

ADVANCED POLYMER SYSTEMS, INC.

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD MAY 9, 2001

To the Stockholders of Advanced Polymer Systems, Inc.:

The Annual Meeting of Stockholders of Advanced Polymer Systems, Inc. (the "Company") will be held at the Garden Court Hotel, 520 Cowper Street, Palo Alto, California, on May 9, 2001, at 10:00 a.m. local time, for the following purposes:

1. To elect seven directors to hold office until the next annual meeting of stockholders and until their successors are elected.
2. To approve an amendment to Advanced Polymer System's Certificate of Incorporation to change the name of Advanced Polymer Systems, Inc. to AP Pharma, Inc.
3. To transact such other business as properly may come before the meeting, or any adjournments or postponements of the meeting.

Only stockholders of record at the close of business on March 14, 2001, are entitled to notice of, and to vote at, the meeting and any adjournments or postponements of the meeting. A list of such stockholders will be open to examination by any stockholders at the Annual Meeting and for a period of ten days prior to the Annual Meeting during ordinary business hours at the offices of the Company located at 123 Saginaw Drive, Redwood City, California 94063.

BY ORDER OF THE BOARD OF DIRECTORS,

Julian N. Stern, Secretary

Redwood City, California
April 6, 2001

- IMPORTANT -

WHETHER OR NOT YOU EXPECT TO ATTEND THE MEETING IN PERSON,
PLEASE COMPLETE, SIGN, DATE AND RETURN THE ENCLOSED PROXY
CARD AS SOON AS POSSIBLE IN THE ENCLOSED POSTPAID ENVELOPE.
THANK YOU FOR ACTING PROMPTLY.

ADVANCED POLYMER SYSTEMS, INC.
123 Saginaw Drive
Redwood City, California 94063
(650) 366-2626

PROXY STATEMENT

The enclosed proxy is solicited on behalf of the Board of Directors (the "Board") of Advanced Polymer Systems, Inc. ("APS" or the "Company"), a Delaware corporation. The proxy is solicited for use at the Annual Meeting of Stockholders (the "Annual Meeting") to be held at 10:00 a.m. local time on May 9, 2001, at the Garden Court Hotel, 520 Cowper Street, Palo Alto, California. The approximate date on which this proxy statement and the accompanying notice and proxy are first being mailed to stockholders is April 6, 2001.

VOTING

Only stockholders of record at the close of business on March 14, 2001, are entitled to notice of, and to vote at, the Annual Meeting and any adjournments or postponements thereof. At the close of business on that date, the Company had outstanding 20,247,993 shares of its Common Stock, \$.01 par value (the "Common Stock"). Holders of a majority of the outstanding shares of Common Stock of the Company, either present in person or by proxy, will constitute a quorum for the transaction of business at the Annual Meeting.

Holders of Common Stock are entitled to one vote for each share of Common Stock held. In the election of directors, the seven nominees receiving the highest number of affirmative votes of the shares present and voting at the Annual Meeting at which a quorum is present will be elected directors. Approval of the amendment to APS' Certificate of Incorporation to change the Company's name to AP Pharma, Inc. requires the affirmative vote of a majority of the holders of outstanding shares of the Company's Common Stock as of the record date.

Abstentions are included in the determination of whether a quorum is present at the meeting and are counted in tabulations of the votes cast on proposals

presented to stockholders and have the same effect as negative votes. Proxies marked to withhold authority for all directors will not be counted in the election of directors. If a broker indicates on a proxy that it does not have discretionary authority as to certain shares to vote on a particular matter (a broker non-vote), while those shares will be included in the determination of whether a quorum is present, broker non-votes will have no effect on the election of directors, but will have the effect of a vote against proposal number two to change the Company's name.

REVOCABILITY OF PROXIES

Proxies which are properly executed and received by the Company before the Annual Meeting will be voted at the Annual Meeting. Any stockholder giving a proxy has the power to revoke the proxy at any time prior to its exercise. A proxy can be revoked by an instrument of revocation delivered prior to the Annual Meeting to the Secretary of the Company, by a duly executed proxy bearing a later date or time than the date or time of the proxy being revoked, or at the Annual Meeting if the stockholder is present and elects to vote in person. Mere attendance at the Annual Meeting will not serve to revoke a proxy.

SOLICITATION OF PROXIES

Solicitation of proxies may be made by directors, officers and other employees of the Company by personal interview, telephone, telegraph, telefax or electronic communications. No additional compensation will be paid for any such services. Costs of solicitation will be borne by the Company. APS will, upon request, reimburse the reasonable fees and expenses of banks, brokerage houses or other nominees or fiduciaries for forwarding proxy materials to, and obtaining authority to execute proxies from, beneficial owners for whose accounts they hold shares of Common Stock.

PROPOSAL ONE--ELECTION OF DIRECTORS

COMMON STOCK OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth beneficial Common Stock ownership as of March 14, 2001, by (i) each person who is known by the Company to own beneficially more than 5% of the outstanding shares of Common Stock, (ii) each director, including nominees, and each executive officer named in the Summary Compensation Table included in the Proxy Statement, and (iii) all executive officers and directors as a group. Each person has sole investment and voting power with respect to the shares indicated, subject to community property laws where applicable and except as otherwise set forth in the footnotes to the table.

NAME	NUMBER OF SHARES(1)	PERCENT OF CLASS(1)
John Barr, Ph.D.(2)	45,494	*
Stephen Drury(3)	29,301	*
Paul Goddard, Ph.D.(4)	10,000	*
Michael O'Connell(5)	474,229	2.3
Peter Riepenhausen(6)	114,852	*
Toby Rosenblatt(7)	257,823	1.2
Gordon Sangster(8)	135,358	*
Gregory H. Turnbull(9)	117,708	*
Dennis Winger(10)	93,172	*
John J. Meakem, Jr.(11)	1,119,442	5.3
Carl Ehmann, M.D., F.A.C.P.(12)	83,617	*
Jorge Heller, Ph.D.(13)	95,725	*
Les Riley(14)	261,186	1.3
Subhash Saxena, Ph.D.(15)	186,156	*
Richard Spizzirri(16)	17,307	*
C. Anthony Wainwright(17)	52,852	*
Citigroup, Inc.(18) 388 Greenwich Street New York, NY 10013	4,399,559	21.7
Wellington Management(19) 75 State Street Boston, MA 02109	1,620,300	8.0
Officers and Directors as a group(9 persons) (2)(3)(4)(5)(6)(7)(8)(9)(10)	1,277,937	6.3

* Less than one percent.

- (1) Assumes the exercise of all outstanding options to purchase Common Stock held by such person or group to the extent exercisable on or before May 14, 2001, and that no other person has exercised any outstanding stock options.
- (2) Includes 43,322 shares underlying presently exercisable stock options.
- (3) Includes 12,500 shares underlying presently exercisable stock options.
- (4) Dr. Goddard currently has no exercisable stock options. On his appointment as chairman, he was granted 75,000 stock options of which 25% will vest after one year. The remainder will vest monthly for three years.
- (5) Includes 445,522 shares underlying presently exercisable stock options.
- (6) Includes 21,050 shares held in family trust and 80,000 shares underlying presently exercisable stock options.
- (7) Includes 85,000 shares underlying presently exercisable stock options.
- (8) Includes 131,876 shares underlying presently exercisable stock options.
- (9) Includes 85,000 shares underlying presently exercisable stock options.
- (10) Includes 85,000 shares underlying presently exercisable stock options.
- (11) Includes 830,414 shares underlying presently exercisable stock options. Mr. Meakem left the Company in November 2000.
- (12) Includes 75,000 shares underlying presently exercisable stock options. Dr. Ehmann is not standing for re-election.
- (13) Includes 80,000 shares underlying presently exercisable stock options. Dr. Heller is not standing for re-election.
- (14) Includes 240,000 shares underlying presently exercisable stock options. Mr. Riley left the Company in July 2000.
- (15) Includes 184,250 shares underlying presently exercisable stock options. Dr. Saxena left the Company in July 2000.
- (16) Includes 12,500 shares underlying presently exercisable stock options. Mr. Spizzirri is not standing for re-election.
- (17) Includes 45,000 shares underlying presently exercisable stock options. Mr. Wainwright is not standing for re-election.
- (18) Based solely on information contained in a Schedule 13G dated January 17, 2001, and includes 1,666,600 shares held by SSB Citi Fund Management LLC and 2,732,959 shares held by Salomon Smith Barney, Inc.
- (19) Based solely on information contained in a Schedule 13G dated February 14, 2001.

ELECTION OF DIRECTORS

Seven directors are to be elected to the Board at the Annual Meeting, each to serve for a one year term until the Annual Meeting to be held in 2002, and until his or her successor has been elected and qualified. All the nominees presently are directors of APS with the exception of Michael O'Connell who has served as President and Chief Executive Officer since August 2000. It is intended that proxies received will be voted "FOR" the election of the nominees, unless marked to the contrary.

The Board has no reason to believe that any of the nominees will be unable or unwilling to serve as a director if elected. If any nominee should become unavailable prior to the election, the accompanying proxy will be voted for the election of any nominee who is designated by the present Board of Directors to fill the vacancy.

INFORMATION CONCERNING THE BOARD OF DIRECTORS:

The nominees for Directors of APS and their ages and position with the Company are as follows:

NAME	AGE	POSITION WITH COMPANY	DIRECTOR SINCE
Paul Goddard, Ph.D.	51	Chairman	2000
Stephen A. Drury (1)	63	Director	1999
Michael O'Connell	51	President and Chief Executive Officer	----
Peter Riepenhausen (2)(3)	64	Director	1991
Toby Rosenblatt (1)(2)(3)	62	Director	1983
Gregory H. Turnbull (1)	62	Director	1986

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- (1) Member of the Finance and Audit Committee of the Board.
 - (2) Member of the Compensation and Stock Option Committee of the Board.
 - (3) Member of the Strategic Alternatives Committee

Paul Goddard -- chairman of APS board of directors since November 2000. From 1998 to 2000, Dr. Goddard was president and chief executive officer of Elan Pharmaceuticals. From 1991 to 1998 Dr. Goddard served as chairman and chief executive officer of Neurex. In 1998, Neurex was acquired by Elan. Prior to Neurex, Dr. Goddard held various senior management positions at SmithKline Beecham.

Stephen A. Drury -- director of APS since May 1999. Mr. Drury is currently a healthcare financial advisor and a private investor. Prior to his retirement in 1997, he was executive vice president and a director of Owen Healthcare since 1992 and senior vice president and chief financial officer of Integrated Health Services, Inc. from 1989 until 1992. Prior to that, Mr. Drury served as senior vice president of Thomson McKinnon Securities and managing director of its Healthcare Capital Markets Group from 1985 to 1989.

Michael O'Connell -- chief executive officer and president of APS since August, 2000; president of the Company's Pharmaceutical Sciences division from July 1998; he originally joined APS in July 1992 as vice president and chief financial officer. From 1980 to 1992, Mr. O'Connell served with The Cooper Companies, Inc. (formerly CooperVision, Inc.) in a number of financial positions including vice president and corporate controller.

Peter Riepenhausen -- director of APS since April 1991. Mr. Riepenhausen is currently chairman, Europe of Align Technologies, Inc. and a business consultant. He was president and chief executive officer of ReSound Corporation from 1994 to 1998. He serves as a director of Audimed, Germany and GAP AG, Germany. He also served as a director of Caradon (Europe) plc from April 1994 until September 1998.

Toby Rosenblatt -- director of APS since September 1983. Mr. Rosenblatt is president of The Glen Ellen Company and president of Founders Investments, Ltd. Both companies are involved in private investment activities. Mr. Rosenblatt also serves as a director of State Street Research Mutual Funds and Met Life Metropolitan Series Mutual Funds and is a trustee of numerous civic and educational institutions.

Gregory H. Turnbull -- director of APS since February 1986. Mr. Turnbull is currently a business consultant and a director of Planar Systems, Inc. Previously, he was a general partner of Cable & Howse Ventures, a venture capital organization, of which he is currently a special limited partner.

Dennis Winger -- director of APS since February 1993. Mr. Winger is senior vice president and chief financial officer of Applera Corporation. From 1989 to 1997, Mr. Winger was senior vice president, finance and administration and chief financial officer of Chiron Corporation. He was also a member of Chiron's Strategy Committee.

Messrs. Carl Ehmann, Jorge Heller, Richard Spizzirri and C. Anthony Wainwright decided not to run for re-election. The Company thanks them for their service.

MEETINGS AND COMMITTEES OF THE BOARD

The Board of Directors met eight times during 2000. All directors participated in at least 75% of the total number of meetings of the Board and of the committees of the Board on which each served, except for Mr. Spizzirri.

The Board has a Finance and Audit Committee, a Compensation and Stock Option Committee, a Science Oversight Committee and a Committee on Strategic Alternatives. The Finance and Audit committee, which met five times during the last fiscal year, consisted of Messrs. Drury, Rosenblatt, Turnbull and Winger. The Finance and Audit Committee recommends engagement of the Company's independent auditors and reviews the scope and results of the annual independent audit of the Company's books and records. The Committee is also responsible for reviewing and evaluating the Company's accounting principles and its system of internal accounting controls, and reviewing its plans for providing appropriate financial resources to sustain the Company's operations. The Compensation and Stock Option Committee, which met ten times during the year, consisted of Messrs. Riepenhausen, Rosenblatt and Wainwright. The function of the Compensation and Stock Option Committee is to propose and review the compensation policies of the Company and to administer the

Company's stock option and stock purchase plans. The Science Oversight Committee, which met twice during the year, consisted of Dr. Ehmann and Dr. Heller (neither of whom is standing for re-election). The function of the Science Oversight Committee is to review the Company's research and development activities. Dr. Heller will continue in his capacity as Principal Scientist. The Committee on Strategic Alternatives met once during the year and consisted of Messrs. Riepenhausen, Rosenblatt, Spizzirri and Winger. The function of the Committee on Strategic Alternatives was to review with the Company's outside advisors, management and Board of Directors the progress of the Company's process for evaluating and pursuing strategic alternatives for maximizing stockholder value, including review of any proposed transactions involving the sale of all or any material part of the Company. The committee was disbanded upon the sale of the Company's cosmeceutical and toiletry product lines and certain technology rights for topical pharmaceuticals to R.P. Scherer in July 2000.

COMPENSATION OF DIRECTORS

Under the Company's 1992 Stock Option Plan, each nonemployee director of the Company was automatically granted an option to acquire 10,000 shares of Common Stock annually and received a one-time automatic grant to acquire 25,000 shares when first elected as a director. In addition, nonemployee directors of the Company received \$12,000 per year, \$1,000 for each meeting of the Board of Directors attended and \$500 for each committee meeting attended on a date other than the date of a regularly scheduled Board meeting. Subsequent to July 1, 2000, all compensation was payable in unregistered Common Stock of the Company valued at the closing price of the Company's Common Stock on the last trading date of each quarter. Certain directors of the Company have received consulting fees. See "Certain Transactions."

COMPLIANCE WITH SECTION 16(A) OF THE SECURITIES EXCHANGE ACT

Section 16(a) of the Securities Exchange Act of 1934 requires the Company's officers and directors, as well as any holders of more than 10% of the Company's Common Stock, to file with the Securities and Exchange Commission certain reports of ownership and reports of changes in ownership of Common Stock and other equity securities of the Company. Based solely on review of such reports and certain representations furnished to it, the Company believes that during the fiscal year ended December 31, 2000, all Section 16(a) filing requirements applicable to its officers and directors were complied with.

EXECUTIVE COMPENSATION

The following Summary Compensation Table shows the total compensation for fiscal years 2000, 1999 and 1998 of the chief executive officer and the other most highly compensated executive officers whose salary exceeded \$100,000 in 2000.

SUMMARY COMPENSATION TABLE

NAME AND POSITION	YEAR	ANNUAL COMPENSATION		LONG-TERM COMPENSATION AWARDS		
		SALARY (\$)	BONUS (\$)	RESTRICTED SECURITIES		
				STOCK AWARDS (\$)(1)	UNDERLYING OPTIONS (#)	ALL OTHER COMPENSATION
Michael O'Connell President and Chief Executive Officer	2000	261,769	133,000	0	150,000	5,100(2)
	1999	242,423	33,000	0	0	4,800(2)
	1998	235,616	0	119,800	110,000	4,800(2)
John Barr, Ph.D. Vice President, Research and Development	2000	146,385	10,000	0	50,000	4,469(2)
	1999	125,142	0	0	0	3,741(2)
	1998	116,231	0	0	0	3,588(2)
Gordon Sangster Chief Financial Officer	2000	182,183	65,000	0	50,000	5,100(2)
	1999	161,281	0	0	0	4,800(2)
	1998	152,031	0	0	0	4,800(2)
John J. Meakem, Jr. Former Chairman, President and Chief Executive Officer	2000	223,596	100,000	0	27,000	663,302(3)
	1999	381,789	0	0	0	4,800(2)
	1998	373,654	0	359,400	198,000	4,800(2)
Les Riley Former Senior Vice	2000	140,359	30,000	0	0	348,250(4)
	1999	242,423	30,000	0	0	4,800(2)

President, President of Dermatology and Skin Care	1998	235,616	0	119,800	75,000	4,800(2)
Subhash Saxena, Ph.D. Former Senior Vice President, Head, Research and Development	2000	112,858	20,000	0	0	103,097(5)
	1999	194,942	20,000	0	0	4,800(2)
	1998	188,077	0	0	70,000	4,800(2)

- (1) The dollar value of restricted stock awards, net of consideration paid by the named executive officer, was calculated using the closing market price of the Company's Common Stock on the date the restricted stock award was granted. Each restricted stock award provides that for a period of three years after the award of restricted stock, the recipient may not sell, assign, transfer, pledge or otherwise encumber the shares of restricted stock. Any cash dividends with respect to shares of restricted stock are automatically reinvested in additional shares of restricted stock. Each restricted stock award provides that if the employee should leave the employ of the Company prior to three years from the date of award, unless waived by the administrator of the plan under certain circumstances, the Company will have the right to repurchase the restricted stock at their original purchase price of \$.01 per share. As of December 31, 2000, the Company had a total of 80,000 shares of restricted stock outstanding with an aggregate value of \$190,000 based on the value of the Company's shares at December 31, 2000.
- (2) The stated amounts are Company matching contributions to the Advanced Polymer Systems Salary Reduction Profit Sharing Plan. In 2000, the Company made matching contributions equal to 50% of each participant's contribution during the plan year up to a maximum amount equal to the lesser of 3% of each participant's annual compensation or \$5,100.
- (3) Mr. Meakem resigned from the Company as president and CEO in August 2000 and as chairman in November 2000. The stated amount includes contractual obligations amounting to \$658,202, and \$5,100 in Company matching contribution to the Advanced Polymer Systems Salary Reduction Profit Sharing Plan. See note (2) above.
- (4) This amount consists of \$300,000 under the retention incentive plan which was payable upon the sale of the cosmeceutical and toiletry product lines in July 2000, \$45,027 in relocation costs that were taxable to Mr. Riley in 2000 and \$3,223 in Company matching contribution to the Advanced Polymer Systems Salary Reduction Profit Sharing Plan. See note (2) above.
- (5) This amount consists of \$100,000 under the retention incentive plan which was payable upon the sale of the cosmeceutical and toiletry product lines business in July 2000 and \$3,097 in Company matching contribution to the Advanced Polymer Systems Salary Reduction Profit Sharing Plan. See note (2) above.

The following table sets forth certain information with respect to options granted during 2000 to the executive officers named in the Summary Compensation Table.

STOCK OPTION GRANTS IN 2000

NAME	NUMBER OF SECURITIES TO UNDERLYING OPTIONS GRANTED (#)(2)	INDIVIDUAL GRANTS			POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM(1)	
		% OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL YEAR	EXERCISE PRICE (\$/SH)	EXPIRATION DATE	5%(\$)	10%(\$)
Michael O'Connell	150,000	36.0	\$3.125	08/08/10	294,794	747,067
John Barr, Ph.D.	30,000	7.2	\$3.344	08/01/10	63,091	159,884

	20,000	4.8	\$2.875	10/27/10	36,161	91,640
Gordon Sangster	30,000	7.2	\$3.344	08/01/10	63,091	159,884
	20,000	4.8	\$2.875	10/27/10	36,161	91,640
John J. Meakem, Jr.(3)	27,000	6.5	\$4.000	01/12/10	67,921	172,124

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- (1) Potential realizable value is based on an assumption that the price of the Common Stock appreciates at the annual rate shown (compounded annually) from the date of grant until the end of the ten year option term. The numbers are calculated based on the requirements promulgated by the Securities and Exchange Commission ("SEC") and do not reflect the Company's estimate of future stock price growth.
 - (2) The options granted under the Company's 1992 Stock Plan typically vest over 4 years at 25% annually. Payments on exercise, including any taxes the Company is required to withhold, may be made in cash, by a full recourse promissory note or by tender of shares. Options are granted at fair market value on the date of grant.
 - (3) The options granted in 2000 were in lieu of a performance cash bonus relating to 1999.

The following table sets forth certain information with respect to options exercised during 2000 and the value of options held at fiscal year end by the executive officers named in the Summary Compensation Table.

AGGREGATED OPTION EXERCISES IN 2000 AND 2000 YEAR-END OPTION VALUES

NAME	SHARES ACQUIRED UPON OPTION EXERCISE		NUMBER OF UNEXERCISED OPTIONS AT 2000 YEAR-END		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END (2)	
	(#)	VALUE REALIZED (\$)(1)	EXERCISABLE (#)	UNEXERCISABLE (#)	EXERCISABLE (\$)	UNEXERCISABLE (\$)
Michael O'Connell	0	0	416,249	183,751	0	0
John Barr, Ph.D.	0	0	36,240	63,760	0	0
Gordon Sangster	0	0	122,639	72,361	0	0
John J. Meakem, Jr.	0	0	799,858	78,056	0	0
Les Riley(3)	0	0	240,000	0	0	0
Subhash Saxena, Ph.D.(3)	0	0	210,500	0	0	0

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- (1) Market value of underlying securities at exercise less the exercise price.
 - (2) Market value of underlying securities at fiscal year-end minus the exercise price of "in-the-money" options.
 - (3) Under the terms of their employment agreements, the stock options granted to Mr. Riley and Dr. Saxena were fully vested on the date they left the Company.

APS did not make any awards during 2000 to any of the executive officers named in the Summary Compensation Table under any long-term incentive plan providing compensation intended to serve as an incentive for performance to occur over a period longer than one fiscal year.

REPORT OF THE FINANCE AND AUDIT COMMITTEE

The Finance and Audit Committee of the Board of Directors serves as the representative of the Board of the Directors for general oversight of the Company's financial accounting and reporting process, system of internal controls, audit process, and process for monitoring compliance with laws and regulations. Each of the members of the Finance and Audit Committee is independent, as defined under the listing standards of NASDAQ. The Committee operates under a written charter adopted by the Board of Directors and attached to this Proxy Statement as Appendix A. The Company's management has primary responsibility for preparing the Company's financial statements and

for the Company's financial reporting process. The Company's independent auditors, KPMG LLP, are responsible for expressing an opinion on the conformity of the Company's audited financial statements to generally accepted accounting principles in the United States of America.

In this context and in connection with the audited financial statements contained in the Company's Annual Report on Form 10-K, the Audit Committee:

reviewed the audited financial statements with the Company's management;

discussed with KPMG LLP, the Company's independent auditors, certain matters related to the conduct of the audit, as required by Statement of Auditing Standards No. 61, Communication with Audit Committees;

met with the independent auditors, with and without management present, to discuss the results of their audit, their evaluations of the Company's internal controls, and the overall quality of the Company's financial reporting;

reviewed the written disclosures and the letter from KPMG LLP required by Independence Standard Board Standard No. 1, "Independence Discussions with Audit Committees," discussed with the auditors their independence from the Company, and concluded that the non-audit services performed by KPMG LLP are compatible with maintaining their independence;

instructed the independent auditors that the Committee expects to be advised if there are any subjects that require special attention.

Based on the review and discussions described above, the Audit Committee recommended to the Board of Directors that the Company's audited consolidated financial statements for the fiscal year ended December 31, 2000 be included in the Company's Annual Report on Form 10-K for the year ended December 31, 2000, for filing with the SEC, and the Board of Directors approved such inclusion. Based on the Audit Committee's recommendation, the Board has also selected KPMG LLP as the Company's independent auditors for the fiscal year ending December 31, 2001.

The Finance and Audit Committee of
Stephen Drury
Toby Rosenblatt
Gregory Turnbull
Dennis Winger

Relationship with Independent Accountants

KPMG LLP and its predecessors have acted as the Company's independent accountants since the inception of the Company. In accordance with standard policy, KPMG LLP periodically changes the individuals who are responsible for the Company's audit.

In addition to performing the audit of the Company's consolidated financial statements for the year 2000, KPMG LLP provided various other services during such year. The aggregate fees billed for 2000 for each of the following categories of services are as follows:

Audit and review of the Company's 2000 financial statements	\$111,000
All other services	\$ 91,000

KPMG LLP did not provide any services related to financial information systems and implementation during 2000.

"All other services" includes (i) tax planning and review of tax returns of the Company, and (ii) evaluation of the effects of various accounting issues and changes in professional standards.

REPORT OF THE COMPENSATION AND STOCK OPTION COMMITTEE

The Compensation and Stock Option Committee of the Board of Directors (the "Committee") is responsible for establishing compensation policies applicable to the Company's executive officers and, pursuant to such policies, determining the compensation payable to the Company's chief executive officer and other executive officers of the Company. The committee consists of Peter Riepenhausen, Toby Rosenblatt and C. Anthony Wainwright, each of whom is a nonemployee director of the Company. In determining compensation policies, the committee has access to compensation surveys for regional technology-based companies which compete with the Company in the recruitment and retention of senior executives as well as other executive compensation information and data. The following report relates to compensation payable to the Company's executive officers for the year ended December 31, 2000.

COMPONENTS OF COMPENSATION

There are three components of compensation payable to the Company's executive officers: base salary, equity-based incentive compensation in the form of stock options and restricted stock awards and annual incentive compensation in the form of cash bonuses.

COMPENSATION POLICIES

The Company's compensation policies for all employees, including executive officers, are designed to provide targeted compensation levels that are competitive with those of regional companies of similar size, with whom the company must compete in the recruitment of senior personnel. The Committee also seeks to tie incentive cash bonuses to the achievement of a pre-established performance objectives for the Company approved by the Committee, and to use stock options and restricted stock awards to promote equity-ownership in the Company at levels deemed appropriate by the Committee for executive officers. The goals of the Committee are to align compensation with the Company's objectives and performance, and to enable the Company to attract, retain and reward executives who contribute to the long-term success of the Company. The Company does not believe that compensation payable by it will be subject to the limitations on deductibility provided under Section 162(m) of the Internal Revenue Code.

BASE SALARIES

The salary component of executive compensation is based on the executive's level of responsibility for meeting the Company's objectives and performance, and comparison to similar positions in the Company and comparable companies. Base salaries for executive officers are reviewed and adjusted annually based on information regarding competitive salaries, including salary survey data provided by third parties regarding regional companies. Individual increases are established by the Committee (taking into account recommendations of the chief executive officer concerning the overall effectiveness of each executive).

CASH BONUSES

Cash bonuses for executive officers are determined under the Company's bonus plan applicable to management-level employees. This plan, adopted by the Committee, establishes both performance objectives for the Company and a target-bonus for each executive officer, which is a percentage of each executive's base salary. A portion of the target bonus is discretionary and a portion is payable if pre-established performance objectives are achieved. The percentage of the bonus which is payable increases as base performance objectives are exceeded.

STOCK OPTIONS AND RESTRICTED STOCK AWARDS

The Company's compensation policies recognize the importance of stock ownership by senior executives and equity-based incentive compensation is an integral part of each executive's compensation. The Committee believes that the opportunity for stock appreciation through stock options which vest over time promotes the relationship between long-term interests of executive officers and stockholders. The size of specific options grants takes into account the executive officer's salary, number of options previously granted, as well as shares of Common Stock held, and the contributions to the Company's success.

In 1998, the Company's 1992 Stock Plan was amended to also permit the awards of restricted stock. The restricted stock awards provide that each recipient of restricted stock shall pay the purchase price of the stock, which may not be less than the par value of the stock, within 15 days of grant of the award, and that for a period of three years after the award of restricted stock, the recipient may not sell, assign, transfer, pledge or otherwise encumber the shares of restricted stock. Any cash dividends with respect to shares of restricted stock are automatically reinvested in additional shares of restricted stock and any stock dividends are paid in the form of restricted stock. Unless waived by the administrator of the Company's 1992 Stock Plan in the event of a sale of or a merger involving the Company, if a recipient's employment is terminated during the three-year restriction period, all shares of restricted stock are forfeited and are repurchased by the Company at their original purchase price.

RETENTION AND STAY BONUS PLANS

The Compensation and Stock Option Committee of the Board approved a Retention Incentive Plan ("Retention Plan") for certain key employees, including the executive officers of the Company named in the Summary Compensation Table above. See the discussion under Certain Transactions below.

The Compensation and Stock Option Committee of the Board also approved an Executive Stay Bonus Plan covering key executives, including the named executive officers. See the discussion under Certain Transactions below.

COMPENSATION PAYABLE TO CHIEF EXECUTIVE OFFICER

The 2000 salary for Mr. O'Connell, the Company's president and chief executive officer, was determined principally from the terms of the amended and restated retention and non-competition agreement with the Company dated August 1, 2000. The Compensation Committee and Board of Directors increased the base salary of \$245,000 to \$285,000 effective August 1, 2000, concurrent with Mr. O'Connell assuming the roles of president and chief executive officer. Based on Mr. O'Connell's position with the Company, the Compensation Committee and Board of Directors also approved the grant to Mr. O'Connell of stock options to acquire an aggregate of 175,000 shares of Common Stock. 150,000 options were issued in 2000 and the remaining 25,000 were issued in 2001. As of March 14, 2001, Mr. O'Connell held presently exercisable stock options to purchase 432,397 shares, 20,000 shares of restricted stock, and including options and restricted stock awards, beneficially owns as of that date 461,104 shares of the Company's Common Stock. Mr. O'Connell's base salary and stock grants were based on competitive compensation levels for comparable companies in the region, his performance in his prior leadership role in the Company and his contributions in refocusing the strategic direction of the Company.

Compensation and Stock Option Committee
Peter Riepenhausen
Toby Rosenblatt
Charles Anthony Wainwright

PERFORMANCE GRAPH

The rules of the SEC require APS to include in this Proxy Statement a line graph presentation comparing cumulative five year stockholder returns, on a dividend reinvested basis, with a broad based equity index and a published industry index. The Company selected the S&P 500 Stock Index and Russell 2000 for purposes of the comparison which appears below. The graph assumes that \$100 was invested in APS stock and each index on December 31, 1995, with all dividends reinvested. Past stock performance is not necessarily indicative of future results.

[The following descriptive data is supplied in accordance with Rule 304(d) of Regulation S-T]

	12/95	12/96	12/97	12/98	12/99	12/00
	-----	-----	-----	-----	-----	-----
ADVANCED POLYMER SYSTEMS INC.	100	139	120	98	63	43
S&P 500	100	123	164	211	255	232
RUSSELL 2000	100	116	143	139	168	163

CERTAIN TRANSACTIONS

The Compensation and Stock Option Committee of the Board approved a Retention Incentive Plan ("Retention Plan") for certain key employees, including the executive officers of the Company named in the Summary Compensation Table above. The purpose of the Retention Plan was to encourage key employees to continue their employment with the Company, enhance their ability to perform effectively and provide the Company with the benefit of their continued service. Under the Retention Plan, the Company entered into individual retention agreements with the covered executives providing that the executive will be eligible for certain benefits if his or her employment is terminated under specified circumstances. If the executive's full-time employment with the Company is terminated by the Company (other than for cause) or by the executive for good reason (due to material reduction in the executive's authority or responsibility, base salary or other compensation or employee benefits), the executive will be retained as a part-time employee for a period ranging from a minimum of 12 months to a maximum of 24 months (the "Retention Period"). During the Retention Period, the executive will receive continuation of salary, payable one-half in a lump sum following termination of full-time employment and the remainder ratable over the Retention Period and an annual bonus equal to the bonus paid during the immediately preceding 12-month period.

As a result of the Company's sale of its cosmeceutical business, Mr. Riley and Dr. Saxena left the Company and under their severance agreements, Mr. Riley

and Dr. Saxena were paid \$300,000 and \$100,000 respectively. Mr. Riley will receive a comparable benefit in July 2001 and Dr. Saxena will receive a comparable benefit in July 2001 and July 2002. Under the Retention Incentive Plan, each executive also agreed not to compete with the Company during the Retention Period.

The Compensation and Stock Option Committee of the Board also approved an Executive Stay Bonus Plan covering key executives, including the named executive officers. The purpose of this plan was to encourage key executives who play a critical role in the Company to optimize the Company's previously announced process of reviewing all strategic alternatives, including the possible sale of all or part of the Company. In the event of the sale of all or part of the Company at a favorable price that exceeded a specified amount, the plan provided for payments to the covered executives up to an aggregate total payment to all covered executives not to exceed \$1 million. The right to receive payments under the Executive Stay Bonus Plan required a covered executive to remain with the Company through any sale unless the covered executive's employment was terminated without cause. Under the terms of the plan, upon the successful completion of the sale of the Company's cosmeceutical and toiletry product lines to R.P. Scherer, Inc. payments were made to Mr. Meakem of \$100,000; to Mr. O'Connell of \$100,000; and to Mr. Sangster of \$50,000.

Under the terms of his employment agreement, Mr. Meakem, who left the Company in August 2000, was paid \$658,202, which represented half of the Company's contractual obligation. The remaining half is being paid over three years.

During 2000, the Company paid to Dr. Jorge Heller (who consults for the Company on a full time basis and is the Company's Principal Scientist) and Peter Riepenhausen, both directors of the Company, for consulting services in their field of expertise, the respective amounts of \$194,167 and \$37,500. Payments for similar services in 1999 were \$181,250 and \$20,000, respectively, and in 1998 were \$160,000 and \$7,500, respectively. In the prior years, the Company paid consulting fees to Dr. Carl Ehmann and C. Anthony Wainwright, who were also directors of the Company, the respective amounts of \$3,000 and \$4,500 in 1998.

Under the terms of the Company's agreement with Dr. Goddard, he received a stock option grant to acquire 75,000 shares of the Company's Common Stock. The options will vest 25% at the end of the first year and in equal monthly installments for the next 36 months. He will receive additional option grants each year of 20,000 shares while he serves as chairman. In addition, he will receive compensation of \$100,000 per year.

PROPOSAL TWO--APPROVAL OF AMENDMENT TO
ADVANCED POLYMER'S CERTIFICATE OF INCORPORATION TO
CHANGE THE CORPORATE NAME

At the annual meeting, stockholders of Advanced Polymer Systems will be asked to approve an amendment to Advanced Polymer's Certificate of Incorporation to change the corporate name from Advanced Polymer Systems, Inc. to AP Pharma, Inc. The Board of Directors believes that this new name will better reflect Advanced Polymer's transition from a corporation focused on skin care applications of its Microsponge(R) delivery system to a focus on a broad-based platform of technologies for pharmaceutical products.

INDEPENDENT PUBLIC ACCOUNTANTS

The Board has selected KPMG LLP ("KPMG") as independent public accountants to audit the financial statements of the Company for the fiscal year ending December 31, 2001. KPMG has acted as the Company's auditors since the Company's inception in 1983. A representative of KPMG will be present at the Annual Meeting and will have an opportunity to make a statement if such representative desires to do so. The representative of KPMG also will be available to respond to questions raised during the meeting.

FINANCIAL STATEMENTS

The Company's annual report to stockholders for the fiscal year ended December 31, 2000, containing audited consolidated balance sheets as of the end of each of the past two fiscal years and audited consolidated statements of operations, shareholders' equity and cash flows for each of the last three fiscal years, is being mailed with this proxy statement to stockholders entitled to notice of the Annual Meeting.

SHAREHOLDER PROPOSALS FOR 2002 ANNUAL MEETING

Under the applicable rules of the Securities and Exchange Commission, a stockholder who wishes to submit a proposal for inclusion in the proxy statement of the Board of Directors for the annual meeting of stockholders to be held in the spring of 2002 must submit such proposal in writing to the

Secretary of the Company at the Company's principal executive offices no later than January 18, 2002. The applicable rules of the SEC impose certain limitations on the content of proposals and also contain certain eligibility and other requirements (including the requirement that the proponent must have continuously held at least \$2000 in market value or 1% of the Company's Common Stock for at least one year before the proposal is submitted).

OTHER MATTERS

As of the date of this Proxy Statement, the Board does not intend to bring any other business before the Annual Meeting, and so far as is known to the Board, no other matters which will be presented to the Annual Meeting. If, however, any other matter is properly presented at the Annual Meeting, it is intended that proxies in the form enclosed with this Proxy Statement will be voted on such matter in accordance with the judgment of the person or persons voting such proxies.

BY ORDER OF THE BOARD OF DIRECTORS,

Julian N. Stern, Secretary

Redwood City, California
April 6, 2001

You Are Cordially Invited To Attend The Meeting In Person. Whether Or Not You Plan To Attend The Meeting, You Are Requested To Sign And Return The Accompanying Proxy In The Enclosed Postpaid Envelope.

AUDIT COMMITTEE CHARTER
Adopted by the Board of Directors of
Advanced Polymer Systems, Inc.

Composition:

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The audit committee shall be composed of three or more directors, as determined by the board of directors, who shall meet the independence and financial literacy requirements of NASDAQ, and at least one of whom shall have past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual's financial sophistication, including being or having been a chief executive officer, chief financial officer or other senior officer with financial oversight responsibilities.

Unless a chair is designated by the board of directors, the committee members may appoint their own chair by majority vote.

Responsibilities

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1. Recommend to the board of directors the selection of the independent auditor, evaluate the performance of the independent auditor and, if so determined by the audit committee, recommend to the board of directors replacement of the independent auditor; it being acknowledged that the independent auditor is ultimately accountable to the board of directors and the audit committee, as representatives of the stockholders.
2. Ensure the receipt of, and evaluate, the written disclosures and the letter that the independent auditor submits to the audit committee regarding the auditor's independence in accordance with Independence Standards Board Standard No. 1, discuss such reports with the auditor and, if so determined by the audit committee in response to such reports, recommend that the board of directors take appropriate action to address issues raised by such evaluation.
3. Discuss with the independent auditor the matters required to be discussed by SAS 61, as it may be modified or supplemented.
4. Instruct the independent auditor and the internal auditor, if any, that the Committee expects to be advised if there are any subjects that require special attention.
5. Meet with management and the independent auditor to discuss the annual financial statements and the report of the independent auditor thereon, and to discuss significant issues encountered in the course of the audit work, including restrictions on the scope of activities, access to required information and the adequacy of internal financial controls.
6. Review the management letter delivered by the independent auditor in connection with the audit.
7. Following such review and discussions, if so determined by the audit committee, recommend to the board of directors that the annual financial statements be included in the company's annual report.
8. Meet quarterly with management and, if deemed advisable by the audit committee, the independent auditor to discuss the quarterly financial statements prior to the filing of the Form 10-Q; provided that this responsibility may be delegated to the chairman of the audit committee.
9. Meet at least once each year in separate executive sessions with management, the internal auditor, if any, and the independent auditor to discuss matters that any of them or the committee believes could significantly affect the financial statements and should be discussed privately.
10. Have such meetings with management, the independent auditor and the internal auditor as the audit committee deems appropriate to discuss the concept and design of the company's information and reporting systems and the steps management has taken to address significant issues concerning those matters, and to discuss significant financial risk exposures facing the company and the steps management has taken to monitor and control such exposures.
11. Review significant changes to the company's accounting principles and practices proposed by the independent auditor, the internal auditor, if any, or management.
12. Review the scope and results of internal audits.
13. Evaluate the performance of the internal auditor, if any, and, if so determined by the audit committee, recommend replacement of the internal auditor, if any.
14. Conduct or authorize such inquiries into matters within the committee's scope of responsibility as the committee deems appropriate. The committee shall be empowered to retain independent counsel and other professionals to assist in the conduct of any such inquiries.
15. Provide minutes of audit committee meetings to the board of directors, and report to the board of directors on any significant matters arising from the committee's work.
16. At least annually, review and reassess this charter and, if appropriate, recommend proposed changes to the board of directors.

17. Prepare the report required by the rules of the Securities and Exchange Commission to be included in the company's annual proxy statement.

18. In the performance of its responsibilities, the Audit Committee is the representative of the shareholders. However, it is not the responsibility of the Audit Committee to plan or conduct audits, or to determine whether the company's financial statements are complete and accurate or in accordance with generally accepted accounting principles.

ADVANCED POLYMER SYSTEMS, INC.
 Proxy Solicited by the Board of Directors
 for the Annual Meeting of Stockholders
 to be held May 9, 2001

The undersigned hereby appoints Paul Goddard and Michael O'Connell, or either of them, each with full power of substitution, as the proxyholder(s) of the undersigned to represent the undersigned and vote all shares of the Common Stock of Advanced Polymer Systems, Inc. (the "Company"), which the undersigned would be entitled to vote if personally present at the Annual Meeting of Stockholders of the Company to be held at the Garden Court Hotel, 520 Cowper Street, Palo Alto, California at 10:00 a.m., local time, on May 9, 2001, and at any adjournments or postponements of such meeting, as follows:

The Board of Directors recommends that you vote FOR the proposals on the reverse side. This proxy, when properly executed, will be voted in the manner directed. WHEN NO CHOICE IS INDICATED THIS PROXY WILL BE VOTED FOR THE FOLLOWING PROPOSALS. This proxy may be revoked by the undersigned at any time, prior to the time it is voted, by any of the means described in the accompanying proxy statement.

Please mark
 votes as in
 this example

PLEASE COMPLETE, DATE AND SIGN THIS PROXY AND RETURN IT PROMPTLY IN THE ENCLOSED ENVELOPE.

1. To elect as directors, to hold office until the next annual meeting of stockholders and until their successors are elected, the seven nominees listed below:

Nominees: Stephen Drury, Paul Goddard, Michael O'Connell, Peter Riepenhausen, Toby Rosenblatt, Gregory H. Turnbull, and Dennis Winger

<input type="checkbox"/> FOR	<input type="checkbox"/> WITHHELD
ALL	FROM ALL
NOMINEES	NOMINEES

 For all nominees, except as noted above.

2. To consider and vote on an amendment to Advanced Polymer's Certificate of Incorporation to change the name of the Company to AP Pharma, Inc.

FOR	AGAINST	ABSTAIN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. In their discretion, the proxyholders are authorized to transact such other business as properly may come before the meeting or any adjournments or postponements of the meeting. The Board of Directors at present knows of no other business to be presented by or on behalf of the Company or the Board of Directors at the meeting.

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Date and sign exactly as name(s) appear(s) on this proxy. If signing for estates, trusts, corporations or other entities, title or capacity should be stated. If shares are held jointly, each holder should sign.

Signature: _____ Date: _____ Signature: _____ Date: _____