

Research article

# Academic Status of Full Professors in the Faculty of Science and Technology at the Tel-Hai Academic College and the MIGAL – Galilee Research Institute Compared to the Academic Status of Full Professors in the Same Field in Research Universities in Israel

Gad Degani <sup>1,2</sup>

<sup>1</sup> Faculty of Science and Technology, Tel Hai Academic College, Tel-Hai, Israel

<sup>2</sup> MIGAL – Galilee Research Institute, Kiryat Shmona, Israel

E-mail: [gad@MIGAL.org.il](mailto:gad@MIGAL.org.il)



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## Abstract

This study compared the academic status of scientists based on publications they made during their academic career in the Faculty of Science, Environment and Community at the Tel-Hai Academic College and the MIGAL – Galilee Research Institute to the status of full professors in the same field in Israeli research universities. The comparison was made on October 9, 2014 based on data collected from ResearchGate (RG) and Google Scholar (GS). No significant differences were found regarding the academic status of full professors at Tel-Hai who had a laboratory at MIGAL – Galilee Research Institute compared to that of full professors working in research universities in Israel. However, significant differences were found in various fields, such as organic chemistry, medicine and biochemistry, animal science and the environment. The results of the present study support the hypothesis that during the years 1985-2010 when the academic administration at both Tel-Hai and MIGAL worked in very close cooperation, and the academic director of MIGAL was a faculty member at Tel-Hai, scientists at Tel-Hai reached the highest level of full professor, similar to their colleagues in other Israeli research universities.

**Keywords:** academic status, publications, Tel-Hai Academic College, MIGAL - Galilee Research Institute,

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## Introduction

To evaluate scientific work is a very difficult task since there are many different ways of doing so. One of the most important ways is to develop standards that could guide the documentation and evaluation of faculty scholarship based on publications (1). In present day, a reservoir of knowledge is available, including a researcher's CV and list of publications, as well as journal publications on the network, so it is much easier to compare fields of science and evaluate scientific work. Academic evaluation can be controversial, and many aspects and purposes are involved. This report proposes the development of a professional profile that would include a statement of responsibilities, a biographical sketch, and documented samples of the scholar's work as part of the evaluation process (1). However, for the Faculty of Science and Technology at Tel-Hai and MIGAL, it is very important to know if the evaluation made by the world of science is on the same level in other academic institutes or universities in Israel. Many different ways were found of evaluating faculty members, one of the most important of which is academic evaluation. The percentage of high academic achievements, or the number and quality of publications, is becoming increasingly more important. In the past 10 years, dramatic academic developments have taken place in northern Israel, and all of them are in competition for public budget allocations. The quality of academic members at MIGAL (3) and Tel-Hai (2) has become the most important value. Moreover, at times it also essential to know how senior academic scientists are represented on the Internet since this information is available to everybody.

The aims of this paper are: to evaluate full professors – scientists who have worked during their entire academic career at Tel-Hai – based on information found on the Internet that is open to everyone in order to examine if the system of evaluating the highest degree at Tel-Hai and MIGAL allows the scientist to reach the level of full professor; to compare professors at Tel-Hai with professors in other Israeli research universities; to examine if the academic status at Tel-Hai and MIGAL during the years 1985-2010 enabled scientists to reach the same levels of academic status as their colleagues in other Israeli universities. In order to prevent Tel-Hai personnel from influencing this study, data were collected only from results found in a search carried out on ResearchGate (RG) (4) and Google Scholar (GS) (5).

The following hypotheses were examined in the present study:

1. Teaching at Tel-Hai and carrying out research at MIGAL give full professors the opportunity to achieve a high degree of academic status, the same level as their colleagues in other research universities in Israel.
2. Scientists at Tel-Hai who have a research laboratory at MIGAL have the same productivity as faculty members in universities in Israel in the same field of study.
3. There are different academic scientific degrees of evaluating different areas of study at Tel-Hai and MIGAL (medicine, biotechnology, zoology and nutrition) according to various websites (RG and GS).
4. The situation in 2014 of the academic status of professors in the Faculty of Science and Technology at Tel-Hai might reflect the academic administration during the years 1985-2010 when the academic director of MIGAL was a faculty member at Tel-Hai.

## Methods

This study used various Internet sites that were easy to follow. The Internet system was examined in October 2014. The different sites examined were: (1) <http://www.MIGAL.org.il/Microbiology>, Tel-Hai college (2); <https://www.researchgate.net/home.Home.html?ref=logo> (3); <http://scholar.google.com/>; and citations (4). The comparison between MIGAL and Tel-Hai was made in the same area and for the same degree and same period of activity. Only full professors from MIGAL, Tel-Hai and academic research universities in Israel were examined. The professors from MIGAL and Tel-Hai completed their studies there and were appointed as full professors between the years 1985-2010, when the academic administration at MIGAL was carried out by a professor from Tel-Hai. The significance of the differences between group means of the number of publications, citations and impact factors was determined by a one-way analysis of variance (ANOVA), followed by a posteriori T-test using SPSS 17.0 software. Differences were considered statistically significant at  $P < 0.05$ .

## Results

The evaluation of full professors in the areas of animal science (Table 1), the environment (Table 2), and organic chemistry, medicine and biochemistry (Table 3) made by ResearchGate (RG) and Google Scholar (GS) (Tables 4, 5 and 6) show that differences exist between the average of all parameters (number of publications and citations) in the different fields of study.

**Table 1.** Comparison between professors in the area of animal science according to ResearchGate (October 9, 2014).

Name	University	Fields of Study	No. of Publications	Citations	RG Score	RG Impact factor
YW	Hebrew University of Jerusalem	Zoology, Herpetology, Ecology and Behavior	81	398	30.29	98.51
AH	University of Haifa	Zoology, Physiology	75	707	33.22	164.38
ZA	Technion - Israel Institute of Technology	Zoology, Physiology	95	764	34.17	170.86
AB	Ben Gurion University of the Negev	Zoology, Ecology	49	627	27.33	82.3
RA	Bar Ilan University	Aquaculture, Genetic, Zoology, Immunology	82	749	33.7	170.77
MS	Ben Gurion University of the Negev	Zoology, Ecology	13	440	17.4	46.03

ZY	Tel Aviv University	Zoology, Endocrinology, Aquaculture	65	1272	31.86	138.58
GD	Tel-Hai MIGAL	Zoology, Endocrinology, Aquaculture and Ecology	301	981	36.69	190.27

<b>Average</b>			95.1	742.2	30.6	132.7
<b>SD</b>			45.7	177.1	3.7	38.1

**Table 2.** Comparison between professors in the area of the environment by ResearchGate (October 9, 2014).

Name	University	Fields of Study	No. of Publications	Citations	RG Score	RG Impact factor
GR	Tel-Hai MIGAL	Environmental Science	71	1195	29.96	105.83
ML	Tel-Hai MIGAL	Environmental Science	36	237	23.32	50.36
YC	Hebrew University	Environmental Science	105	1561	32.19	157.11
CD			89			176.63
MG	Tel-Hai MIGAL	Oceanography, Limnology	89	931	32.29	157.13

<b>Average</b>			78	981	29.4	129.4
<b>SD</b>			23.6	559.2	3.7	51.1

Higher parameters were found in the areas of organic chemistry, medicine and biochemistry compared to the areas of animal science and the environment; the difference is significant ( $p < 0.05$ , t-test) only regarding RG indexes (Tables 1, 2 and 3) among professors in the areas of the environment and medicine. No significant differences were found between professors at Tel-Hai/MIGAL and other professors in the same area: some were higher, others were lower.

The Standard Deviation (SD) covered most of the parameters in both RG and Google Scholar (GS). There were significant differences ( $p < 0.05$ , t-test) between RG and GS in all of the parameters (number of publications and citations) that were evaluated. However, comparisons between professors in same area using GS were similar, with only a small variation, as was found in RG. The citations in the areas are higher in medicine and biochemistry compared to those in the area of the environment using GS, and higher in the areas of animal science and the environment or animal science and medicine using RG.

**Table 3.** Comparison between professors in the area of organic chemistry, medicine and biochemistry by ResearchGate (October 9, 2014).

Name	University	Fields of Study	No. of Publications	Citations	RG Score	RG Impact factor
JV	Tel-Hai MIGAL	Organic Chemistry, Medicine	96	2417	36.96	283.91
MA	Technion - Israel Institute of Technology	Medicine	458	13140	47.70	1489.42
DH	Hebrew University of Jerusalem	Immunology Veterinary	64	528	31.02	104.45
HSr	Tel Aviv University	Medicine, Human Genetics	93	918	36.72	339.97
AG	Hebrew University of Jerusalem	Biochemistry	293	4294	45.38	897.67
<b>Average</b>			200.8	4259.4	39.556	623.084
<b>SD</b>			170.27	5180.46	6.85	567.91

**Table 4.** Comparison between professors in the area of animal science by Google Scholar (October 9, 2014).

Name	University	Fields of Study	No. of Publications	Citations
GD	Tel-Hai MIGAL	Plants and Animal Science, Biochemistry Physiology	84	438
ZY	Tel Aviv University	Plants and Animal Science, Biochemistry Endocrinology	30	771
YW	Hebrew University of Jerusalem	Plants and Animal Science, Genetic Geography	56	257
AH	University of Haifa	Plants and Animal Science, Psychology, Biochemistry	82	469
ZA	Technion - Israel Institute of Technology	Plants and Animal Science, Psychology Environment and Biotechnology	43	241
RA	Bar Ilan University	Plants and Animal Science, Immunology,	42	277

		Disease		
MS	Ben Gurion University of the Negev	Ecology , Animal Science, Environment Science	66	1718
<b>Average</b>			57.5	595.8
<b>SD</b>			20.5	528.1

In citations and other parameters, e.g., number of publications, there was a significant difference between evaluations of RG and GS ( $P < 0.05$  using t-test). When comparing between professors in the same fields, it was found that one or two professors from different academic institutions had significantly higher levels than others, and that there was a significant effect on standard deviation from the mean and on the evaluation. Moreover, the effects by RG or GS were not identical, e.g., in the comparison by RG, the highest evaluation in most of the parameters was found for scientists from Tel-Hai in the area of animal science (Table 1), for scientists from the Hebrew University of Jerusalem in the area of the environment (Table 2), and for scientists from the Technion – Israel Institute of Technology in the area of medicine (Table 3). The situation was similar but not identical to that found in RG in the comparison made by GS.

**Table 5.** Comparison between professors in the area of the environment by Google Scholar (October 9, 2014).

Name	University	Fields of Study	No. of Publications	Citations
GR	Tel-Hai MIGAL	Environment Sciences	44	480
ML	Tel-Hai MIGAL	Environment Sciences	37	239
YC	Hebrew University of Jerusalem	Soil Science, Plant and Animal Science, Ecology	69	882
CD	Technion – Israel Institute of Technology	Microbiology, Biotechnology, Geosciences	79	784
MG		Plant and Animal Science, Ecology	40	417
<b>Average</b>			53.8	560.4
<b>SD</b>			18.9	266.3

**Table 6.** Comparison between professors in the area of organic chemistry and medicine by Google Scholar (October 9, 2014).

Name	University	Fields of Study	No. of Publications	Citations
JV	Tel-Hai, MIGAL	Biochemistry, Neuroscience, Molecular Biology	44	818
MA	Technion - Israel Institute of Technology	Biophysics, Nutrition, Biochemistry	288	5800
HS	Tel Aviv University	Genetics & Genealogy, Immunology	23	242
AG	Ben Gurion University of the Negev	Biochemistry, Endocrinology	161	1606
<b>Average</b>			129	2116.5
<b>SD</b>			122.1	2518.5

## Discussion

The present study supports the first two hypotheses that teaching at Tel-Hai and carrying out research at MIGAL is giving full professors the opportunity to achieve a high degree of academic status, and that it may not have a negative effect on the number of publications and academic activity of the scientists at Tel-Hai (2 and 3). Faculty members who have laboratory at MIGAL have a very similar productivity level compared to faculty members from other universities in Israel in the same field of study.

According to the present study, the results support the academic system that had been in operation during the years 1985-2010 (unpublished data) when the academic director of MIGAL was a faculty member in the Faculty of Science and Technology at Tel-Hai Academic College. All the full professors examined have a similar value of number of publications compared to their colleagues in other research universities; the difference was not significant (ANOVA,  $P > 0.05$ ). When comparing the results to the new system currently in operation at Tel-Hai and MIGAL involving a different academic administration, we found that this difference might change. However, it has only been a short period of time (four years) since the academic administration has changed (the academic director of MIGAL is not a faculty member at Tel-Hai), and this might effect the second generation (young scientists at MIGAL or Tel-Hai). Gasses et al. (1997) (1) developed standards that could guide the documentation and evaluation of faculty scholarship. However, to use this guide, specific information of the faculty members of the university or institute is required. This information is not available on the Internet (2 and 3). In the present study, data are collected only from the Internet, representing information that is available to everyone. This information is very important for scientists all over the world who will be able to evaluate both Tel-Hai and MIGAL. The report proposes the development by Glasses et al. 1997 (1) of a professional profile to

include a statement of responsibilities, a biographical sketch, and documented samples of a scholar's work as part of the evaluation process.

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