



Compugen Ltd.
NOTICE OF ANNUAL GENERAL MEETING OF SHAREHOLDERS
To be held on Wednesday, September 24, 2008

Notice is hereby given that the Annual General Meeting (the “**Meeting**”) of the shareholders of Compugen Ltd. (the “**Company**”), an Israeli company, will be held at the Company’s offices at 72 Pinchas Rosen Street, Tel Aviv, Israel, on Wednesday, September 24, 2008 at 10:00 AM (Israel time) for the following purposes:

1. To elect Prof. Ruth Arnon, Mr. Martin Gerstel and Mr. Alex Kotzer as members of the Board of Directors of the Company.
2. To approve the issuance of shares and options as well as a change in a provision of the employment agreement of our Chief Executive Officer and director, Mr. Alex Kotzer.
3. To appoint Kost, Forer, Gabbay & Kasierer (a member of Ernst and Young Global) as the independent auditors of the Company for the 2008 fiscal year and to authorize the audit committee to determine their remuneration.
4. To transact such other business as may properly come before the Meeting.

Shareholders of record at the close of business on August 15, 2008, are entitled to notice of, and to vote at the Meeting. All shareholders are cordially invited to attend the Meeting in person.

Shareholders who do not expect to attend the Meeting in person are requested to mark, date, sign and mail the enclosed proxy as promptly as possible in the enclosed stamped envelope. Beneficial owners who hold their shares through members of the Tel Aviv Stock Exchange (“**TASE**”) may either vote their shares in person at the Meeting by presenting a certificate signed by a member of the TASE which complies with the Israel Companies Regulations (Proof of Ownership for Voting in General Meetings)-2000 as proof of ownership of the shares, or send such certificate along with a duly executed proxy to the Company at 72 Pinchas Rosen Street, Tel Aviv 69512, Israel, Attention: General Counsel.

Compugen urges all of its shareholders to review our Annual Report on Form 20-F which is available on our website at www.cgen.com. However, if you wish to be mailed a copy of our Annual Report on Form 20-F, please send us a request through our website or call Investor Relations at +972-3-765-8585.

We thank you for your cooperation.

By Order of the Board of Directors,

Martin Gerstel
Chairman of the Board
Tel Aviv, Israel
August 15, 2008

PROXY STATEMENT

COMPUGEN LTD.

72 Pinchas Rosen Street
Tel Aviv 69512, Israel

ANNUAL GENERAL MEETING OF SHAREHOLDERS

To Be Held on September 24, 2008

The enclosed proxy is being solicited by the board of directors (the “**Board of Directors**”) of Compugen Ltd. (the “**Company**” or “**Compugen**”) for use at the 2008 Annual General Meeting of Shareholders (the “**Meeting**”) to be held on September 24, 2008, or at any postponement or adjournment thereof. The record date for determining shareholders entitled to notice of and to vote at the Meeting is established as of the close of business on August 15, 2008.

As of August 15, 2008, we had 28,482,440 ordinary shares outstanding, each of nominal value New Israeli Shekels (“**NIS**”) 0.01 (the “**Ordinary Shares**”).

We expect to solicit proxies by mail and to mail this proxy statement and the accompanying proxy card to shareholders on or about August 20, 2008. We will bear the cost of the preparation and mailing of these proxy materials and the solicitation of proxies. We will, upon request, reimburse banks, brokerage houses, other institutions, nominees, and fiduciaries for their reasonable expenses in forwarding solicitation materials to beneficial owners.

Upon the receipt of a properly executed proxy in the form enclosed, the persons named as proxies therein will vote the Ordinary Shares covered thereby in accordance with the instructions of the shareholder executing the proxy. With respect to the proposals set forth in the accompanying Notice of Meeting, a shareholder may vote in favor of or against any of the proposals or may abstain from voting on any of the proposals. Shareholders should specify their choices on the accompanying proxy card. If no specific instructions are given with respect to the matters to be acted upon, the shares represented by a signed proxy will be voted FOR the proposals set forth in the accompanying Notice of Meeting. We are not currently aware of any other matters to be presented at the Meeting.

Any shareholder returning the accompanying proxy may revoke such proxy at any time prior to its exercise by: (i) giving written notice to us of such revocation at least twenty-four (24) hours before the commencement of the Meeting or adjourned Meeting; (ii) voting in person at the Meeting or requesting the return of the proxy at the Meeting; or (iii) executing and delivering to us a later-dated proxy. Written revocations and later-dated proxies should be sent to the Company at 72 Pinchas Rosen Street, Tel Aviv 69512, Israel, Attention: General Counsel. Each form of proxy which is properly executed and returned to the Company prior to the Meeting will be voted in the manner instructed by the shareholder executing it or, if no instructions are given, will be voted in favor of all of the matters to be presented at the Meeting, as described herein. In addition, the shares will be voted with respect to any other proposals in accordance with the recommendations of the Board of Directors. Subject to the provisions of the Company’s Articles of Association, all proxies must be received by the Company’s transfer agent or at the Company’s mailing address listed above at least 24 hours prior to the Meeting to be validly included in the tally of Shares voted at the Meeting.

Each Ordinary Share is entitled to one vote on each matter to be voted on at the Meeting.

Subject to the terms of applicable law, two or more shareholders present, personally or by proxy, who hold or represent together at least 33.33% of the voting rights of our issued share capital will constitute a quorum for the Meeting. If within half an hour from the time scheduled for the Meeting a quorum is not present, the Meeting shall stand adjourned for one week, to October 1, 2008, at the same hour and place, without it being necessary to notify the shareholders. If a quorum is not present at the adjourned date of the Meeting within half an hour of the time scheduled for the commencement thereof, subject to the terms of applicable law, the persons present shall constitute a quorum.

Each of Proposals 1, 2 and 3 to be presented at the Meeting requires the affirmative vote of shareholders present in person or by proxy and holding Ordinary Shares amounting in the aggregate to at least a majority of the votes actually cast with respect to each such proposal.

PRINCIPAL SHAREHOLDERS

The following table and notes thereto sets forth certain information, as of August 15, 2008 regarding beneficial ownership (as defined in Rule 13d-3 under the Securities Exchange Act of 1934, as amended), of our Ordinary Shares by each person who is known by us to own beneficially more than 5% of our outstanding Ordinary Shares. The voting rights of our major shareholders do not differ from the voting rights of other holders of our Ordinary Shares. On such date, 28,482,440 Ordinary Shares were issued and outstanding. The voting rights of our major shareholders do not differ from the voting rights of other holders of our Ordinary Shares.

Beneficial Owner	Number of Ordinary Shares Beneficially Owned	Percent of Ownership
AXA Assurances I.A.R.D. Mutuelle (1)	4,484,917	15.75%
Clal Industries & Investments Ltd. (2)	2,952,274	10.36%
Martin Gerstel (3)	1,702,568	5.98%

(1) This disclosure is based on information disclosed by AXA Assurances I.A.R.D. Mutuelle on Form 13G, filed with the SEC on February 14, 2008.

(2) Includes 10,526 shares held by Clal Industries & Investments Ltd. and 2,941,748 shares held by Clal Biotechnology Industries Ltd. Clal Biotechnology Industries Ltd and Clal Industries & Investments Ltd's address is 3 Azrieli Center, Tel Aviv 67023, Israel. This disclosure is based on information disclosed by Clal Industries and Investments Ltd. on Form 13D, filed with the SEC on July 31, 2008 as well as information provided to us by the Legal Department of Clal Industries & Investments Ltd. on August 5, 2008.

(3) Includes 550,000 shares held by Shomar Corporation, an affiliate of Mr. Martin S. Gerstel, 618,333 shares held by Merrill Lynch IRA for Martin Gerstel, of which Martin Gerstel is the beneficiary and 534,235 shares held in various brokerage accounts for the benefit of Martin Gerstel. This disclosure is based on information disclosed by Mr. Martin Gerstel on Form 13-G, filed with the SEC on May 7, 2007 as well as information provided directly to the Company.

As of August 15, 2008, there were a total of 88 holders of record of our ordinary shares, of which 57 were registered with addresses in the United States. Such United States holders were, as of such date, the holders of record of approximately 89% of the outstanding ordinary shares.

MATTERS RELATING TO THE 2008 ANNUAL GENERAL MEETING

At the Meeting, the shareholders will be asked to vote on the following proposals:

PROPOSAL NO. 1

ELECTION OF DIRECTORS

Our Board of Directors is comprised of six (6) members, three (3) of whom were elected to be external directors and serve for a fixed term of three (3) years pursuant to the Israeli Companies Law – 1999 (the “**Companies Law**”), which fixed term shall end on the annual meeting to be held on 2010. Three members of our Board of Directors were elected at the Annual General Meeting of Shareholders held on July 31, 2007 and are hereby being proposed for re-election.

Each of the nominees has consented to being named in this Proxy Statement and the Company is not aware of any reason why such person will not serve as a director. Information on each nominee for director is set forth below. The information is based upon the records of the Company and information provided by each nominee. If at the time of the Meeting, however, any of the below-named nominees should be unable or decline to serve as a director, the persons named as proxies herein will vote for such substitute nominee or nominees as the Board of Directors recommends, or will vote to allow the vacancy created thereby to remain open until filled by the Board of Directors.

Set forth below are the names of, and certain other information concerning, the nominees for election as directors at the Meeting:

Name	Age	Position with the Company	Served as Director Since
Prof. Ruth Arnon	74	Director	May 2007
Martin S. Gerstel	67	Director and Chairman of the Board	August 1997
Alex Kotzer	62	Director and Chief Executive Officer	September 2005

Prof. Ruth Arnon, age 74, formerly Vice-President of the Weizmann Institute of Science (1988-1997), is a noted immunologist, having joined the Institute in 1960. She served as Head of the Department of Chemical Immunology, Dean of the Faculty of Biology and Director of the Institute's MacArthur Center for Molecular Biology of Tropical Diseases. Prof. Arnon has made significant contributions to the fields of vaccine development, cancer research and to the study of parasitic diseases. Along with Prof. Michael Sela, she developed Copaxone® a drug for the treatment of multiple sclerosis which is presently marketed worldwide. Prof. Arnon is a member of the Israel Academy of Sciences and presently serves as its Vice President. She is an elected member of the European Molecular Biology Organization, served as President of the European Federation of Immunological Societies and as Secretary-General of the International Union of Immunological Societies. Her awards include the Robert Koch Prize in Medical Sciences, Spain's Jiminez Diaz Memorial Prize, France's Legion of Honor, the Hadassah World Organization's Women of Distinction Award, the Wolf Prize for Medicine, the Rothschild Prize for Biology, the Israel Prize and she received an Honorary Doctorate from Ben-Gurion University. Prof. Arnon is the Advisor for Science to the President of Israel and the incumbent of the Paul Ehrlich Chair in Immunochemistry.

Martin S. Gerstel, age 67, has served as our chairman since August 1997. Prior to 1994, Mr. Gerstel was co-chairman and CEO of ALZA Corporation, which he helped found in 1968. Mr. Gerstel is also the Chairman of Evogene Ltd. and Keddem Bioscience Ltd., co-founder and co-chairman of Itamar Medical, and serves as a director of Yissum Ltd., Yeda Ltd. and the US Foundation for the National Medals of Science and Technology. He is a member of the Board of Governors and the Executive Committee of the Weizmann Institute of Science and the Board of Governors of The Hebrew University of Jerusalem, and is an advisor to the Burrill Life Science Funds and the board of the Israel-US Bi-national Industrial Research and Development (BIRD) Foundation. Mr. Gerstel holds a B.S. from Yale University and an MBA from Stanford University.

Alex Kotzer, age 62, joined Compugen in September 2005 as President and Chief Executive Officer, and as a director. Mr. Kotzer brings with him over thirty years of senior managerial experience in various industries. Prior to joining Compugen, he served for twelve years at Serono (now Merck Serono, part of Merck KGaA), a global biotechnology leader, headquartered in Switzerland. During his tenure at Serono, Mr. Kotzer held several senior positions, most recently as Vice President of Biotechnology Manufacturing. Previously, Mr. Kotzer was President and Chief Executive Officer of InterPharm, Serono's Israeli affiliate. Before joining Serono, he held a variety of managerial positions in the food and chemical industries. Mr. Kotzer received his B.Sc. in Chemical Engineering from the Technion, Israel Institute of Technology, of Haifa, Israel.

The Board of Directors will present the following resolution at the Meeting:

“RESOLVED that Prof. Ruth Arnon, Mr. Martin Gerstel and Mr. Alex Kotzer are hereby elected to serve as members of the Board of Directors of the Company until the next annual meeting of shareholders or until their respective successors are duly elected and qualified.”

The election of all director nominees requires the affirmative vote of shareholders present in person or by proxy and holding Ordinary Shares amounting in the aggregate to at least a majority of the votes actually cast with respect to such proposal.

The Board of Directors recommends that the shareholders vote “FOR” the election of each of Prof. Ruth Arnon, Mr. Martin Gerstel and Mr. Alex Kotzer as directors of the Company.

PROPOSAL NO. 2

APPROVAL OF ISSUANCE OF SHARES AND OPTIONS AS WELL AS A CHANGE TO A SECTION OF THE EMPLOYMENT AGREEMENT OF OUR CHIEF EXECUTIVE OFFICER AND DIRECTOR

Under Israeli law, the terms of service of the members of the Board of Directors of the Company (in any capacity that they have in the Company) require the approval of the Audit Committee, Board of Directors and shareholders of the Company, in such order. In exchange for services to be rendered by Mr. Alex Kotzer as the Company's Chief Executive Officer, each of the Audit Committee and the Board of Directors of the Company has approved certain modifications to his compensation package, as set forth below.

For calendar year 2007, Mr. Kotzer requested that if any bonus is awarded to him, such bonus be provided to him in the form of Ordinary Shares plus cash in an amount equal to the amount required to cover the resulting taxes to be paid on such bonus.

Accordingly, on May 13, 2008, in appreciation for his efforts and achievements and in recognition of the significant progress of the Company, the Audit Committee and the Board of Directors of the Company approved, subject to the approval of the shareholders of the Company, that 15,000 Ordinary Shares be issued to Mr. Kotzer (the "Bonus Shares") and that Mr. Kotzer be paid a cash bonus, grossed up to cover the taxes payable by Mr. Kotzer as a result of issuing to him the Bonus Shares.

On October 22, 2007, the Audit Committee and the Board of Directors of the Company approved the grant to Mr. Kotzer, subject to the approval of the Company's shareholders, 150,000 options to purchase 150,000 Ordinary Shares under the Company's 2000 Option Plan (the "Options"). If approved, each such Option shall be exercisable for one Ordinary Share at an exercise price equal to the last closing price on NASDAQ known on the date of the Meeting. The Options shall vest on a monthly basis over a period of 4 years starting from October 22, 2007.

Mr. Kotzer's existing employment agreement contains a severance provision granting him a one-time payment equal to fifty percent (50%) of his annual salary in the event of termination under certain circumstances. On July 28, 2008, the Audit Committee and the Board of Directors of the Company approved, subject to the approval of the Company's shareholders, a broadening of the circumstances under which this provision would apply to include resignation or termination after December 31, 2008 or after the consummation of a financial or strategic transaction by the Company.

The Board of Directors will present the following resolution at the Meeting:

"RESOLVED that following the approval and recommendation by the Audit Committee and the Board of Directors of the Company, the Company's Chief Executive Officer and director shall be issued options and Company shares and the Company shall amend his employment agreement, all as set forth in Proposal 2 of the Proxy Statement of the Company dated August 15, 2008".

The affirmative vote of the holders of a majority of the voting power of the Company represented at the Meeting in person or by proxy and voting thereon is necessary for approval of this proposal.

The Board of Directors recommends that the shareholders vote "FOR" the approval of the compensation for the Company's Chief Executive Officer and director.

PROPOSAL NO. 3

TO APPOINT KOST, FORER, GABBAY & KASIERER (A MEMBER OF ERNST AND YOUNG GLOBAL) AS THE INDEPENDENT AUDITORS OF THE COMPANY FOR THE 2008 FISCAL YEAR AND TO AUTHORIZE THE AUDIT COMMITTEE TO DETERMINE THEIR REMUNERATION

The audit committee of our Board of Directors has selected Kost Forer Gabbay & Kasierer, a member of Ernst & Young Global, as our independent registered public accounting firm to perform the audit of our consolidated financial statements for the fiscal year ending December 31, 2008.

Shareholder approval of the appointment of Kost Forer Gabbay & Kasierer as our independent registered public accounting firm for the fiscal year ending December 31, 2008 is required under the Companies Law. The Audit Committee of our Board of Directors believe that such appointment is appropriate and in the best interests of the company and its shareholders. Subject to the approval of this proposal, the Audit Committee will fix the remuneration of Kost Forer Gabbay & Kasierer in accordance with the volume and nature of their services to the Company.

The Board of Directors and the Audit Committee will present the following ordinary resolution at the Meeting:

“RESOLVED, that Kost Forer Gabbay & Kasierer be appointed as the Company’s independent registered public accounting firm for the fiscal year ending December 31, 2008, and that the Company’s Audit Committee shall be authorized to determine their remuneration in accordance with the volume and nature of their services.”

The affirmative vote of the holders of a majority of the voting power of the Company represented at the Meeting in person or by proxy and voting thereon is necessary for approval of this proposal.

The Board of Directors recommends that the shareholders vote “FOR” the approval of the appointment of Kost Forer Gabbay & Kasierer as our independent registered public accounting firm for the fiscal year ending December 31, 2008, and the authorization of our audit committee to determine their remuneration in accordance with the volume and nature of their services.

OTHER BUSINESS

Management of the Company knows of no other business to be transacted at the Meeting; but, if any other matters are properly presented to the Meeting, the persons named in the enclosed form of proxy will vote upon such matters in accordance with their best judgment.

By Order of the Board of Directors,



Martin Gerstel
Chairman of the Board
Tel Aviv, Israel
August 15, 2008