna. After a stay in England and Germany as a Rockefeller Fellow, he returned to Bulgaria at the end of 1934. He was appointed as Professor at the Sofia University and organized and managed the "Statistical Institute for Economics Research" at the University. As it is known, Anderson's Institute developed strong research and publication activity. In 1940 O. Anderson was seconded to Germany, where after two years of stay he

accepted position Professor of Statistics at the University of Kiel, and later on in Munich, where he stayed until his death in 1960. More biographical details and information about his research interests and publications can be found in [27, 22].

3. AFTER THE WORLD WAR II (1945 – 1971)

The end of the war, the end of the bombing of Sofia and the evacuation brought hope for development of mathematical science, in which probabilities undoubtedly take prominent position with prospects for development and applications.

During 1945 the founding of a Mathematical Institute of Bulgarian Academy of Sciences (BAS) has been discussed in the Executive board of the Bulgarian Academy of Sciences. During 1946 and 1947 Academicians L. Chakalov, N. Obreshkov and K. Popov organized two committees of Statistics and Demography at BAS. In 1947 their plan succeeded. The date 27th of October, 1947 was rightly named as the birthday of the Mathematical Institute (MI), now Institute of Mathematics and Informatics (IMI) [7]. On that day the Executive board of BAS approved a plan for scientific research and development for the period 1947 – 1948. This plan included work of three committees in the field of mathematical sciences:

1. Committee for demographic studies (chaired by Acad. K. Popov);

2. Committee for mathematical studies of the representative method in Statistics (chaired by Acad. N. Obreshkov);

3. Committee for financial mathematical study of state and government bonds (chaired by Acad. K. Popov),

as well as individual detailed plans of the Academicians–mathematicians I. Tzenov, L. Chakalov, N. Obreshkov and K. Popov.

At that time, with the newly approved Law on Higher Education (1947) the structure of the departments at Sofia University "St. Kliment Ohridski" was changed. The abbreviation PhMF is translated into Bulgarian language as "Faculty of Natural Sciences". A new Department of "Mathematical Statistics and Insurance Mathematics" for applications of the Probability theory was founded. Professor Obreshkov was Head of both departments - the Department "Higher Algebra and Probability Theory" and the new one.

At the same time, Faculty of Medicine was separated from Sofia University and became Medical Academy. Moreover, Department of Economics of the Law Faculty and Institute of Statistics, together with the Free University form the Higher Institute of Economics. The number of the faculties in the Higher Technical School increased to eight and as a result HTS split into four engineering institutes — Civil-Engineering, Mechanical-Electrical Engineering, Chemical Technology and Mining – geological institutes.

Let us recall that from PhMF as a Faculty of Natural Sciences first, in 1918, Faculty of Medicine and later on, in 1921, the Agricultural and the Veterinary Faculties were separated.

Later on, one by one, Faculty of Biology, Geology and Geography (1951) and Faculty of Chemistry (1962) were separated from PhMF. It kept its original name PhMF, but not for long - in 1963 it was split into Faculty of Physics and Faculty of Mathematics.

In 1950, the "Scientific-production profile" was introduced in PhMF as a separate course of study in Mathematics. It was aimed to counteract to some opinions that the only courses at the University are pedagogically oriented, even with suggestions to be renamed to Higher Pedagogical Institute [5]. The outstanding students from the new production profile graduated by defending Diploma Theses, a significant deal of which on topics from the field of Stochastics.

Meanwhile, on June 27, 1951, the Executive Board of BAS approved the first Scientific Council of the of Mathematical Institute (MI) chaired by Acad. Obreshkov, with secretary Prof. B. Petkanchin and members Acad. L. Chakalov, Acad. K. Popov, Acad. I. Tzenov, Prof. Lyubomir Iliev, Prof. Yaroslav Tagamlitzki, Prof. Georgi Bradistilov, Prof. Arkady Stoyanov, Assoc. Prof. Alipi Mateev.

A section "Probability and Statistics" was founded at the MI in 1954. The section was headed by Prof. N. Obreshkov, Bojan Penkov was appointed as a junior researcher and Apostol Obretenov (a graduate of Acad. N. Obreshkov) was on PhD studentship. Later on, mathematicians Emanuel Simeonov and Margarita Andreeva were appointed in the section. In 1962 two more researchers were appointed − Liliana Boneva and Ivan Mirazchiyski.

In the early fifties professors D. Tabakov, K. Popov, I. Tzenov and L. Chakalov retired [6]. From the next generation the most significant steps to the prosperity of the Mathematical society are due to Prof. L. Iliev, who foresaw the emerging of Informatics as a branch of Mathematics. A specialization in "Computational Mathematics" was created on his initiative and organization in 1959–60, and the first five specialists graduated in 1961. The enrollment of students for the "production profile" also started. The first Computer center attached to the Mathematical Institute of BAS and the Department of Higher analysis of PhMF were founded in the same year (1961).

On June 6, 1960, in the Great Hall of the BAS "Extended meeting of the State Council for Science with main topic on the agenda - the development of mathematical sciences in the country" was held [12]. The main report was presented by Lyubomir Iliev. Other speakers who took part in the discussions were the academicians (K. Popov, L. Chakalov, N. Obreshkov), professors, associate professors, as well as the assistant professors Bojan Penkov and Blagovest Sendov. The State Council approved more than twenty specific proposals, including: the founding of

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[5]From the speech of acad. Blagovest Sendov in the celebration of the International year of Statistics in the Great Hall of Bulgarian Academy of Sciences on November 27, 2013.

[6]D. Tabakov in 1948, I. Tzenov and K. Popov in 1951, L. Chakalov in 1952

a Computing center; the need of support of the two sections of Mathematical Institute – "Mathematical Statistics" and "Computational Mathematics and computers"; recommendations for the work of the Departments of Mathematics at Sofia University and the other universities; "creating new profiles of study – Mathematical Statistics, Mechanics and others" at Sofia University.

In the academic year 1960–61 a specialization "Mathematical Statistics" was introduced as a continuation of the tradition of education of actuaries. The lectures were provided by Prof. N. Obreshkov, Prof. Al. Mateev, Assoc. Prof. Bl. Sendov, Assoc. Prof. B. Penkov and Acad. Kiril Popov, and supported by the members of the section of MI of BAS at that time: Apostol Obretenov, Emanuel Simeonov, Margarita Andreeva, Lilyana Boneva, Ivan Mirazchiyski (see [38], [9] and [10]) in collaboration with Ivan Katzarov. The latter was Chief Actuary and, later on, Director of the National Social Assurance Institute until he had been attracted to academic career at the Economics Academy "D. Tzenov" in the town of Svishtov. He specialized in Actuarial Mathematics under the leadership of Prof. Tauber of University of Vienna [24].

In close cooperation between PhMF and MI of BAS, in 1962 the prototype of the first Bulgarian computer (on electronic lamps) "Vitosha" was invented and in 1965 the Electronic calculator "Elka" was built. In 1966 on the basis of its experience and staff the Central Institute of Computing Technology (CICT) became independent and had served as foundation of the development of computer technology production in Bulgaria until 1990.

The year 1963 is full of events for the Bulgarian Mathematical Society. After numerous splits, the Physics Faculty was separated from the PhMF. So the "nature" leaved the Faculty of Natural Sciences (Physics and Mathematics) and the "pure science" remained alone as Mathematical Faculty (MF).

The sudden death of Prof. Nikola Obreshkov beheaded two departments. Department "Algebra and Probability Theory" was renamed "Algebra" and leaded by Assoc. Prof. Ivan Duychev. "Probability" was transferred to Department of Mathematical Statistics and Insurance Mathematics" and renamed to "Probability Theory and Mathematical Statistics", with staff consisting of Assoc. Prof. Boyan Penkov and Prof. Al. Mateev (Chair). The department remained unchanged until 1965, when it was transferred to "sector" of the Department of Higher analysis with a single member – Assoc. Prof. Boyan Penkov. Specialization in Mathematical Statistics existed thanks to the teaching (lectures, seminars and practical classes) of the employees of section "Probability and Statistics" in the Mathematical Institute.

In the spring of 1964 the famous Ukrainian mathematician B. V. Gnedenko was a guest–lecturer of the MF for nearly a whole term. He read courses on Mathematical Statistics and Queueing Theory and at the same time headed an international seminar on "Reliability Theory" at the MI with participants from Bulgaria, Hungary and Germany. This visit set the beginning of a long term fruitful cooperation, which leaved significant mark in Stochastic guild in Bulgaria [13].

In 1968 the section staff was expanded with Boyan Dimitrov, Petar Petrov, Mikhail Uzunov, Maria Varbanova, Tzvetan Ignatov, Hristo Pavlov, Dimitar Vandev and Elisaveta Pancheva. Head of the section was Assoc. Prof. Boyan Penkov, who was a member of the Department of Higher Analysis. The Section was placed in one of the old buildings of the Institute of Biology at "Latinka" street (Figure 1). Next year four of the young fellows went for PhD studies - B. Dimitrov, P. Petrov and H. Pavlov to Moscow, and D. Vandev to St. Petersburg (at that time, Leningrad). Nikolay Yanev joined the section after his graduation, and Jordan Stoyanov and Miroslav Tanushev were appointed in 1970.

Figure 1: Section "Probability and Statistics" in 1969 in front of the building on "Latinka" street. Standing from left to right are: Ivan Mirazchiyski, Hristo Pavlov, Mihail Uzunov, Tzvetan Ignatov, Dimitar Vandev, second row – Maria Krasteva, Liliana Boneva, Margarita Andreeva, Elisaveta Pancheva, sitting – Apostol Obretenov and Boyan Penkov.

4. INTEGRATION (1971 – 1988)

The spreading of computers in the country was extremely fast. Computers were imported from all over the world, but also production of computers was organized urgently in the country. The need for joint efforts for training people to work with this new technology resulted in the union of the MF and the MI of BAS. The Institute of Technical Mechanics of BAS also joined them. MI became Institute of Mathematics and Mechanics (IMM), the Faculty adopted the name "Mathematics

and Mechanics" (FMM) and all these institutions were united in the "United Center for Science and Education in Mathematics and Mechanics" (UCSEMM), soon after that renamed to the shorter UCMM.

This joint organization, in which the functions of the departments of the Faculty and the sections of the Institute were performed by grouping them into "sectors", lasted nearly twenty years. New sectors were founded in accordance with L. Iliev's classification of Mathematical Sciences, i.e. abstract, applied and IT oriented structures. To each area of "pure" Mathematics (abstract structure) corresponded a field of applications of classical type and an area of applications using computer technology. "Probability and Statistics", or in short "Stochastics", fell within the applied structures related to Calculus and Measure Theory. Later on, an independent unit for "Stochastic Computing" specialized in applications of Stochastics using computers was separated.

Stochastic computing encompassed development of numerical methods of Stochastics, statistical databases, intelligent statistical software and expert systems in Statistics, probabilistic and statistical simulation modelling of processes and systems with the aid of computers, computerization of Statistics education, analysis, modelling and forecasting of time series, and all other computer implementations of stochastic models and methods.

Each sector offered specialization in two–year course, the so–called block "B", which was preceded by three years of general education (block "A"). A one–year additional course after the general education, aimed for preparation for teachers, was called block "D". This organization is identical to the modern structure of our higher education with bachelor's and master's degrees. PhD degree was obtained after completion of block "C". Graduates from the basic block "A" received a Diploma of Higher education and the necessary mathematical culture and knowledge to use computers. Those completing block "B" obtained Master's degree (M.Sci.) diploma.

A separate building and premises in the building of Physics Faculty were provided to the "United center". Construction works began for a new building in the complex "IVth kilometer" of BAS, which was built in less than two years. The classes of block "A" took place in the current building of FMI in Lozenetz. The time–table for mathematical disciplines was scheduled from 7 a.m. to 1 p.m. Special notebooks were ordered and made for regular and compulsory homeworks and tests. Intensive language training was provided during the summer months. Staff bus service provided the transfer of lecturers between the two buildings every hour. Master's degree students (block "B") had their lectures and training in both buildings, depending on the location of the sector they specialized in.

In the summer of 1972 sector "Probability and Statistics" was situated on the fourth floor of the new building, the eastern half of the south part. In the same year the sector employed as mathematicians Plamen Mateev and Georgi Yamukov.

In the next years the sector's staff was further extended by appointing Ljuben Mutafchiev, Georgi Chobanov, Rossitca Dodunekova, Svetlozar Rachev, Valeri Stefanov, Dimitar Hadzhiev.

The first head of sector "Probability and Statistics" was Senior Research Fellow A. Obretenov. Boyan Penkov took over the management of the sector after 1979.

In 1978 a laboratory of "Computer Stochastics" was established as independent unit. The first lab researchers were Senior Research Fellow D. Vandev (head) and Junior Researcher P. Petrov. In the same year, Evgeni Dimitrov joined them. In the beginning of next year P. Mateev, after completing his PhD in Moscow State University, also became a member of the laboratory.

An unique software for statistical data analysis "Statlab" based on the platform of the first 8–bit PCs (IMKO–2 and the widely used Pravetz 8) was developed in the laboratory. Despite the memory limitations and the monochrome display with 24 lines of 40 characters, the functionality of the program includes preparation of data with up to 18 variables, including possibilities of transformations, one–dimensional descriptive statistics, single–factor dispersion analysis, original interactive step regression procedure, linear discriminant analysis also with availability of interactive selection of predictors, non–linear regression with availability for optimal choice of additional data points, factor analysis with varymax procedure, cluster analysis and multidimensional scaling. The entire system fitted on two 5–inch floppy–disks of 360 kilobytes capacity. The software system "Statlab" was developed as an educational tool for students of FMM and was part of the main set of software programs of Pravetz computers. Later on "Statlab" was adopted for the 16 bit IBM – XT and IBM – AT (and Pravetz 16 version) under the name MSTAT and its extension TSTAT designed for spectral analysis of auto-regressive models for time series. Unfortunately, the embargo on equipment with high graphical resolution (EGA, VGA, SVGA) and the economic problems in the late 80's detained the further development of this project.

Laboratory efforts were redirected towards rebuilding the knowledge in the field of Actuarial Mathematics. A joint contract of the Laboratory and FMM with a financial support from the British "Know–How Fund" set up the beginning of professional courses for actuaries to the newly established Bulgarian Actuarial Society. The leader in the implementation of this project with the most–active participation was Vladimir Kaishev until his transfer to a post at the City University, London.

The Stochastic guild of sector "Probability and Statistics" and the laboratory "Computer Stochastic" counted more than twenty people over the years. They taugh on average 10 to 12 Master's degree students in Probability and Statistics annually. In addition to the basic courses on Probability and Statistics at FMM, they also provided services to other faculties of the University, e.g., in Physics, Chemistry, Geology and Geography, Biology Departments.

The Sector was a center of the Stochastic guild for the country with many international contacts and collaborators. Since 1974 every two years the "International Summer School on Probability Theory and Mathematical Statistics" gathered more than a hundred participants. Since 1988, an annual Seminar on Statistical Data Analysis (SDA) was in operation.

Every Wednesday at 3 p.m. there were meetings of the "Common Seminar on Stochastic". It was place where reports on projects and research results were read and discussed by the members of the guild, guests–readers from home and abroad presented reports of their work, students defended their theses. In the official "Red Book" for guests of the Sector and the Seminars handwritten dedications are kept. There may be found the world famous names of statistical science – Kendall, Rao, Bolshev, Vapnik, Shiryaev, Belyaev, Solovyov, Zolotarev, Barlow, Jacod, Reves, Arato, Hawranek, Parzen, and many others.

Stochastic guild of the Unified Center initiated the founding of the "National seminar on Stochastics" (NSS) within the Union of Mathematicians in Bulgaria, aimed to focus on the problems of education in Stochastics. Director of the seminar was B. Dimitrov, D. Vandev was Scientific Secretary and E. Pancheva was Technical Secretary [9].

At the first meeting of NSS J. Stoyanov presented a report with a detailed analysis of the publications in the field of Stochastics in Bulgaria [34]. An annex to the report provided a detailed bibliography for that period awaiting its sequel. In the next ten years regular sessions of the seminar were held during the traditional Spring Conferences of the Union of Bulgarian Mathematicians (UBM). Special regular meetings of the seminar on problems of education in Stochastics were held traditionally at the Scientific center "Gyulechitza" of Sofia University situated in the Rila mountain.

An important direction in the work of the guild was the subject of statistical quality control in collaboration with the State Committees on Quality and Standards and other national institutions. An emanation of this activity was the founding of a laboratory "Statistical quality control" at IMM and "Research Laboratory on mathematical methods for quality management" at the Sofia University. Head of both laboratories was B. Dimitrov.

The two laboratories worked successfully on contracts for implementation of over ten national standards of statistical quality control, reliability, sampling control, terminological standards. They also took part in the development of three international standards and organized four national meetings of quality control professionals from the industry.

5. DISINTEGRATION (1988 – 2004)

The United Center did not fit in the standard hierarchical bureaucratic structures of both BAS and Sofia University. It survived 18 years, until 1988, when its function was officially terminated and the structure of separated Faculty and Institute with departments and sections, respectively, was restored. The Faculty enrolled students in Mathematics, Informatics, Mathematics and Informatics (teacher training) and Mechanics and adopted its current name (FMI) which suits better its educational profile. Also, the five-year course of study was restored.

The Department "Probability and Statistics" was resumed in 1988 with head Prof. B. Dimitrov and members Assoc. Prof. G. Tchobanov, Assoc. Prof. R. Dodunekova, Ass. Prof. I. Tzankova and Ass. Prof. B. Doychinov. About 40 people were transferred from IMM to FMI. Only Tz. Ignatov moved to the University. Many more were colleagues who sought for work abroad. Among those, Georgi Yanev, Mariana Beleva, Daniela Nicheva, Miroslav Tanushev, Boris Kovatchev and Rayna Robeva moved to the U.S.A.; Nikolay Kolev to Brazil; our colleagues Iva Tzankova, George Boshnakov, Yordan Stoyanov, Sahib Esa, Nikolay Trendafilov, Vladimir Kaishevin went to different European countries; Valeri Stefanov and Evgeni Dimitrov choose Australia and Maria Varbanova — South Africa.

In the mid 90's the department "Probability and Statistics" had highly reduced staff. During that period, due to the political changes, the economical problems and opening the borders of the country, a significant part of the young professionals, and not so young as well, sought for career abroad. Prof. B. Dimitrov, Assoc. Prof. R. Dodunekova and Ass. Prof. N. Ilieva started work in foreign universities. Assoc. Prof. G. Tchobanov moved to the newly established Faculty of Economics. Prof. Tz. Ignatov was the only member of the Senior staff who remained in the department.

Section "Probability and Statistics" at the Institute of BAS, which has been always supporting the teaching of Stochastic subjects at Sofia University and mainly the specialization "Probability and Statistics", also reduced significantly its staff, although it has merged with the laboratory "Computer Stochastics".

At that time there was a real danger for Stochastic guild to stop reproducing itself and for the education and training in Probability and Statistics at University to drop below the admissible minimum.

Assoc. Prof. D. Vandev was the first who tried to stop this negative trend by moving to FMI. In 1996, with his major participation, a new program – "Applied Mathematics" was opened, with specializations in Informatics, Mathematical Economics, Mechanics, Applied Statistics.

In 1997 T. Ignatov moved to Faculty of Economics. D. Vandev was doing his best to attract talented students for teaching, and also for recruiting part-time lecturers. The graduates Stiliyan Stoev and Emil Kamenov were appointed as permanent staff, but soon after St. Stoev moved to the United States.

In 2000 a new law on higher education was approved, in which the minimum number of teaching staff at one department was set to 6 persons. As a result came the merger of departments "Probability and Statistics" and "Operations Research" and a new one was formed, the department "Probability, Operations Research and Statistics", which exists at present in this form.

In 2002 the first Master's program in the Faculty, "Mathematical Modelling in Economics", which meets the new law regulations, was founded. D. Vandev actively participated in building up its curriculum. This Master's degree program was considered by Vandev as a temporary solution to the task of rebuilding of another specialization. His goal was finally realized in 2004, when an independent Master's

degree program "Probability and Statistics" was founded. Meanwhile, to meet the law requirements for habilitated academic staff, Dimitar Vandev insured the opening of new positions and opportunities for habilitation and attracting of new lecturers: M. Bojkova (from IMI - BAS), L. Minkova (from Technical University of Sofia), D. Donchev (from University of Food Technologies - Plovdiv) and Vandev's collaborator for many years from the laboratory "Computer Stochastics", P. Mateev.

Unfortunately, Assoc. Prof. D. Vandev passed away on September 25, 2004. He was not with us to see the realization of Master's program "Probability and Statistics" and his fulfilled dream for an undergraduate program "Statistics".

We would like to express our deep appreciation for the efforts, enthusiasm and professionalism to our unforgettable colleague Assoc. Prof. Dr. Dimitar Vandev, the founder of the modern Master degree program "Probability and Statistics". We believe that all our colleagues will join our opinion, that we remain in debt to him and his work for rebuilding and reproduction of the Stochastic guild in our country.

6. RECENT YEARS (2004 – 2013)

During that period, some of the old traditions revived and the modern trends in Stochastic education managed to make their way through the recovery of specialization "Probability and Statistics" as Master degree program. A new undergraduate program "Statistics" opened in the 2007/2008 academic year. The National Seminar on problems in Education of Stochastics (NSPES) resumed his work.

6.1. MASTER'S PROGRAM "PROBABILITY AND STATISTICS"

The Master's program is essential for the reproduction of stochastic professionals in the country. It prepares professionals able to work as independent researchers at a high level in both pure and applied science. For the period of its existence since 2004 until 2013 from the total of 70 enrolled in Master's program, 32 have completed the program and defended their theses, which is about 46% successfully completed the program. A graphical representation of the distribution by years is given in Figure 2, reflecting the data from Table 1.

Priority areas of the program are: Stochastic models and their applications, Actuarial science and Biostatistics.

A benchmark for correctness of the chosen direction of development and as an eloquent manifestation of the quality of education in "Probability and Statistics" program is the professional realization of its graduates. They pursue successful careers in the job market at home and abroad. For instance, in our country our graduates work in "Musala Soft", Insurance Company "Unica", State Insurance Institute, The Financial–analytical company "Finanalytica", "Experian", Ministry of Education, banks as Unicredit, Bulbank, Postbank, marketing firms "Alpha Research", "Ipsos", and others.

Figure 2. Master's degree students of the course "Probability and Statistics" in the period 2004 –
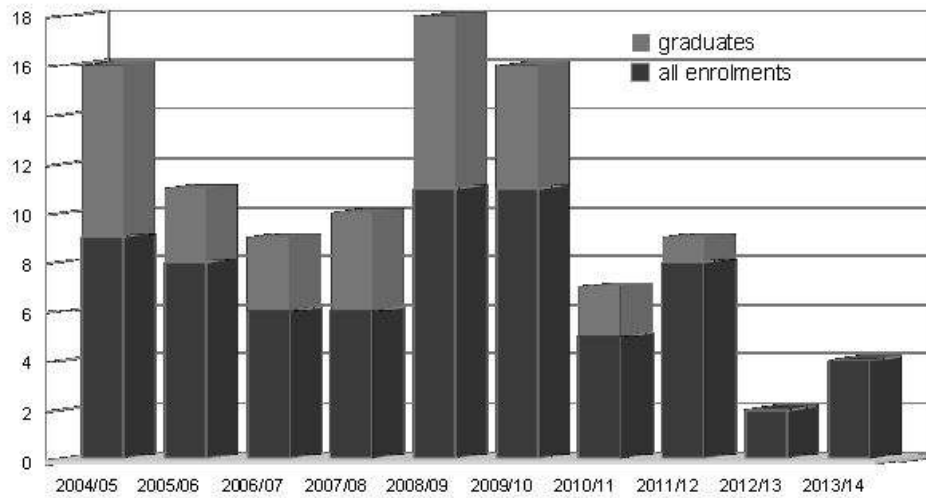2013. A timeline of number of enrolments and number of graduates.

Table 1. MSci degree program "Probability and Statistics"

Year of Enrolment	Enrolled in MSci program	Graduated with MSci degree
2004/2005	9	7
2005/2006	8	3
2006/2007	6	3
2007/2008	6	4
2008/2009	11	7
2009/2010	11	5
2010/2011	5	2
2011/2012	8	1
2012/2013	2	0
2013/2014	4	0

After completing MSci [7] degree program students, seeking realization abroad continue successfully their academic development in world famous, high-profile universities such as Harvard University (USA), University of Reading and University of Bristol (UK), Humboldt University, Berlin (Germany), and others.

6.2. BACHELOR'S DEGREE PROGRAM (BSCI) "STATISTICS"

The BSci "Statistics" was established with the joint efforts of the Stochastic guild of FMI at SU and IMI - BAS on the explicit order of the Dean of the Faculty in that time, Acad. B. Boyanov. The design of the whole program and curriculum

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[7]Master's degree program (MSci) is three or four semester graduate education after four years (eight semesters) Bachelor's degree program (BSci). BSci diploma is delivered after successful state exam. MSci is accomplished with Diploma Thesis.

we owe to the hard work of the guild with the most active participation of P. Mateev and M. Bojkova. Programs for elective courses were also offered by Prof. Racho Dentchev, Assoc. Prof. D. Donchev, Prof. Dimitar Christozov, Assist. Prof. Vessela Stoimenova, Nina Daskalova and Dimitar Atanasov.

The program is our response to the pressing need for knowledge and expertise in this field in the community and to the world's trends. Its curriculum is based on the curriculum of the BSci program "Applied mathematics", with expanded contents for some disciplines ("Theory of Probability and Mathematical Statistics" split into two consecutive semesters, "Applied Statistics" is also divided into two semesters and renamed — "Data analysis and regression" and "Multivariate statistical models"), and adding new ones, such as "Introduction to Statistics" in the second semester of the first year and "Statistical laboratory" in the semester before the last one. Specific basic disciplines in Stochastics such as "Random processes", "Introduction to Actuarial science" are included in the curriculum with changed status from optional to mandatory.

Finally, we show some quantitative comparative data for students of BSci "Statistics" in comparison with the numbers of students of BSci "Mathematics" and "Applied Mathematics" up to 2012/13 academic year.

Figure 3. BSci degree Education filed 4.5 Mathematics at FMI for the years 2007 — 2013 (end of the first academic year)
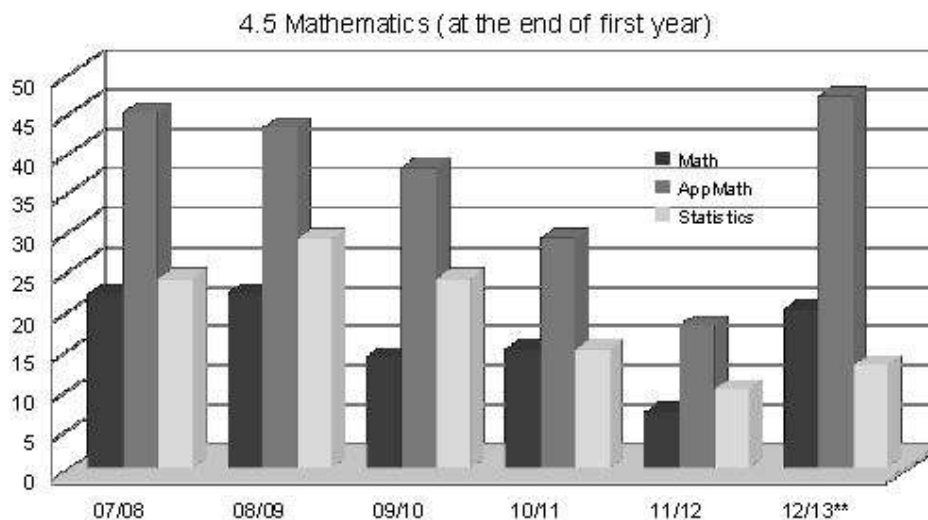
Enrollment of the students by years is presented on Figure 3, where the distribution by years of enrolled and graduated students is given. Altogether, we enrolled 141 students and 31 of them graduated successfully, which represents 22% of the enrolled ones. All graduates are employed in their speciality and some continued their education in MSci programs in the Faculty, in other universities in Bulgaria, or abroad.

Those who choose an academic career have to demonstrate their abilities by defending a PhD Thesis. For the last five years in the Faculty there were 42 PhD students in total trained in the field "4.5 Mathematics", eight of them have chosen Stochastics (Probability and Statistics). One of those eight successfully defended a PhD Thesis, two have completed the course with a right of defence, and the others are working on their regular plans. They have published 18 research reports, participated in seven scientific forums abroad and in eleven in our country. They present their results at the annual Spring Scientific Sessions of the FMI, the European Meetings of Young Statisticians, International Conference on Probability Theory and Mathematical Statistics and the accompanying events such as seminars on Statistical Data Analysis and Branching Processes and Applications, National Seminar on Education in Stochastics and other scientific forums. Particularly strong is the participation of the PhD students – "stochasticians" in scientific schools and doctoral conferences organized within the project "Formation of a new generation of researchers in the field of Mathematics, Informatics and Computer science by supporting the creative and innovative potential of PhD students, and young post–doctorate students and researchers in FMI at SU", financed by the European Union funds.

6.4. NATIONAL SEMINAR ON PROBLEMS IN EDUCATION OF STOCHASTICS (NSPES)

In this period the work of the NSPES was renewed. The first four editions were conducted successively in 2007, 2009, 2011 and 2013 years.

The activities within NSPES will be mentioned separately below.

The first NSPES was organized in 2007. We have gathered 25 participants from across the country — Sofia University, Plovdiv University, Shoumen University, Southwestern University – Blagoevgad, Technical University – Varna , IMI – BAS, as well as participants from Macedonia and the U.S.A., and representatives of the publishing business. The seminar was dedicated to the 60-th anniversary of the Department of Mathematical Statistics at Sofia University "St. Kliment Ohridski" and 45 years of the first alumni of specialty "Mathematical Statistics".

The second NSPES was held in 2009 and is remarkable with the strong presence of students – six people from MSci program "Probability and Statistics", who shared their modest experience "on both sides of the bench" — as students–graduates and students–demonstrators. There were representatives from IMI – BAS, New Bulgarian University and foreign participants from Macedonia and the U.S.A. The focus of this seminar was on teaching probability and statistics at FMI. With the opening of new undergraduate programs at the FMI - "Computer science", "Information Systems", "Software engineering" and "Statistics" the need to include the more talented students in the Masters program of the education process extremely increased.

The third edition of NSPES, held in 2011, proved that the seminar has established itself as an useful event for discussions on mutual problems not only at national level but also internationally. The third NSPES was attended by four students from Masters program "Probability and Statistics" of FMI at SU. The participation of scientists and professors from abroad, specialists in Probability theory and Mathematical statistics, with positions in prestigious universities, is a vivid testimonial to its attractiveness and significance. It is important to note that the theme of the seminar is particularly timely and is one of the priorities for development of scientific research at Sofia University. In this format, the seminar is essential for maintaining of high level of teaching in the disciplines in the field of Stochastics, updated with accordance to the international standards and tendencies of development in recent years.

The fourth NSPES, held in 2013, was dedicated to the International Year of Statistics. Among the participants were again one student from Masters program and three PhD students and young scientists as well.

Information about the seminar and announcements of upcoming meetings is published on the Internet-site `probablystatistics.net`. More information is available at `http://probablystatistics.net`.

7. CONCLUSION

Last but not least we would like to mention that this paper is also dedicated to the 125$^{\text{th}}$ anniversary of the FMI at SU, celebrated in 2014.

Tracing back the development of research and education in Stochastics, we may conclude that currently the FMI at SU is an established center for training of specialists in the field of Stochastics.

Near–field programs in Econometrics in higher education institutions for Economics and Business Administration and a Master's Program in Applied Statistics at New Bulgarian University are opened. Unfortunately, the resources of professionals in this field and the total load in the Faculties of Mathematics and Informatics at Plovdiv and Shoumen universities, and the Faculty of Applied mathematics and informatics at the Technical University –Sofia does not allow opening of a separate specialty.

We have been in the "Age of Stochasticity" already for fourteen years and the perspicacious business predicts that "Statistician" will be an appeal–able profession ("the sexy job") in the coming years, as claimed by Hal Varian chief economist at Google[8]:

> "I keep saying the sexy job in the next ten years will be statisticians. People think I'm joking, but who would've guessed that computer engineers would've been the sexy job of the 1990s?"

[8]An interview of Hal Varian in McKinsey Quarterly, January 2009 `.flowingdata.com/2009/02/25/googles-chief-economist-hal-varian-on-statistics-and-data`

The stochastic knowledge is a must for the modern citizen — it is a prerequisite for his informed choice. An argument supporting this statement is the positive correlation between the economic prosperity of the state and the degree of presence of Stochastic in all stages of education.

The godfathers of the discipline "Information technology" [9] define it back in 1958 as the sum of three categories:

- processing techniques,

- application of statistical and mathematical methods in decision making and

- simulation of mental activity of a higher type using computer programs.

Ahead of their time, they were under a lot of criticism, even now, in the modern definitions, the second category is neglected. Despite that, we can see an increasingly closer integration of Mathematics and Statistics on one hand and the power of computer equipment on the other, and Stochastics is taking an increasingly important place.

We strongly believe that the training of qualified specialists in the field of Stochastics, related to the scientific research and applications as well as the increase of statistical literacy of the society, is a prerequisite for its prosperity. This is a task that can be solved only by the joint efforts of the entire Mathematical guild.

In this work we tried to present a historical overview of the development of scientific and educational activities of Stochastics within the Sofia University and partially within the Bulgarian Academy of Sciences. We must confess that many important details have been left without the attention they deserve, and in many areas we remain in debt, which we hope to fix with the kind help of the reader.

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