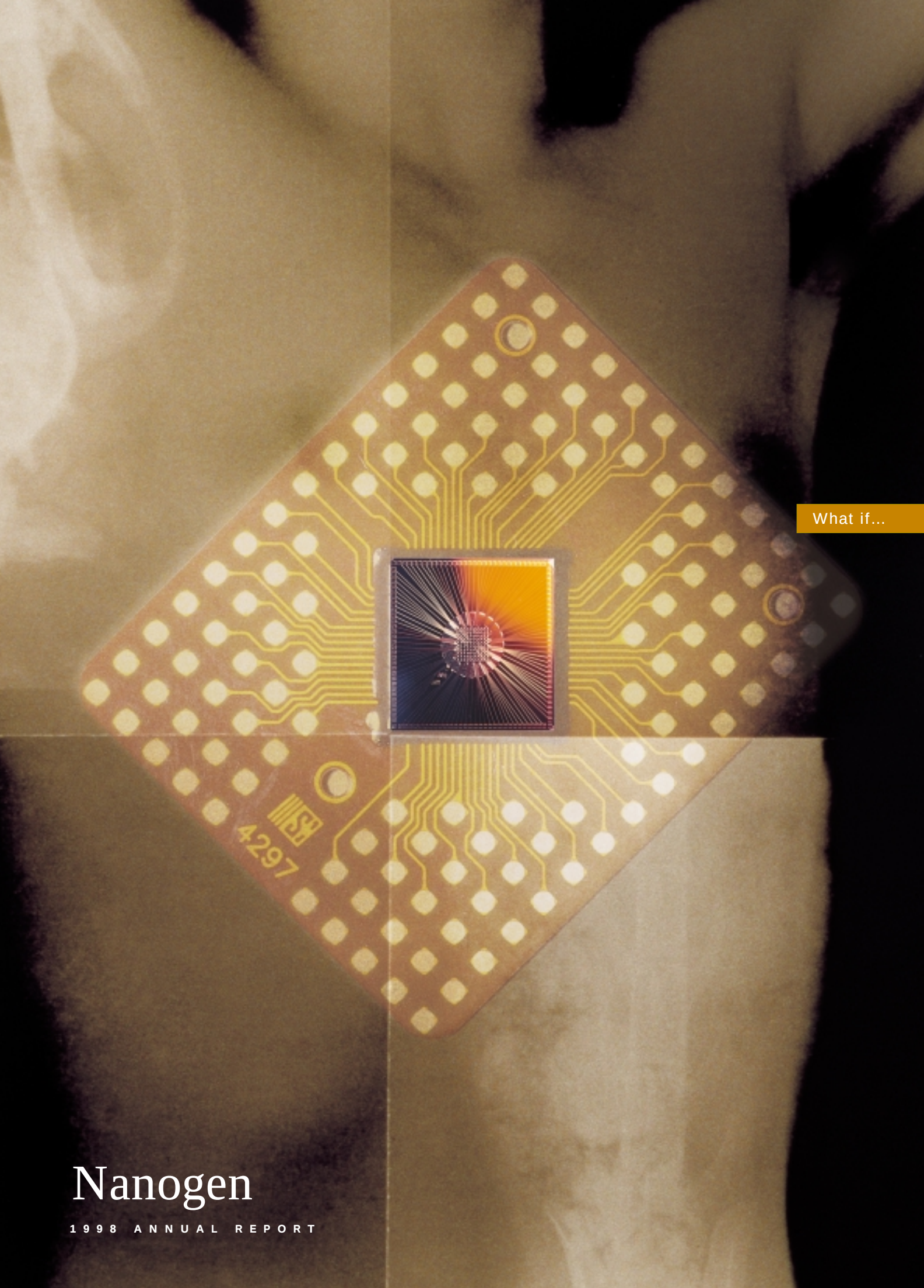


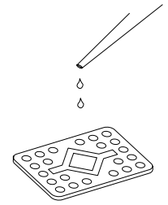
What if...

Nanogen

1998 ANNUAL REPORT

...through combining our knowledge of **molecular biology** with the advancements made in today's **microelectronics**...

Microelectronics Meets Molecular Biology



...diagnoses could be given while a patient waits...drugs that are more safe and efficacious could be discovered...forensic DNA testing could be performed at the crime scene...food poisoning could be avoided...or electronic devices could be created on a molecular level. Nanogen's mission is to establish its microelectronics platform technology as a standard for molecular identification and analysis. Nanogen integrates advanced microelectronics and molecular biology for the practical usage of molecular information. Through the application of novel semiconductor chips, Nanogen is developing an integrated, fully automated analysis system with broad applications in the biological fields of genomics research, medical diagnostics, drug discovery, forensics, agricultural and environmental testing, and nonbiologic fields including electronics and telecommunications. Nanogen is focused on commercializing products based on this emerging technology through both direct sales efforts and strategic corporate alliances.

The Nanogen Chip *(actual size)* By incorporating a novel semiconductor chip into a fully automated molecular analysis system, Nanogen is bringing the power of molecular biology and microelectronics together. From enabling advanced molecular research to offering new capabilities in electronics, Nanogen is opening the door to a new generation of possibilities.

The Company's business is subject to various risks and uncertainties including those discussed under the caption "Risks and Uncertainties" in the *Management's Discussion and Analysis* section of this annual report and under the caption "Factors That May Affect Results" and elsewhere in the Company's Form 10-K for the fiscal year ended December 31, 1998 as filed with the Securities and Exchange Commission.

Microelectronics Meets Molecular Biology

In 1998, we made significant progress in translating this technological vision into an economically viable business, defining and developing products that can advance biomedical research, diagnostics and drug discovery. In addition, early in the second quarter, we successfully completed our initial public offering of stock which has put us in a strong financial position as we move forward in our commercialization efforts.

Broad Market Focus and Potential

The power to facilitate the use of genetic information creates market opportunities that have few boundaries. Our initial market focus in the life science area is the large and rapidly growing biomedical and genomics-based research market. We are now in the process of establishing beta sites for a benchtop analysis system based on our microelectronic semiconductor chip for the rapid and specific analysis of genetic material. By late 1999, we hope to introduce this product to the market, capitalizing on the powerful features that our technology provides. We believe the speed, multiplexing capabilities and "build your own chip" flexibility that we can offer researchers, particularly those in the expanding targeted genetic analysis segment of the market, will be of great value. A natural extension of this market and our technology platform lies in medical diagnostics, forensics and drug discovery which will comprise additional near-term markets for Nanogen.

We plan to enter these markets with a benchtop version of the Nanogen system. Over time, we expect to miniaturize this system and add sample processing capabilities in order to create a truly portable, sample-to-answer "lab on a chip" that is small, inexpensive and available to a diverse group of users. We have already demonstrated "proof of principle" with key components of this system.

Down the road, we envision opportunities which reach beyond the markets mentioned above into areas including agriculture, veterinary medicine, environmental and food pathogen testing, as well as nonbiologic markets such as electronic and photonic devices and optical memory.

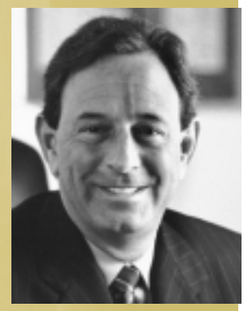
Progress in Collaborations and New Deals

In addition to substantial technological advancements over the course of the year, we made significant progress achieving milestones in our corporate collaborations and establishing funding sources to expand the applications of our emerging technology platform. In 1998, we successfully completed all key milestones in our agreement with Becton Dickinson to employ Nanogen's microchip technology for the identification of microbial agents causing infectious disease. This triggered an additional financial commitment from Becton Dickinson. We also completed all key milestones in the development of microarray platforms and related devices for drug discovery applications with corporate partner Aventis Research and Technologies, an affiliate of Hoechst AG.

In October, Nanogen was awarded a contract by the Space and Naval Warfare Systems Center San Diego for biological warfare defense applications. The Company also received an award from the National Institute of Justice for forensic DNA testing, accelerating our research efforts into the forensics market. Both grants, which could total approximately

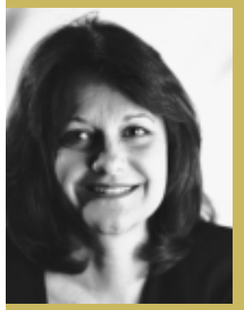
In 1998 Nanogen transitioned from an early stage research-based organization to a company actively developing new products for commercial markets. Since commencing operations in 1993, we have focused on building a technology platform based on the merger of advanced microelectronics with molecular biology for applications in the life science and other industries.

[Microelectronics Meets Molecular Biology]



Looking forward, our goal is to maintain the excitement we created for Nanogen this past year and drive the successful completion of our transition from a research and technology development organization to a company focused on developing and selling innovative new products.

Howard C. Birndorf
Chairman and Chief Executive Officer



As we move towards commercialization in 1999, we will also be enhancing our internal product development efforts and pursuing additional corporate collaborations for new markets, all with a cautious eye towards conserving our cash resources. We feel very fortunate to have completed a successful IPO in a very difficult financial market. With new collaborations and grants in the coming years, we hope to continue to fund exciting new applications for our technology without absorbing additional financial risk.

Tina S. Nova, Ph.D.
President and Chief Operating Officer

Microelectronics Meets Molecular Biology

$8 million, will help us meet the miniaturization and sample-to-answer objectives we have set for our core technology platform.

Lastly, we recently signed an option agreement with Graviton, Inc. to license rights to novel non-labeled detection technologies originally developed at the Oak Ridge National Laboratories and the Naval Research Laboratories. We believe technology agreements like this will help keep us at the forefront of new advancements in this exciting field.

Recognition and Validation of Nanogen's Technology

Today, with the large volumes of genetic information that are rapidly becoming available, Nanogen's chip technology is increasingly recognized as one of the leading technologies potentially capable of turning the output of the "genomics revolution" into commercial products. Our scientists were invited to present our technology at numerous symposiums this year and continue to be acknowledged at distinguished scientific meetings. In June, our "laboratory on a chip" was featured in *Nature Biotechnology's* cover story as the first technology to allow researchers to isolate, lyse and detect bacteria in a blood sample using a bioelectronic chip. In July, *Discover Magazine* recognized Nanogen for having one of the best new technologies of the year for our efforts in the nonbiologic arena. Throughout the year the power of our technology was also documented in additional scientific papers either published or accepted for publication in notable scientific journals.

Establishing the Fundamentals of Our Corporate Infrastructure

As we work toward the commercialization of Nanogen's technology, we feel that we have put in place the fundamentals that will be the foundation for the Company's success. One of our most valuable assets is our highly experienced management team and our diverse employee base which includes experts in molecular biology, chemistry, engineering, microelectronics, physics and optics. As part of our shift from a research-based company to a commercially focused organization, I believe we have also been fortunate this year to add management with significant experience in sales and marketing, finance, manufacturing and operations.

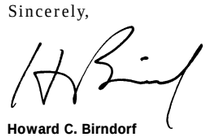
To protect our core technologies, we have established a formidable intellectual property position that continues to broaden as we further develop and enhance these technologies. In the last year alone we were granted four additional U.S. patents and several notices of allowance to add to the four U.S. patents granted previously. In 1998, we also more than doubled the number of applications on file. We feel that our long term business model is sound and with our initial target markets in our sights, we have set the parameters to lead our business into a productive 1999.

Goals for 1999

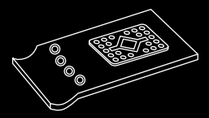
Looking forward, our goal is to maintain the excitement we created for Nanogen this past year and drive the successful completion of our transition from a research and technology development organization to a company focused on developing and selling innovative new products. To reach our goals, we plan to aggressively pursue the development of new benchtop laboratory tools that incorporate our proprietary technology for use by scientists in the biomedical and genomics industries, while at the same time designing and developing smaller and more integrated systems that will broaden the market opportunities for our products. Additionally, we will continue to focus on successfully implementing our strategic alliance projects.

We would like to extend our gratitude to our talented employees and to our shareholders, for helping us make Nanogen a technological leader in applied molecular microelectronics. We look forward to communicating our progress to you throughout the coming year.

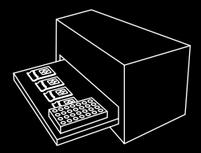
Sincerely,



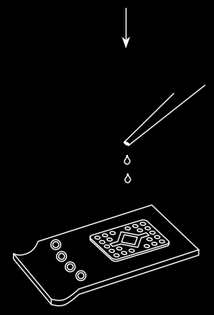
Howard C. Birndorf
Chairman and Chief Executive Officer



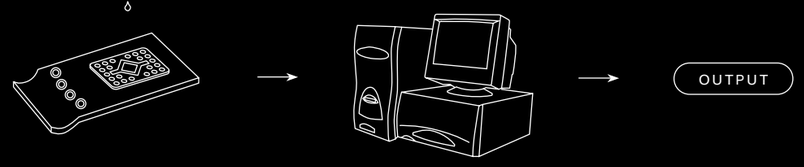
Cartridge
An active microelectronic chip is mounted within a plastic molded cartridge. The bar-coded cartridge is delivered in a ready-to-address format with no genetic sequences pre-attached.



Electronic Addressing
Users design and create their own genetic map on the microelectronic chip with Nanogen's automated system. A microtiter plate containing up to 96 different genetic sequences is placed in the loader instrument. The system then automatically electronically addresses the microchip to the user-defined map.



Electronic Hybridization and Stringency
Users add the test sample to the cartridge and insert the cartridge into the reader. The instrument then automatically performs electronic hybridization and stringency. The electronically enhanced process speeds and improves the genetic analysis, allowing single-base accuracy.



Simple-to-Read Output
Within minutes of inserting the bar-coded cartridge for analysis, easy-to-read and interpret output is available. Data can be automatically downloaded to network systems and to standard software spreadsheet packages. The entire electronic addressing and data output process can be completed rapidly, allowing users to accelerate their research process by creating new genetic maps based on previous experimental results.

[Core Technology]

Using the benefits of microelectronics and the principles of molecular biology, we plan to develop our technology into a new standard for molecular identification and analysis.

James P. O'Connell, Ph.D.
Vice President, Science and Technology

(Individual)

W.J. Kitchen, Sc.D.
Senior Vice President, Operations

(Pictured above from left to right)

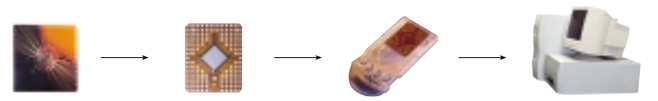
Robert Martinsons
Executive Director, Systems Development

Donald E. Ackley, Ph.D.
Senior Director, Microelectronics

Christian P. Valcke, Ph.D.
Director, Packaging

Integrating Microelectronics with Molecular Biology

Nanogen's Core Technology The Nanogen technology could provide near-term benefits to the research community as a benchtop analysis system that can be used for advanced genetic research, drug discovery and diagnostic development. Nanogen is developing integrated sample processing capabilities and pursuing the miniaturization of its benchtop system to expand application of this core technology into areas which include advanced research, pharmacogenomics, diagnostics, forensics, agricultural improvements, environmental testing and veterinary medicine.



Nanogen's core technology brings the power of microelectronics to automated genetic analysis systems.

There is a growing need to understand the functional significance of the large volumes of genetic information rapidly being generated through advanced bioinformatics and genomics efforts. As an example, industry sources estimate that these activities and the corresponding focus on defining the functionality of these genes and the proteins they encode will lead to a 2,000% increase in the number of new drug targets produced by scientists in the next several years. Innovative new tools are required to help these scientists cut through the vast quantity of data and pinpoint how specific genes are activated or deactivated during the disease process and how mutations may signal these changes. Recognizing this need, Nanogen has combined the power of microelectronics with advancements in molecular biology, to establish a novel molecular identification and analysis system to serve the needs of this emerging market.

Integrating Microelectronics with Molecular Biology

Platform Technology

Nanogen's fully automated system provides a flexible tool for the rapid identification and analysis of test samples containing charged molecules. The Company's technology enables the active movement and concentration of charged molecules to and from designated microlocations, or test sites, on the Company's proprietary semiconductor microchip. This electronic concentration feature of the Nanogen technology greatly accelerates molecular binding at the test site providing a faster, more efficient method for functional genomics testing.

The Nanogen technology accelerates molecular binding at the test site, providing a faster, more efficient method for performing advanced genetic identification and analysis. *(Pictured at left:* **Michael J. Heller, Ph.D.**, *Chief Technical Officer)*

Integrated Operational Features

Nanogen's chip technology is integrated into a fully automated system that can be used to perform several functions. Beginning with the electronic addressing of the capture probe to the array test site, the system enables a scientist to accelerate hybridization and identify single base pair mutations. The system has a unique open-architecture design which allows researchers to define and select their own arrays. Multiple test sites on an array can be examined against a single or multiple samples. Development is currently underway for on-chip amplification and on-chip cell separation. These features could be incorporated in sample-to-answer versions of the product.

Electronic Addressing Electronic addressing (Figure A) is the placement of charged molecules at specific test sites. Since DNA has a strong negative charge, it can be electronically moved to an area of positive charge. When a solution of DNA capture probes is introduced onto the microchip, the negatively charged probes rapidly move to the positively charged sites, where they concentrate and are chemically bound to that site. The microchip is then washed and another solution of distinct probes can be added. Site by site, row by row, an array of specifically bound probes can be assembled or addressed onto the microchip. In comparison to current technologies, these microchip arrays can potentially be built more quickly and at a more reasonable cost.

The Semiconductor Chip at the Heart of Nanogen's Technology The Nanogen microchip takes advantage of the naturally occurring positive and negative charges associated with most biological molecules. The chip consists of test sites, arranged in an array, which can be individually manipulated electronically from the instrument controls. Each chip is coated with a permeation layer that functions as the interface between the electrochemical surface of the microchip and the biological test environment.

Integrating Microelectronics with Molecular Biology

Electronic Hybridization Following electronic addressing, the Nanogen technology uses electronics to move and concentrate target molecules to one or more test sites on the microchip (Figure B). The increased concentration of sample DNA at each test site promotes rapid hybridization of sample DNA with complementary DNA capture probes. In contrast to conventional methods, the electronic concentration process has the distinct advantage of significantly accelerating the rate of hybridization. In addition, since the test molecules are concentrated electronically over the test site, it reduces the time required for analysis.

Fig. B

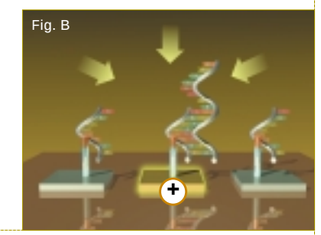
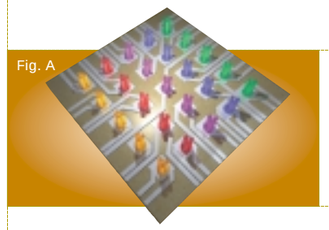


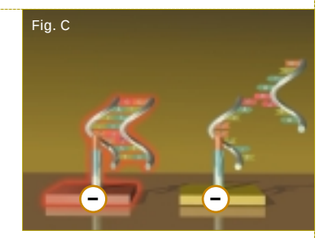
Fig. A



An array of specifically bound DNA probes can be assembled or addressed site by site, row by row on Nanogen's semiconductor microchip.

Electronic Stringency Control Electronic stringency control provides a means to quickly and easily remove unbound and nonspecifically bound DNA as part of the hybridization process (Figure C). Electronic stringency provides quality control for the hybridization process and ensures that any bound pairs of DNA are truly complementary. The precision, control and accuracy of Nanogen's platform technology, through the use of the controlled delivery of current in the electronic stringency process, permits the detection of single point mutations, single base pair mismatches, or other genetic mutations, which have significant implications in a number of disease states.

Fig. C



Integrated Operational Features Nanogen's chip technology is integrated into a fully automated system that can be used to perform several functions. The system has a unique open-architecture design which allows researchers to define, select and build their own arrays. It is also capable of simultaneously analyzing multiple biochemically unrelated test sites from a single sample.

Integrating Microelectronics with Molecular Biology

Electronic manipulation allows rapid and selective stringency conditions to be applied to individual test sites, which cannot be achieved with conventional methods. In contrast to conventional approaches, Nanogen's technology can accommodate both short and long single stranded fragments of DNA on the same chip. This flexibility reduces the required number of probes and therefore test sites on the microchip, relative to conventional DNA arrays, which are difficult to control, require more uniformity in the sample and require greater replication of possible base pair matches.

Strand Displacement Amplification Nanogen gained access to Strand Displacement Amplification (SDA) through its relationship with Becton Dickinson for applications in infectious disease diagnostics, genetic testing and oncology. SDA is a proprietary process whereby very low numbers of diagnostic targets in a test sample are enzymatically amplified to exponentially higher levels to simplify the accurate detection of these targets. The speed, simplicity and isothermal nature of SDA makes it well suited for use in conjunction with the Nanogen technology. Early experiments suggest that it may also prove useful in the Company's longer-term sample-to-answer applications.

Using the power of microelectronics, a researcher can place, or "address," a particular sequence of DNA to a specific test site. This DNA "probe" can then be used to identify and characterize unknown charged molecules through subsequent tests.

Electronic Multiplexing Nanogen's electronic multiplexing feature allows the simultaneous analysis of multiple test sites from a single sample. Electronic multiplexing is facilitated by the ability to independently control individual test sites which allows for the simultaneous use of biochemically unrelated molecules on the same microchip. Sites on a conventional DNA array cannot be individually controlled, and therefore the same process steps must be performed on the entire array. The use of electronics in Nanogen's technology provides increased versatility over these conventional methods.

In contrast to conventional approaches, Nanogen's technology can accommodate both short and long single stranded fragments of DNA on the same chip. This flexibility reduces the required number of probes and therefore test sites on the microchip.

Integrating Microelectronics with Molecular Biology

Fluorescent Array Analysis After preparing a sample on a chip complete with the appropriate hybridized test molecules, the Nanogen instrument can provide qualitative and quantitative analysis via a built-in, programmable, fluorescent scanner. The microprocessor controlled central operating system scans, monitors, quantifies and reports the results to the operator.

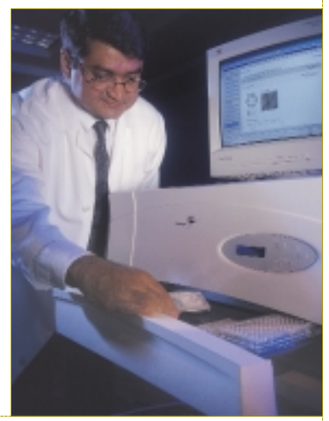
The Nanogen Advantage

By applying the capabilities of microelectronics to complex life science applications, Nanogen's platform technology offers several advantages when compared to existing technologies.

The Nanogen system is fast. Because existing technologies rely on passive hybridization, i.e. allowing biochemical reactions to occur on their own, obtaining results can take hours. The Nanogen chip method, on the other hand, requires only a fraction of the time because of its novel use of electronics.

The Nanogen system is specific and accurate. Existing methods generally require that all test sites be tested under similar biochemical conditions. With the Nanogen chip, each test site can be treated differently and individually customized. In addition, the Nanogen system has the power to accurately identify single base pair mutations and distinguish highly repetitive sequences. These features are important for a number of genomic and forensic applications.

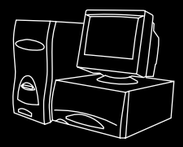
The Nanogen system is versatile. Unlike other chip methods, the Nanogen microchip system is capable of running biochemically dissimilar samples on the same chip. The user-friendly features and significant advantages offered by the Nanogen system allow researchers to work faster and more efficiently, leading to a variety of potential applications.



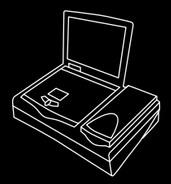
Sample → Instrument → Result

The Company believes its proprietary integrated system will speed the time-to-result for diagnostic tests and patient treatment, offering customers the opportunity to lower their costs and improve productivity.

With a diverse employee base which includes experts in molecular biology, chemistry, engineering, microelectronics, physics, and optics, Nanogen plans to turn its unique technology platform into a standard for molecular identification and analysis across a broad spectrum of applications.



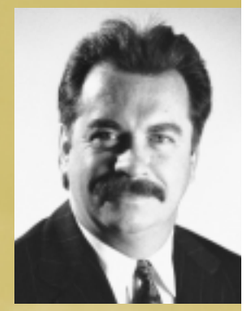
Centralized
Laboratory based benchtop instrument systems will provide the foundation for Nanogen's initial product focus.



Portable
The application of Nanogen technology and integrated sample processing within a low-cost, portable platform could bring the power of genetic based analysis to diverse markets and users.

Remote
Continued miniaturization of Nanogen's microelectronic based system may allow the development of a palm-sized instrument for remote use.

[Our Commercial Strategy]



Nanogen believes that the speed and flexibility of our “build-your-own-chip” feature will be very attractive to researchers and will help drive further application development.

Harry J. Leonhardt, Esq.
Vice President, General Counsel and Secretary

(Individual)

Daniel D. Burgess
Vice President, Chief Financial Officer

(Pictured above from left to right)

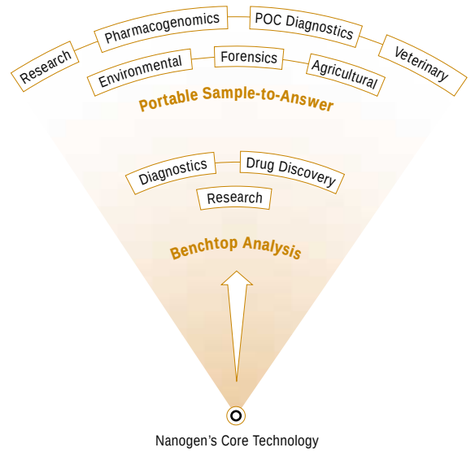
Nader Bitar, Esq.
Corporate Attorney

Dana A. Krzyston, C.P.A.
Director of Finance

Cherilyn J. Caviness
Director, Human Resources

Central, Portable and Remote Applications

The power to facilitate the use of genetic or digital information creates market opportunities that have few boundaries. We are planning to introduce a benchtop molecular system to the biomedical and genomics-based research market in late 1999. Over time, it is expected that additional features, such as sample-to-answer capability and portability at reduced cost, will broaden the market potential significantly.



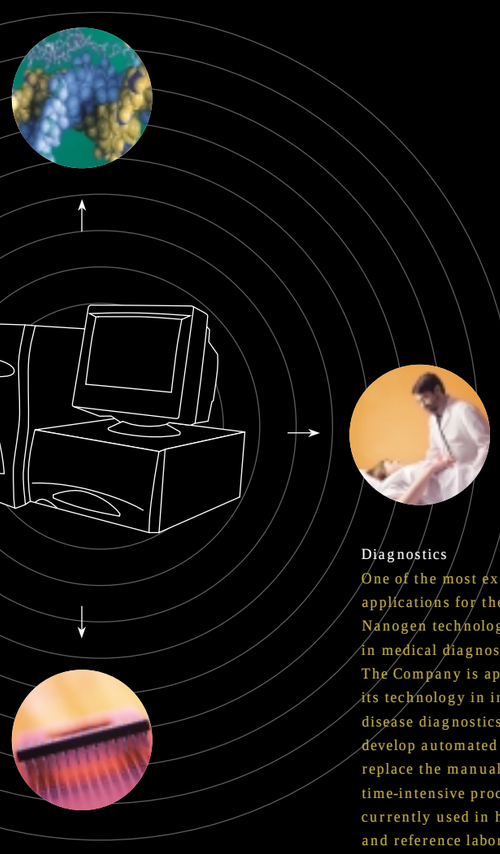
Nanogen's commercial strategy is to make its proprietary platform technology a standard for molecular identification and analysis across a broad range of applications. The Company's initial product will be a benchtop analysis system for use in biomedical research applications. The capabilities that are incorporated into this system will form the core technology platform that will serve as the basis for expanding into a variety of other biological and nonbiological areas.

Nanogen believes that the speed and flexibility of our "build-your-own-chip" feature will be very attractive to researchers and will help drive further application development. Over time, it is expected that additional features, such as sample-to-answer capability and portability at reduced cost, will broaden the market potential from an attractive research market to one many times larger that includes diagnostics, drug discovery, forensics, agriculture, veterinary and environmental applications.

The Company is seeking to make the core hardware and disposable platform as consistent as possible across applications. By doing this, Nanogen believes it can establish its platform as an industry standard and also reduce development costs for follow-on applications. This approach should also allow the Company to achieve significant manufacturing economies of scale that will help reduce the per unit cost of goods sold over time.

Because of the importance of the research market in developing new applications, Nanogen anticipates being directly involved with marketing its first product line to this segment of its business. For follow-on applications, we anticipate partnering with companies that can bring infrastructure, expertise and a customer base to a particular application, allowing Nanogen to focus its resources on product development. Examples of this approach include Nanogen's relationships with Becton Dickinson in infectious disease diagnostics and Aventis (Hoechst AG) in drug discovery. In both of these collaborations, Nanogen is partnering with recognized experts in their fields in such a way that Nanogen receives development funding, sales and marketing expertise, as well as a substantial portion of the downstream profits. The Company anticipates entering into similar arrangements with other companies for additional applications, as well as continuing to use grant resources to help offset future development expenditures.

Research
Unlike many of the high-density arrays and sequencing technologies now in the marketplace, Nanogen's focus will be on targeted analysis of data from the genomics revolution – helping researchers define the function of genes rather than discover new genes.



Drug Discovery
Nanogen is developing a powerful tool with the capability to elucidate specific pathways for therapeutic intervention, identify lead compounds and simultaneously assess the efficacy and toxicology of these compounds in model systems.

Diagnostics
One of the most exciting applications for the Nanogen technology is in medical diagnostics. The Company is applying its technology in infectious disease diagnostics to develop automated tests to replace the manual and time-intensive procedures currently used in hospitals and reference laboratories.

[Market Applications]

Over time it is expected that additional features such as sample-to-answer capability and portability at reduced cost will significantly broaden the market opportunity.

(Pictured above from left to right)

Stephen A. McCusker
Senior Director, Manufacturing

James R. Prutow
Director, Quality Control

Richard R. Anderson, Ph.D.
Executive Director, Product Development and Aventis Project Team

(Individual)

Clare L. "Bud" Bromley III
Senior Vice President, Marketing and Business Development

Research, Diagnostics and Drug Discovery

In 1999 Nanogen expects to complete development of its first commercial product, a benchtop molecular analysis system, for use in the biomedical research market. Nanogen's technology is particularly well suited for the emerging area of functional genomics, given the speed, user programmability, multiplexing capability and high sensitivity of this unique technology platform. It can also be used in conjunction with high throughput technologies such as high-density arrays and sequencers.

(Individual)

Kieran T. Gallahue
Vice President, Strategic Marketing

(Pictured above from left to right)

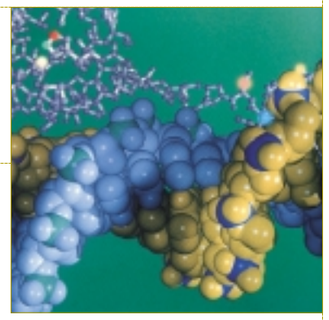
Michael I. Nerenberg, M.D.
Senior Director, Molecular Biology

John J. Carrino, Ph.D.
Director, Becton Dickinson Product Team

Mark L. Collins, Ph.D.
Senior Director, Advanced Technology

John R. Havens, Ph.D.
Director, Chemistry

Research Recent market research indicates that scientists may want to use high throughput devices to discover genes and then use more targeted technology like that offered by Nanogen to explore the function of these genes. The potential for this emerging market is anticipated to grow to nearly $500 million by 2002.



Research Market

Researchers are just beginning to move beyond gene discovery into functional genomics. Nanogen's anticipated product introduction to select accounts in late 1999 is well timed to meet this emerging market need. Independent market research has indicated that the potential for this targeted array market will grow rapidly from $80 million in 1998 to nearly $500 million by 2002.

Nanogen's initial strategy for entering this market will be to focus on a small number of sophisticated commercial and academic users and provide technical support and application specialists to assist this group of scientists in applying the technology. With these initial users, Nanogen will conduct user group meetings to further identify and develop appropriate applications in this rapidly evolving market. Our initial product offering is expected to include features such as the ability to perform assays on single nucleotide polymorphisms (SNPs), point mutations and genetic repeats in a multiplexed format using a variety of different methods.

Nanogen plans to further define and develop additional capabilities such as gene expression, on-chip amplification and sample processing. As these capabilities are added, the Company expects to expand its customer base to a much wider group that may ultimately encompass a significant percentage of the biomedical research labs in the U.S. and other parts of the world.

Diagnostics

One of the most exciting applications for the Nanogen technology is in medical diagnostics. Target markets include infectious disease diagnostics, as part of the Company's joint venture with Becton Dickinson and genetic testing, including pharmacogenomics, an area that is anticipated to grow

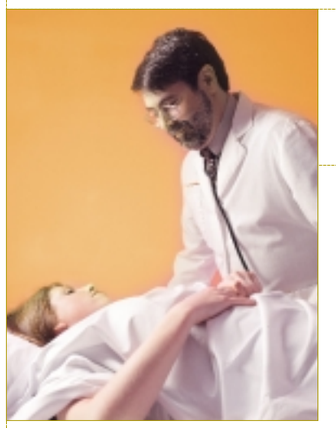
Research, Diagnostics and Drug Discovery

rapidly as a result of the genomics revolution. Nanogen has already made significant progress in its 50/50 joint venture with Becton Dickinson in developing infectious disease diagnostics.

Infectious Disease Diagnostics The Company is applying its technology in infectious disease diagnostics to develop automated tests to replace the manual and time-intensive procedures currently used in hospitals and reference laboratories. One of the roles of the clinical microbiology laboratory is to detect, identify and determine antibiotic sensitivity of disease-causing microorganisms. The conventional process may take days or weeks to complete while the patient, requiring immediate therapy, must be treated by the clinician based upon the best clinical facts available at that time. Upon receipt of the diagnostic analysis from the laboratory, the clinician may need to modify the initial patient treatment protocol in order to treat the patient effectively.

Current culture-based methods detect a single microorganism at one time. Because a particular infectious episode may be caused by one of many microorganisms or several microorganisms together, multiple tests may be required to arrive at the correct diagnosis. Nanogen's technology addresses shortcomings of current methods by allowing the simultaneous analysis of multiple microorganisms from a single patient sample. The Company believes its proprietary integrated system will speed the time-to-result for diagnostic tests and patient treatment, offering customers the opportunity to lower their costs and improve productivity by automating a significant portion of their labor-intensive testing.

Nanogen completed all key milestones in its collaboration with Becton Dickinson during 1998 and is moving forward in the development pathway. We believe that the diagnostic instrument and cartridge we are developing can be the core platform for a wide variety of products in infectious disease.



Diagnostics One of the important benefits of Nanogen's technology platform is the potential to provide a bridge from a benchtop research tool to a portable, inexpensive sample-to-answer system that can be used in a doctor's office or other environments.

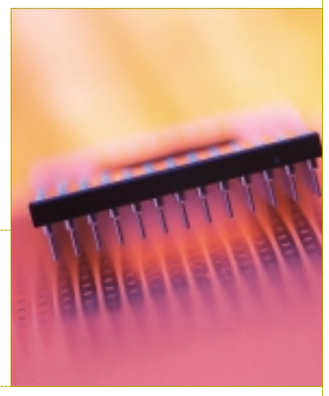
Pharmacogenomics One of the important benefits of Nanogen's technology platform is the potential to provide a bridge from a benchtop research tool to a portable, inexpensive sample-to-answer system that can be used in a doctor's office or other environments. An example of how this bridging capability may be useful is in the emerging area of pharmacogenomics. The principle behind pharmacogenomics is that patients with a certain genetic profile will react differently to a given drug than a different group of patients with a slightly altered genetic makeup. One goal of pharmacogenomics is for physicians to be able to prescribe, based on a patient's genetic profile, the appropriate medicine for that particular patient that will maximize efficacy and minimize side effects.

Research, Diagnostics and Drug Discovery

With Nanogen's technology, the opportunity exists for pharmaceutical and biotechnology companies to use the initial benchtop system to identify important genetic variations early in the drug development process; to use a portable version of the system during clinical trials to help stratify patients and identify those receiving the maximum benefit; and, ultimately, to develop a small sample-to-answer FDA-approved diagnostic test that can be used in a doctor's office while a patient is waiting.

The Company's electronic technology may enable the rapid manipulation of potential drug molecules against targets such as bacteria, virus, tumor, or immune response cells addressed to the microchip to determine drug efficacy, thus simplifying the drug discovery process.

As part of its collaboration with Aventis, Nanogen is working on a novel electronic combinatorial approach toward drug screening and discovery by combining technology from both companies. Nanogen and Aventis met all of the milestones for this collaboration in 1998, agreed to extend the research program from two to three years and are now in discussions about how to best commercialize this product opportunity.



Drug Discovery As part of its collaboration with Aventis, Nanogen is working on a novel electronic combinatorial approach toward drug screening and discovery by combining technology from both companies.

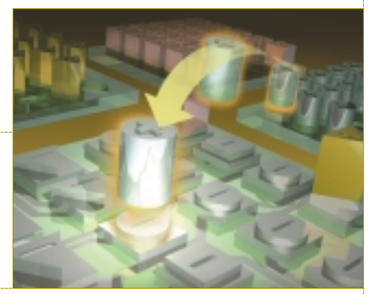
Drug Discovery

It is estimated that the preclinical drug discovery process currently takes an average of six and one-half years. Consequently, there is a significant demand for improved tools which accelerate the drug discovery process. The Nanogen system is well suited for applications in drug discovery due to its microelectronic array format and independent test site control features that can provide a novel, more efficient automated method for drug lead optimization.

Emerging Markets The market potential of Nanogen's semiconductor microchip technology beyond these initial areas is enormous, including biologic applications in the areas of forensics, agriculture, veterinary medicine and environmental testing. The technology has already received interest from companies involved in a wide range of these emerging fields. Nanogen will continue to explore new applications of its technology to extend its reach into additional markets.

Nonbiologic Applications

Nanogen completed its acquisition of Nanotronics in January 1998 to apply its core microelectronics biochip technology to potential applications in nonbiologic areas which include nanofabrication and molecular electronics. Based on the intrinsic self-assembly and programmable qualities of DNA, the Nanotronics technology uses DNA as a "molecular building block" to direct the heterogeneous integration of a number of molecular and non-molecular components onto microelectronic "host-substrate" chips.



Nanotronics Nanotronics technology is being developed for use in heterogeneous arrays that incorporate components ranging in size from molecular scale to micron scale, something traditional methods cannot achieve. Also, using electric field specificity control, this technology may enable novel integrated devices to be designed and built in a more timely and cost-effective fashion.

Presently, there are a number of academic groups, government research organizations and electronics companies involved in the development of molecular electronic components, but no one has successfully developed a way to integrate them into useful devices. The Nanotronics integrated "host substrate" or "motherboard" array capability could provide useful new tools to take advantage of these novel molecular electronic components.

In 1998, Nanotronics received several core patents for the use of its technology in the area of optical memory. These patents have generated interest from third parties interested in significantly expanding the memory storage capacity of optical memory devices.

Advantages of the Nanotronics Approach

Nanotronics' powerful electronic "pick and place" array technology has several advantages compared to the more difficult conventional heterogeneous integration processes. The Nanotronics technology could be applied to the assembly of heterogeneous arrays that incorporate components ranging in size from molecular scale to micron scale, which is something traditional methods cannot achieve. Using Nanotronics electric field specificity control, this technology may enable novel integrated devices to be designed and built in a more timely and cost-effective fashion.

The Company is working to expand the capabilities of its technology base for application in a number of these areas. For example, Nanotronics is evaluating the use of its platform technology to facilitate the heterogeneous integration of various microfabricated "lift-off" components like lasers and diodes, for the development of new photonic or electronic devices. Other applications could include analog and digital cell phone circuit improvements, development of new electronic laboratory testing devices or the creation of novel DNA optical storage materials.

Financial Statements

The selected financial data set forth below with respect to our consolidated financial statements has been derived from the audited financial statements. The data set forth below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and notes thereto appearing elsewhere herein:

YEARS ENDED DECEMBER 31,	1998	1997	1996	1995	1994
Consolidated Statement of Operations Data:	*(in thousands, except per share amounts)*				
Revenues:					
Sponsored research	$ 5,461	$ 1,243	$ —	$ —	$ —
Contract and grant revenue	2,172	2,123	1,644	318	—
Total revenues	7,633	3,366	1,644	318	—
Operating expenses:					
Research and development	23,002	11,769	6,931	3,356	1,345
General and administrative	6,420	3,910	2,427	1,646	1,065
Acquired in-process technology	1,193	—	—	—	—
Total operating expenses	30,615	15,679	9,358	5,002	2,410
Equity in loss of joint venture	(610)	—	—	—	—
Interest income (expense), net	2,650	975	(64)	96	34
Net loss	$(20,942)	$(11,338)	$ (7,778)	$(4,588)	$(2,376)
Net loss per share – basic and diluted	$ (1.60)	$ (8.42)	$ (8.08)		
Number of shares used in computing net loss per share – basic and diluted	13,097	1,347	963		
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 62,245	$ 19,498	$ 16,775	$ 4,318	$ 206
Working capital	57,701	16,775	14,853	3,931	(22)
Total assets	72,704	23,215	19,090	6,339	1,622
Capital lease obligations, less current portion	4,176	1,193	935	631	347
Accumulated deficit	(47,431)	(26,489)	(15,151)	(7,372)	(2,784)
Total stockholders' equity	61,051	18,599	15,680	4,950	865

This annual report contains forward-looking statements about our business and results of operations that are subject to risks and uncertainties that could cause our actual results to vary materially from those reflected in the forward-looking statements. Words such as "believes," "anticipates," "plans," "estimates," "future," "could," "may," "should," "hope," "expect," "envision," "potentially," variations of such words and similar expressions are intended to identify such forward-looking statements. Factors that could cause or contribute to these differences include those discussed (i) below under the caption "Risks and Uncertainties," and (ii) under the caption "Factors That May Affect Results" and elsewhere in the Company's Form 10-K for the fiscal year ended December 31, 1998 as filed with the Securities and Exchange Commission. Readers are cautioned not to place undue reliance on these forward-looking statements which speak only as of the date hereof. We disclaim any intent or obligation to update these forward-looking statements.

Overview

Since commencing operations in 1993, we have applied substantially all of our resources to our research and development programs. We have incurred losses since inception and, as of December 31, 1998, had an accumulated deficit of approximately $47.4 million. We expect to incur significant losses over at least the next several years as we expand our research and product development efforts and attempt to commercialize our products.

We currently have no products available for sale and no revenues have been generated from the sale of products arising out of our technology. We anticipate our main sources of revenues during at least 1999 will be payments from contracts, grants and sponsored research. We believe our future operating results may be subject to quarterly fluctuations due to a variety of factors, including the achievement of milestones under our collaborative agreements, whether and when new products are successfully developed and introduced by us or our competitors, and market acceptance of products under development. Payments under sponsored research agreements will be subject to significant fluctuations in both timing and amount and therefore our results of operations for any period may not be comparable to the results of operations for any other period.

Results of Operations

Years Ended December 31, 1998, 1997, and 1996

Revenues For the year ended December 31, 1998, revenue from sponsored research totaled approximately $5.5 million compared to approximately $1.2 million and none for the years ended December 31, 1997 and 1996, respectively. Revenues are recorded under these arrangements as expenses are incurred. Payments received in advance under these arrangements are recorded as deferred revenue until the expenses are incurred. Sponsored research revenue recognized during the year ended December 31, 1998 was earned in connection with a joint venture collaboration with Becton Dickinson entered into in October 1997, a research and development agreement with Aventis Research and Technology (an affiliate of Hoechst AG), entered into in December 1997, and a nonexclusive research and development agreement with Élan, entered into in December 1997. Sponsored research revenue recognized during the year ended December 31, 1997 was earned in connection with a research agreement with Becton Dickinson effective in May 1997 which was subsequently superceded by the joint venture collaboration entered into in October 1997.

Revenue from contracts and grants totaled approximately $2.2 million for the year ended December 31, 1998 compared to approximately $2.1 million and approximately $1.6 million for the years ended December 31, 1997 and 1996, respectively. The increase in contract and grant revenue was due to an increase in the number of active contracts to seven during the year ended December 31, 1998 from six and three during the years ended December 31, 1997 and 1996, respectively. During 1998, we were awarded a contract by the Space and Naval Warfare Systems Center San Diego for the Defense Advance Research Projects Agency which could total in excess of $7.0 million over the next five years. In conjunction with the acquisition of Nanotronics, Inc. in January 1998, we assumed two contracts with the Department of the Air Force, Information Directorate of the Air Force Research Laboratory, Rome, New York. In 1997, we received funding from The National Institute of Standards and Technology — Advanced Technology Program under a $2.0 million two-year award initiated in May 1997. In 1996, we received funding from The National Institute of Standards and Technology — Advanced Technology Program under a $2.0 million two-year award initiated in August 1995.

Continuation of sponsored research agreements, contracts and grants is dependent upon achieving specific contractual milestones. The recognition of revenue under sponsored research agreements, contracts and grants may vary from quarter to quarter and may result in significant fluctuations in operating results from year to year.

Research and Development Expenses Research and development expenses increased to approximately $23.0 million during the year ended December 31, 1998 from approximately $11.8 million and $6.9 million for the years ended December 31, 1997 and 1996, respectively. Research and development expenses include salaries, lab supplies, consulting, travel, facilities and other expenditures relating to research and product development. The increases from year to year are attributable to the continued growth of research and product development efforts, including hiring of additional scientific, engineering and operations personnel, increased purchases of laboratory supplies, equipment and services to support the sponsored research programs with Becton Dickinson, Aventis and Élan, development of engineering prototypes for our lead products, expansion of research and development facilities, and increases in license and research fees incurred in further exploring and developing our core technologies. We expect research and development spending to increase over the next several years as our research and product development efforts continue to expand.

General and Administrative Expenses General and administrative expenses totaled approximately $6.4 million in 1998 compared to approximately $3.9 million in 1997 and approximately $2.4 million in 1996. This increase is principally due to increased legal costs associated with enhancing and maintaining our intellectual property portfolio, the expansion of activities related to marketing our potential products, and to deferred compensation expense recognized during the year ended December 31, 1998 in excess of what was recorded during the year ended December 31, 1997. Deferred compensation represents the excess of the fair value for financial statement presentation purposes over the exercise price for common stock issuable on exercise of stock options. General and administrative expenses are expected to continue to increase as we expand our sales and marketing and general and administrative organizations and as we continue to enhance and maintain our intellectual property portfolio.

Acquired In-Process Technology During the first quarter of 1998, we issued 200,000 shares of our Series D Convertible Preferred Stock at $6.00 per share in exchange for all of the outstanding shares of Nanotronics, Inc. This Series D Preferred Stock converted into 132,334 shares of common stock at our initial public offering. The in-process technology acquired relates generally to nanotechnology and molecular electronics. Nanotronics' research is currently partially funded through government contracts from the Information Directorate of the United States Air Force Research Laboratory. We recorded $1.2 million in expenses relating to acquired in-process technology during the year ended December 31, 1998.

Interest Income (Expense), Net We had net interest income of approximately $2.6 million in 1998 compared to net interest income of approximately $975,000 in 1997 and net interest expense of $64,000 in 1996. The significant increase in 1998 was primarily attributable to larger cash balances resulting from net proceeds received upon the completion of our initial public offering and concurrent private placement of equity securities in April 1998. Proceeds from private placements between December 1996 and May 1997 resulted in increased interest income during 1997 compared to 1996. The increase in interest income was partially offset by higher interest expense during 1998, compared to 1997 and 1996, due to greater amounts of equipment under capital leases in 1998 than in 1997 and 1996.

Equity in Loss of Joint Venture We recognized a loss of approximately $610,000 for the year ended December 31, 1998 from the joint venture formed in 1997 with Becton Dickinson, based on the loss allocation described in the joint venture agreement which states that losses will be allocated in proportion to and not to exceed cash contributions. There was no loss during 1997 as no cash contributions were made by us to the joint venture during the year ended December 31, 1997.

Liquidity and Capital Resources

In April 1998, we completed our initial public offering of common stock generating net proceeds of approximately $38.7 million. Concurrent with the initial public offering, we completed a private placement of our equity securities with Becton Dickinson, Hoechst (through a subsidiary) and Élan, for net proceeds of $6.0 million, $10.0 million and $5.0 million, respectively. Prior to our initial public offering, we had financed our operations primarily through the net proceeds received from private placements of preferred equity securities totaling approximately $44.1 million.

We fund most of our equipment acquisitions and leasehold improvements through capital leasing facilities. During 1998, we received proceeds from equipment and leasehold improvement financing of approximately $5.7 million compared to $1.2 million and $404,000 of proceeds received during 1997 and 1996, respectively. We anticipate that we will continue to use capital equipment leasing or

debt facilities to fund most of our equipment acquisitions and leasehold improvements.

Net cash used in operating activities was approximately $15.1 million, $9.6 million and $6.1 million for 1998, 1997 and 1996, respectively. Cash used for operations was primarily related to the costs associated with the support of our expanding operations, including higher personnel costs, product development costs, license fees and legal fees relating to establishing and maintaining our intellectual property rights.

At December 31, 1998, we had approximately $62.2 million in cash and cash equivalents. We expect that our existing capital resources, combined with anticipated revenues from potential product sales, sponsored research agreements, contracts and grants will be sufficient to support our planned operations through at least the next 24 months. This estimate of the period for which we expect our available sources of liquidity to be sufficient to meet our capital requirements is a forward-looking statement that involves risks and uncertainties, and actual results may differ materially. Our future liquidity and capital funding requirements will depend on numerous factors including, but not limited to, the extent to which our products under development are successfully developed and gain market acceptance, the timing of regulatory actions regarding our potential products, the costs and timing of expansion of sales, marketing and manufacturing activities, prosecution and enforcement of patents important to our business, the results of clinical trials, competitive developments, and our ability to maintain existing collaborations and to enter into additional collaborative arrangements. We have incurred negative cash flow from operations since inception and do not expect to generate positive cash flow to fund our operations for at least the next several years. We may need to raise additional capital to fund our research and development programs, to scale up manufacturing activities and expand our sales and marketing efforts to support the commercialization of our products under development. Additional capital may not be available on terms acceptable to us, or at all. If adequate funds are not available, we may be required to curtail our operations significantly or to obtain funds through entering into collaborative agreements or other arrangements on unfavorable terms. Our failure to raise capital on acceptable terms when needed could have a material adverse effect on our business, financial condition or results of operations.

In January 1998, we acquired all of the outstanding capital stock of Nanotronics Inc. ("Nanotronics"). Nanotronics' research, which is currently funded in part through government grants with the Department of the Air Force, is exploratory in nature and at a very early stage. The in-process technology, which was acquired as a result of our purchase of Nanotronics, relates generally to nanotechnology and molecular electronics. Potential applications of the technology include high-density optical storage systems for electronics applications and self-assembly applications relating to microfabrication and nanofabrication. We anticipate that funding for Nanotronics will continue primarily through government grant sources until feasibility is demonstrated. If technological feasibility is demonstrated, we expect to pursue corporate partnership opportunities. Given the early stage of the technology, we have not yet determined which applications may be developed and the extent of our resources to be committed to each such application.

Net Operating Loss Carryforwards

As of December 31, 1998, we had federal and California net operating loss ("NOL") carryforwards of approximately $41.4 million and $6.3 million, respectively, and approximately $1.7 million and $990,000 of research and development ("R&D") tax credits available to offset future federal and state income taxes, respectively. The federal and California NOL carryforwards are subject to alternative minimum tax limitations and to examination by the tax authorities. The federal tax loss carryforwards will begin expiring in 2006, unless previously utilized, and the California tax loss carryforwards will continue to expire in 1999, unless previously utilized. The federal and California R&D tax credit carryforwards will begin expiring in 2007 unless previously utilized. We believe that our initial public offering combined with the concurrent private placement, which occurred in April 1998, may constitute a "change of ownership" under federal income tax regulations. As such, we may be limited in the amount of NOLs incurred prior to our initial public offering, which may be utilized to offset future taxable income. Similar limitations may also apply to utilization of R&D tax credits to offset taxes payable. However, we do not believe such limitations will have a material impact on our ability to utilize the NOLs. See Note 9 of Notes to Financial Statements.

Year 2000 Compliance

The Year 2000 issue arises from the fact that many existing computer software programs use only the last two digits to refer to a specific year, instead of all four digits. As a result, computer programs that have date-sensitive software, or operate with date-sensitive data, may recognize a date using "00" as the year 1900 rather than the year 2000. This could result in a system failure or miscalculation causing disruptions in operations, including, among other things, the temporary inability to process transactions or engage in normal business activities.

We have assembled a Year 2000 task force to ensure that we are Year 2000 compliant by December 31, 1999. Our task force, assisted by third parties, is conducting an assessment of our computer systems, software applications, equipment and outside vendors and suppliers to identify which systems may be impacted by Year 2000 issues. We are making appropriate modifications and updates to internal information systems, some of which have been or are being done in the ordinary course of business. Our goal is to ensure, to the extent possible, that the transition from the year 1999 to the year 2000 will not have a materially adverse impact on operational, research or administrative capabilities. After completing the assessment process, we will develop a corporate-wide comprehensive strategy to address the problems associated with the Year 2000 transition. It is expected that this strategy will continually evolve as new issues arise and old ones disappear.

We are in the process of assessing and initiating formal communications with our current partners and third party suppliers of products and services, including third parties with whom we have material relationships, in an effort to obtain written certification of their compliance to the Year 2000 issue. We intend to develop an action list, as well as contingency plans based on the assessment of each third party's response to the Year 2000 issue. In the event any such third party cannot timely provide us with products, services, or continue collaborations with us, our results of operations could be adversely affected. For example, our research and development efforts could be interrupted resulting in delays in meeting our obligations to existing collaborations, delays in progress of our product development and, consequently, delays in attracting new collaborative partners.

Based upon a preliminary review of our systems, we estimate that the total cost of achieving Year 2000 readiness for our internal systems and equipment will be less than $150,000.

Since no significant issues have arisen based on our preliminary assessments, we have not yet developed a contingency plan to address any material Year 2000 issues. A contingency plan, if required, will be developed immediately upon completion of our assessment. While we continue to believe that the Year 2000 matters discussed above will not have a materially adverse impact on our business, financial condition or results of operations, it is not possible to determine with certainty whether or to what extent we may be affected. We have not developed a reasonably likely worst case scenario with respect to Year 2000 problems we may encounter.

Risks and Uncertainties

The Company's potential products are in various stages of development. Potential products that appear to be promising at early stages of development may not reach the market for a number of reasons. Substantially all of the Company's revenues to date have been derived from its research and development agreements with major collaborators or from government contracts or grants. Prior to generating product revenues from these products, the Company must complete the development of its products. No assurance can be given that the Company's product development efforts will be successful, that required regulatory approvals will be obtained or that any products, if introduced, will be capable of being produced in commercial quantities at reasonable costs or that customer acceptance of these products will be achieved. There can be no assurances that Nanogen will successfully commercialize, manufacture or market its products or ever achieve or sustain product revenues or profitability.

There can be no assurance that the Company's existing collaborations will continue or be performed by the parties or that they will be successful. Nanogen expects to encounter intense competition from a number of companies that offer products in its targeted application areas, including competitors that have substantially greater financial, technical, research and other resources than Nanogen.

The Company faces those risks associated with companies whose products are still in development. These risks include, among others, the Company's need for additional financing to complete its research and development programs and commercialize its technologies. The Company expects to incur substantial additional research and development expenses. The Company may seek additional sources of capital and liquidity through additional collaborative arrangements or through public or private financings. There can be no assurance such collaborations or financings would be available under favorable terms, if at all.

The Company believes that patents and other proprietary rights are important to its business. The Company's policy is to file patent applications to protect technology, inventions and improvements to its inventions that are considered important to the development of its business. The patent positions of healthcare and biotechnology firms, including the Company, are uncertain and involve complex legal and technical questions for which important legal principles are largely unresolved.

Financial Statements

DECEMBER 31,	1998	1997
	(in thousands, except share data)	
Assets		
Current assets:		
Cash and cash equivalents	$ 62,245	$ 19,498
Receivables and other current assets	2,933	700
Total current assets	65,178	20,198
Property and equipment, net	6,980	2,440
Restricted cash	270	359
Other assets	276	218
	$ 72,704	$ 23,215
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 1,066	$ 597
Accrued liabilities	1,433	1,009
Deferred revenue	3,065	1,012
Current portion of capital lease obligations	1,913	805
Total current liabilities	7,477	3,423
Capital lease obligations, less current portion	4,176	1,193
Commitments	—	—
Stockholders' equity:		
Convertible preferred stock, $.001 par value, 5,000,000 and 15,500,000 shares authorized at December 31, 1998 and 1997, respectively; no shares and 13,683,865 shares issued and outstanding at December 31, 1998 and 1997, respectively	—	14
Common stock, $.001 par value, 50,000,000 and 40,000,000 shares authorized at December 31, 1998 and 1997, respectively; 18,835,461 and 3,183,523 shares issued and outstanding at December 31, 1998 and 1997, respectively	19	3
Additional paid-in capital	111,489	48,523
Deferred compensation	(1,512)	(2,323)
Notes receivable from officers	(1,514)	(1,129)
Accumulated deficit	(47,431)	(26,489)
Total stockholders' equity	61,051	18,599
	$ 72,704	$ 23,215

See accompanying notes.

Financial Statements

YEARS ENDED DECEMBER 31,	1998	1997	1996
	(in thousands, except per share data)		
Revenues:			
Sponsored research	$ 5,461	$ 1,243	$ —
Contract and grant revenue	2,172	2,123	1,644
Total revenues	7,633	3,366	1,644
Operating expenses:			
Research and development	23,002	11,769	6,931
General and administrative	6,420	3,910	2,427
Acquired in-process technology	1,193	—	—
Total operating expenses	30,615	15,679	9,358
Loss from operations	(22,982)	(12,313)	(7,714)
Equity in loss of joint venture	(610)	—	—
Interest income (expense), net	2,650	975	(64)
Net loss	$(20,942)	$(11,338)	$(7,778)
Net loss per share – basic and diluted	$ (1.60)	$ (8.42)	$ (8.08)
Number of shares used in computing net loss per share – basic and diluted	13,097	1,347	963

See accompanying notes.

Financial Statements

YEARS ENDED DECEMBER 31,	1998	1997	1996
		(in thousands)	
Operating activities:			
Net loss	$(20,942)	$(11,338)	$(7,778)
Adjustments to reconcile net loss to net cash used in operating activities:			
Acquisition of in-process technology	1,193	—	—
Equity in loss of joint venture	610	—	—
Net (gain)/loss from sale of property, plant & equipment	(13)	—	—
Depreciation and amortization	1,168	527	351
Interest expense converted into convertible preferred stock	—	—	20
Amortization of deferred compensation	2,181	611	—
Changes in operating assets and liabilities:			
Accounts payable	469	117	276
Accrued liabilities	424	(414)	1,175
Deferred revenue	2,053	1,012	—
Receivables and other current assets	(2,233)	(145)	(182)
Net cash used in operating activities	(15,090)	(9,630)	(6,138)
Investing activities:			
Purchase of equipment	(72)	(492)	(114)
Proceeds from sale of assets	29	—	—
Investment in joint venture	(610)	—	—
Net cash used in investing activities	(653)	(492)	(114)
Cash flows from financing activities:			
Restricted cash	89	50	56
Principal payments on capital lease obligations	(1,561)	(670)	(427)
Proceeds from capital lease financing	—	—	593
Issuance of notes payable to stockholders	—	—	2,000
Issuance of common stock	60,052	125	41
Issuance of convertible preferred stock, net of issuance costs	43	13,525	16,448
Interest on notes receivable from officers	(75)	(4)	(2)
Other assets	(58)	(181)	—
Net cash provided by financing activities	58,490	12,845	18,709
Increase in cash and cash equivalents	42,747	2,723	12,457
Cash and cash equivalents at beginning of year	19,498	16,775	4,318
Cash and cash equivalents at end of year	$ 62,245	$ 19,498	$16,775
Supplemental disclosure of cash flow information:			
Interest paid	$ 466	$ 225	$ 188
Supplemental schedule of noncash investing and financing activities:			
Equipment acquired under capital leases	$ 5,652	$ 1,159	$ 404
Issuance of convertible preferred stock in exchange for cancellation of debt and related accrued interest	$ —	$ —	$ 2,021
Common stock issued in exchange for notes receivables from officers	$ 310	$ 1,057	$ —
Issuance of convertible preferred stock and warrants in exchange for in-process technology	$ 1,193	$ —	$ —
Deferred compensation related to stock options	$ 1,370	$ 2,934	$ —

See accompanying notes.

Financial Statements

(in thousands)	CONVERTIBLE PREFERRED STOCK SHARES	CONVERTIBLE PREFERRED STOCK AMOUNT	COMMON STOCK SHARES	COMMON STOCK AMOUNT	ADDITIONAL PAID-IN CAPITAL	DEFERRED COMPENSATION	NOTES RECEIVABLE FROM OFFICERS	ACCUMULATED DEFICIT	TOTAL STOCKHOLDERS' EQUITY (DEFICIT)
Balance at December 31, 1995	5,814	$ 6	1,331	$ 1	$ 12,347	$ —	$ (31)	$ (7,373)	$ 4,950
Issuance of common stock	—	—	284	1	42	—	—	—	43
Repurchase of common stock	—	—	(16)	—	(2)	—	—	—	(2)
Issuance of convertible preferred stock	4,971	5	—	—	18,464	—	—	—	18,469
Exercise of stock option in exchange for notes receivable and accrued interest	—	—	233	—	35	—	(37)	—	(2)
Net loss	—	—	—	—	—	—	—	(7,778)	(7,778)
Balance at December 31, 1996	10,785	11	1,832	2	30,886	—	(68)	(15,151)	15,680
Issuance of common stock	—	—	207	—	129	—	—	—	129
Repurchase of common stock	—	—	(30)	—	(4)	—	—	—	(4)
Issuance of convertible preferred stock	2,899	3	—	—	13,522	—	—	—	13,525
Deferred compensation related to stock options	—	—	—	—	2,934	(2,934)	—	—	—
Amortization of deferred compensation	—	—	—	—	—	611	—	—	611
Exercise of stock options in exchange for notes receivable and accrued interest	—	—	1,175	1	1,056	—	(1,061)	—	(4)
Net loss	—	—	—	—	—	—	—	(11,338)	(11,338)
Balance at December 31, 1997	13,684	14	3,184	3	48,523	(2,323)	(1,129)	(26,489)	18,599
Repurchase of common stock	—	—	(123)	—	(103)	—	90	—	(13)
Exercise of stock options	—	—	115	—	91	—	—	—	91
Sale of stock under employee stock purchase plan	—	—	27	—	108	—	—	—	108
Issuance of common stock pursuant to exercise of warrants	—	—	413	1	130	—	—	—	131
Issuance of convertible preferred stock	232	—	—	—	1,236	—	—	—	1,236
Sale of common stock under initial public offering, net of expenses	—	—	3,900	4	38,731	—	—	—	38,735
Sale of common stock in private placement in conjunction with initial public offering	—	—	1,909	2	20,998	—	—	—	21,000
Conversion of preferred stock upon the completion of initial public offering	(13,916)	(14)	9,277	9	5	—	—	—	—
Deferred compensation related to stock options	—	—	—	—	1,370	(1,370)	—	—	—
Amortization of deferred compensation	—	—	—	—	—	2,181	—	—	2,181
Exercise of stock options in exchange for notes receivable and accrued interest	—	—	133	—	400	—	(475)	—	(75)
Net loss	—	—	—	—	—	—	—	(20,942)	(20,942)
Balance at December 31, 1998	—	$ —	18,835	$19	$111,489	$(1,512)	$(1,514)	$(47,431)	$ 61,051

See accompanying notes.

Note 1 Organization and Summary of Significant Accounting Policies

Organization and Business Activity Nanogen, Inc. ("Nanogen" or the "Company") was incorporated in California on November 6, 1991 as Nanophore, Inc. ("Nanophore"), a wholly owned subsidiary of Nanotronics, Inc. ("Nanotronics"), and pursuant to a Plan of Corporate Separation and Reorganization, Nanophore issued shares of its common stock to the Nanotronics shareholders and commenced operations as Nanogen, Inc. on September 1, 1993. In November 1997, the Company reincorporated in Delaware. The Company was established to develop products in the area of medical diagnostics, biomedical research, genomics, genetic testing and drug discovery by combining advanced microelectronics with molecular biology.

Acquisition of Nanotronics, Inc. In January 1998, the Company consummated an Agreement and Plan of Merger with Nanotronics, Inc. ("Nanotronics"), pursuant to which a wholly owned California subsidiary of the Company merged with and into Nanotronics. Upon the consummation of the merger, the Company issued approximately 200,000 shares of its Series D Convertible Preferred Stock at $6.00 per share in exchange for all of the outstanding shares of Nanotronics. This Series D Preferred Stock converted into 132,334 shares of common stock at the Company's initial public offering. The transaction has been accounted for using the purchase method. The operations and net assets of Nanotronics are not material to the Company's financial position or results of operations, but have been consolidated in the Company's financial statements since the date of acquisition. The technological feasibility of the acquired technology has not been established nor have alternative uses been identified, therefore, the purchase price of approximately $1.2 million has been allocated to acquired in-process technology and has been reflected as a charge in the Company's statement of operations.

The following unaudited table shows the pro forma amounts as if the acquisition had occurred on January 1, 1997 (in thousands):

YEARS ENDED DECEMBER 31,	1998	1997
Revenue	$ 7,667	$ 3,699
Net loss	$(19,753)	$(12,667)
Net loss per share – basic and diluted	$ (1.51)	$ (9.40)

Cash and Cash Equivalents Cash and cash equivalents consist of cash and highly liquid investments which include debt securities with remaining maturities of three months or less when acquired.

Concentration of Credit Risk Cash and cash equivalents are financial instruments, which potentially subject the Company to concentration of credit risk. The Company invests its excess cash primarily in U.S. government securities and marketable debt securities of financial institutions and corporations with strong credit ratings. The Company has established guidelines relative to diversification and maturities to maintain safety and liquidity. These guidelines are reviewed periodically and modified to take advantage of trends in yields and interest rates. The Company has not experienced any material losses on its investments.

All of the Company's investments are with financial institutions and organizations with strong credit ratings with maturities of ninety days or less when acquired.

Restricted Cash During 1994, the Company obtained an irrevocable standby letter of credit in the amount of $463,775 to secure its building lease. The letter of credit is secured by a certificate of deposit, which is shown as restricted cash in the accompanying balance sheet. The letter of credit is reduced by approximately $50,000 annually, and had a balance of approximately $263,775 at December 31, 1998.

Property and Equipment Property and equipment is stated at cost and depreciated over the estimated useful lives of the assets (5 years) using the straight-line method. Leasehold improvements are stated at cost and amortized on a straight-line basis over the shorter of the estimated useful lives of the assets or the lease term.

Revenue Recognition Contract, grant and sponsored research revenue are recorded as the costs and expenses to perform the research are incurred. Payments received in advance under these arrangements are recorded as deferred revenue until the expenses are incurred. Continuation of certain contracts, grants, and research agreements are dependent upon the company achieving specific contractual milestones.

Contract and grant revenue from one customer amounted to approximately 10%, 45% and 70% of total revenues in 1998, 1997 and 1996, respectively. Contract and grant revenue from a second customer amounted to 7%, 13% and 23% in 1998, 1997 and 1996, respectively. Additionally, sponsored research (see Note 10) was 72% and 37% of total revenue in 1998 and 1997, respectively.

New Accounting Standards In June 1997, the Financial Accounting Standards Board issued SFAS No. 130, *Reporting Comprehensive Income*, and SFAS No. 131, *Segment Information*. Both of these standards are effective for fiscal years beginning after December 15, 1997. SFAS No. 130 requires that all components of comprehensive income, including net income, be reported in the financial statements in the period in which they are recognized. Comprehensive income is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources. Net income and other comprehensive income, including foreign currency translation adjustments, and unrealized gains and losses on investments, shall be reported, net of their related tax effect, to arrive at comprehensive income. Comprehensive loss was not different than net loss. SFAS No. 131 amends the requirements for public enterprises to report financial and descriptive information about its reportable operating segments. Operating segments, as defined in SFAS No. 131, are components of an enterprise for which separate financial information is available and is evaluated regularly by the Company in deciding how to allocate resources and in assessing performance. The financial information is required to be reported on the basis that is used internally for evaluating the segment performance. The Company operates in one business and operating segment and the adoption of SFAS No. 131 did not have an impact on the Company's financial statements.

Net Loss Per Share Basic net loss per share has been computed using the weighted average number of common shares outstanding during the periods presented. Common equivalent shares resulting from outstanding preferred stock, options to purchase common stock and warrants to purchase convertible preferred stock are excluded from the computation of diluted net loss per share as their effect is antidilutive.

Recent interpretations by the Securities and Exchange Commission have altered the treatment of preferred stock previously included in computing certain earnings-per-share data. The Company previously considered convertible preferred stock as outstanding in pre-IPO periods from the date of the original issuance in computing earnings per share. To conform with the recent interpretations, the Company has revised its calculation of earnings per share for all pre-IPO periods to exclude the impact of convertible preferred shares.

Stock-Based Compensation As permitted by Statement of Financial Accounting Standards No. 123, the Company has elected to follow Accounting Principles Board Opinion No. 25, Accounting for Stock Issued to Employees, and related Interpretations ("APB 25"), in accounting for its employee stock options. Under APB 25, when the exercise price of the Company's employee stock options is not less than the fair value of the underlying stock on the date of grant, no compensation expense is recognized.

Use of Estimates The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and related disclosures at the date of the financial statements, and the amounts of revenues and expenses reported during the period. Actual results could differ from those estimates.

Stockholders' Equity In November 1997, the Company reincorporated in Delaware and established $.001 par value common and preferred stock. The accompanying financial statements have been retroactively reclassified to reflect the effects of the reincorporation.

Initial Public Offering In April 1998, the Company completed an initial public offering (the "offering") of 3,900,000 shares of common stock, providing the Company with net proceeds of approximately $38.7 million. All outstanding shares of convertible preferred stock outstanding at April 13, 1998 automatically converted into 9,277,275 common shares upon the closing of the offering. Prior to the closing of the offering, the Company effected a 2-for-3 reverse stock split. All common stock share numbers have been retroactively adjusted to reflect this 2-for-3 stock split.

Concurrently with the offering, the Company completed a private placement of 1,909,089 shares of its common stock to Becton, Dickinson and Company, Hoechst AG (through a subsidiary) and Élan Corporation, plc, resulting in net proceeds to the Company of $6.0 million, $10.0 million and $5.0 million, respectively.

Note 2 Property and Equipment

Property and equipment consist of the following (in thousands):

DECEMBER 31,	1998	1997
Scientific equipment	$ 3,130	$ 2,059
Office furniture and equipment	2,030	946
Leasehold improvements	4,141	646
	9,301	3,651
Less accumulated depreciation and amortization	(2,321)	(1,211)
	$ 6,980	$ 2,440

Note 3 Accrued Liabilities

Accrued liabilities are comprised of the following (in thousands):

DECEMBER 31,	1998	1997
Accrued compensation	$ 754	$ 608
Other	679	401
	$1,433	$1,009

Note 4 Commitments

Licensing and Research Agreements The Company is a party to licensing and research agreements with various entities whereby the company is obligated to pay certain license fees and research funding. None of these agreements individually are considered material. Under some of these agreements, the Company may be required to pay royalties on future sales in the event that the Company incorporates the licensed technology in one or more of its potential commercial products.

Leases The Company leases its facilities and certain equipment under operating lease agreements that expire at various dates through 2005. The minimum annual rents are subject to specified annual rental increases. Rent expense was approximately $532,000, $461,000 and $443,000 in 1998, 1997, and 1996, respectively.

The Company leases certain equipment under capital lease obligations. Cost and accumulated amortization of equipment under capital lease were approximately $9,045,000

and $2,199,000 at December 31, 1998 and $3,365,000 and $1,142,000 at December 31, 1997, respectively.

Annual future minimum obligations for operating and capital leases as of December 31, 1998 are as follows (in thousands):

	OPERATING LEASES	CAPITAL LEASE OBLIGATIONS
1999	$ 599	$2,506
2000	612	2,284
2001	626	1,837
2002	651	419
2003	677	—
Thereafter	882	—
Total minimum lease payments	$4,047	$7,046
Less amount representing interest		957
Present value of future minimum capital lease obligations		6,089
Less amounts due in one year		1,913
Long-term portion of capital lease obligations		$4,176

As of December 31, 1998, the Company has approximately $1.4 million of available funding under equipment lease lines.

Note 5 Related Party Transactions

In November 1998, the Company entered into a Standstill Agreement and Right of First Negotiation (the "Agreement") with Graviton, Inc. ("Graviton"), granting the Company an exclusive period of time to negotiate a license to certain technologies licensed to and/or developed by Graviton. In exchange for the Agreement, the Company advanced to Graviton through a secured loan the sum of $500,000. If a license agreement is negotiated, the $500,000 loan will be creditable against any license fees due thereunder. Messrs. Birndorf and Byers, both directors of the Company, are also directors of and investors in Graviton. Additionally, Dr. Tina Nova, the Company's President and Chief Operating Officer, is the spouse of the president of Graviton, Dr. Michael Nova. Together, Messrs. Birndorf, Byers and Nova hold a controlling ownership interest in Graviton. Given the interrelationship among the parties, the Company's Board appointed a committee of disinterested Board members to evaluate this opportunity. After full disclosure of the above-referenced interrelationships, the Committee determined that it was in the best interests of the Company to proceed as outlined.

Note 6 Stockholders' Equity

Convertible Preferred Stock In December 1997, the Board of Directors authorized, following the offering, 5,000,000 shares of undesignated preferred stock at a par value of $.001. The Board of Directors has the authority, without further action by the stockholders, to issue from time to time the preferred stock in one or more series and to fix the number of shares, designations, preferences, powers, and relative, participating, optional or other special rights and the qualifications or restrictions thereof. At December 31, 1998, there was no preferred stock outstanding.

Warrants At December 31, 1998, there were outstanding warrants to purchase an aggregate of 26,084 shares of common stock at exercise prices ranging from $.02 to $5.12 per share which expire at various dates through April 2000. Pursuant to the research and development collaboration agreement with Aventis Research and Technologies, an affiliate of Hoechst AG ("Aventis"), (see Note 10), the Company will be issuing to Aventis a warrant to purchase 120,238 shares of common stock exercisable through March 2004 at an exercise price of $8.75 per share.

Stock Option Plans Under the Company's 1993 Stock Option Plan, as amended in April 1995, 654,671 shares of common stock were reserved for issuance upon exercise of stock options granted by the Company. In April 1995, the Board of Directors adopted the 1995 Stock Option/Stock Issuance Plan under which 333,333 shares of common stock were reserved for issuance. In April 1996, an additional 650,000 shares of common stock were reserved for issuance under the 1995 Plan. The plans provide for the grant of stock options to officers, directors, and employees of, and consultants and advisors to, the Company.

In August 1997, the Board of Directors adopted the 1997 Stock Incentive Plan, under which 1,641,341 shares of common stock were reserved for issuance upon exercise of stock options granted by the Company. In November 1997, an additional 600,000 shares were reserved for issuance under the 1997 Plan.

The exercise price of incentive stock options to be granted under the stock option plans shall not be less than 100% of the fair value of such shares on the date of grant. The exercise price of nonqualified stock options to be granted under the plans shall not be less than 85% of the fair value of such shares on the date of grant. Options granted prior to April 13, 1998 (the date of the initial public offering) are generally exercisable immediately; however, options granted subsequent to the initial public offering are generally exercisable only as they vest. All shares granted under the Stock Option Plans generally vest at the rate of one fourth after one year and the remainder ratably over the remaining three years. Options granted have a term of up to ten years.

As of December 31, 1998, 278,316 shares are available for future grant under the stock option plans. The following table summarizes stock option activity through December 31, 1998:

	NUMBER OF SHARES	PRICE PER SHARE	WEIGHTED AVERAGE EXERCISE PRICE PER SHARE
Outstanding at December 31, 1995	114,532	$ .02 – $ .15	$ .15
Granted	665,146	$ .15	$ .15
Exercised	(516,830)	$ .15	$ .15
Cancelled	(28,973)	$ .15	$ .15
Outstanding at December 31, 1996	233,875	$ .02 – $ .15	$ .15
Granted	1,586,223	$ .38 – $ .90	$ .89
Exercised	(1,381,766)	$ .15 – $ .90	$ .86
Cancelled	(21,616)	$ .15 – $ .90	$ .53
Outstanding at December 31, 1997	416,716	$ .02 – $ .90	$ .60
Granted	1,344,874	$3.00 – $10.00	$4.48
Exercised	(248,479)	$ .15 – $ 3.00	$1.98
Cancelled	(406,910)	$ .15 – $10.00	$6.23
Outstanding at December 31, 1998	1,106,201	$ .02 – $ 5.00	$2.94

As of December 31, 1998, 1,516,712 shares issued pursuant to early exercises of options or issuable under outstanding options were vested. The Company has the option to repurchase, at the original issue price, the unvested shares issued pursuant to early exercise of options in the event of termination of employment or engagement. At December 31, 1998, 1,089,707 shares issued under the stock option plans were subject to repurchase by the Company.

On September 25, 1998, the Compensation Committee of the Board of Directors authorized a plan for certain option holders whereby each holder could have exchanged all of his or her current vested and unvested options on a one-for-one basis for new options priced at the market value as of September 25, 1998. An aggregate of 365,463 options at an average price of $6.69 were exchanged for options with an exercise price of $3.8125 per share. All of these replacement options vest based on the original grant date. None of the replacement options are exercisable until September 26, 1999, or under certain circumstances at an earlier date.

All replacement options are included in grants and cancellations in the above summary of stock activity.

The Company recognized an aggregate of $4,304,437 through April 13, 1998 as deferred compensation for the excess of the fair value for financial statement presentation purposes of the common stock issuable on exercise of such options over the exercise price. The deferred compensation expense is being recognized over the vesting period of the options. Compensation expense related to these options was $2,181,363 and $610,924 for the years ended December 31, 1998 and 1997, respectively.

Following is a further breakdown of the options outstanding as of December 31, 1998:

RANGE OF EXERCISE PRICES	OPTIONS OUTSTANDING	WEIGHTED AVERAGE REMAINING LIFE IN YEARS	WEIGHTED AVERAGE EXERCISE PRICE	OPTIONS EXERCISABLE	WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS EXERCISABLE
$ .02 - $ .15	119,213	5.75	$ .15	119,213	$ .15
$ .38 - $ .90	156,327	8.62	$ .83	156,327	$ .83
$3.00 - $3.99	723,657	9.51	$3.65	168,811	$3.03
$4.00 - $5.00	107,004	9.95	$4.32	—	$ —
$ .02 - $5.00	1,106,201	9.02	$2.94	444,351	$1.48

Adjusted pro forma information regarding net loss is required by SFAS 123 and has been determined as if the Company had accounted for its employee stock options under the fair value method of SFAS 123. The fair value for these options was estimated at the date of grant using the Black-Scholes valuation model for option pricing with the following assumptions for 1998, 1997 and 1996: a risk-free interest rate of 5.75%, 6.5% and 6.5%, respectively, a dividend yield of zero; volatility factors of the expected market price of the Company's common stock of 65%, and a weighted average expected life of the option of five years.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

For purposes of adjusted pro forma disclosures, the estimated fair value of the options is amortized to expense over the vesting period. The Company's adjusted pro forma information is as follows (in thousands):

YEARS ENDED DECEMBER 31,	1998	1997	1996
Adjusted pro forma net loss	$(21,379)	$(11,383)	$(7,781)
Adjusted pro forma net loss per share	$ (1.63)	$ (8.45)	$ (8.08)

The weighted average fair value of options granted during 1998, 1997 and 1996 was $2.68, $.24 and $.01 per share, respectively.

The pro forma effect on net loss for 1998, 1997 and 1996 is not necessarily indicative of potential pro forma effects on results for future years.

Employee Stock Purchase Plan In November 1997, the Board of Directors approved the Employee Stock Purchase Plan (the "Purchase Plan"). A total of 300,000 shares of common stock have been authorized for issuance under the Purchase

Plan. The Purchase Plan permits eligible employees of the Company to purchase shares of common stock, at semi-annual intervals, through periodic payroll deductions. Payroll deductions may not exceed 15% of the participant's base salary subject to certain limitations, and the purchase price will not be less than 85% of the lower of the fair market value of the stock at either the beginning of the applicable "offering period" or the last day of the accumulation period. Each offering period is 24 months long, with new offering periods commencing every six months, and an accumulation period is six months in duration. During the year ended December 31, 1998, 26,783 shares were issued under the Purchase Plan.

Shares Reserved for Future Issuance The following shares of common stock are reserved for future issuance at December 31, 1998:

Stock options	1,384,517
Employee stock purchase plan	273,217
Warrants	26,084
	1,683,818

Stockholder Rights Plan In November 1998, the Company's Board of Directors adopted a Stockholder Rights plan which provides for a dividend of one Preferred Stock Purchase Right for each share of common stock to stockholders of record on November 30, 1998. Each Right will entitle stockholders to buy one one-thousandth of a share of Series A Participating Preferred Stock of the Company at an exercise price of $50.00, subject to antidilution adjustments. The Rights will become exercisable only if a person or group becomes the beneficial owner of 15% or more of the common stock, or commences a tender or exchange offer which would result in the offeror beneficially owning 15% or more of common stock, which is not approved by the Company's Board of Directors. The Board of Directors is entitled to redeem the Rights at $0.01 per Right at any time prior to the public announcement of the existence of a 15% holder.

Note 7 401(K) Plan

The Company has a 401(K) defined contribution savings and retirement plan (the "Plan"). The Plan is for the benefit of all qualifying employees and permits employees voluntary contributions up to a maximum of 20% of base salary (as defined), subject to annual limits. The Board of Directors may, at its sole discretion, approve Company contributions. No such contributions have been made as of December 31, 1998.

Note 8 Notes Receivable from Officers and Employees

The Company has advanced funds to certain officers in connection with various employment agreements with an outstanding balance of approximately $240,000 at December 31, 1998, which is included in other assets. These agreements provide for forgiveness of the advances over four-year periods. If an individual terminates the relationship with the Company, the unforgiven portion of the advances and any accrued interest are due and payable upon termination. These advances are secured by second trust deeds on the personal residence of the respective officer. In addition, there are notes receivable from certain officers totaling approximately $1.5 million related to stock purchase agreements. These notes are secured by shares of the Company's common stock owned by the individual.

Note 9 Income Taxes

Significant components of the Company's deferred tax assets and liabilities as of December 31, 1998 and 1997 are shown below. A valuation allowance of $19,250,000, of which $7,971,000 relates to 1998, as of December 31, 1998 has been recognized to offset the deferred tax assets, as realization of such assets is uncertain.

	1998	1997
Deferred tax assets:		
Net operating loss carryforwards	$ 14,846	$ 9,120
Research and development credits	2,350	1,146
Capitalized research expenses	1,981	1,050
Other	308	114
Total deferred tax assets	19,485	11,430
Valuation allowance for deferred tax assets	(19,250)	(11,279)
Net deferred tax assets	235	151
Deferred tax liabilities:		
Depreciation	(235)	(151)
Net deferred tax assets	$ —	$ —

At December 31, 1998, the Company has federal and California net operating loss carryforwards of approximately $41,383,000 and $6,298,000, respectively. The difference between the federal and California tax loss carryforwards is primarily attributable to the capitalization of research and development expenses for California tax purposes and the fifty percent limitation on California loss carryforwards. The federal tax loss carryforwards will begin expiring in 2006 unless previously utilized. The California tax loss carryforwards will continue to expire in 1999, unless previously utilized. The Company also has federal and California research and development tax credit carryforwards of approximately $1,706,000 and $990,000, respectively, which will begin expiring in 2007 unless previously utilized.

Under Sections 382 and 383 of the Internal Revenue Code, the annual use of the Company's net operating loss and credit carryforwards may be limited because of cumulative changes in ownership of more than 50% which occurred during 1995 and 1997. However, the Company does not believe such limitations will have a material impact upon the ultimate utilization of these carryforwards.

Note 10 Sponsored Research Agreements

Becton, Dickinson and Company In May 1997, Becton, Dickinson and Company and Nanogen entered into a Collaborative Research and Development Agreement to develop products utilizing Nanogen's technology to detect microbial agents causing infectious disease and to determine their antibiotic susceptibility or resistance (the "Prior R&D Agreement"). In connection with the Prior R&D Agreement, Nanogen entered into a Series D Preferred Stock Purchase Agreement with Becton Dickinson pursuant to which Becton Dickinson purchased 1,000,000 shares of Nanogen's Series D Preferred Stock for $6.0 million. In addition, Becton Dickinson agreed, pursuant to the Stock Purchase Agreement, to purchase common stock worth an aggregate of $6.0 million, at the initial public offering price, upon the completion of the offering. This purchase was made as part of a private placement concurrent with the offering.

As of October 1, 1997, Becton Dickinson and Nanogen entered into new agreements which superseded the Prior R&D Agreement. Pursuant to a Master Agreement entered into between the parties (the "Master Agreement"), Becton Dickinson and Nanogen agreed to form The Nanogen/Becton Dickinson Partnership, a Delaware general partnership (the "Partnership") to develop and commercialize certain products in the field of *in vitro* nucleic acid-based diagnostic and monitoring technologies. NanoVenture LLC, a Delaware limited liability company wholly owned by Nanogen ("NanoVenture") and Becton Dickinson Venture LLC, a Delaware limited liability company wholly owned by Becton Dickinson ("Becton Dickinson Venture"), are the general partners of the Partnership with (a) losses allocated in proportion to cash funding, (b) profits shared equally, and (c) distributions allocated 60% to Becton Dickinson Venture and 40% to NanoVenture until partner contributions are equalized and thereafter distributions shared equally. Pursuant to a General Partnership Agreement between NanoVenture and Becton Dickinson Venture, Becton Dickinson and Nanogen have contributed to the Partnership their respective rights under the Prior R&D Agreement, certain Intellectual Property Licenses and, as of December 31, 1998, cash in the aggregate of approximately $4.6 million, of which approximately $4.0 million was paid by Becton Dickinson and $600,000 was paid by Nanogen. The amounts paid by Nanogen have been recorded as Nanogen's share of the joint venture's loss for the year ended December 31, 1998. The General Partnership Agreement also contemplates additional research funding aggregating approximately $17.7 million, of which $5.2 million is to be paid by Nanogen, during the period from January 1, 1999 through April 1, 2001, conditioned upon the achievement of certain milestones to be mutually agreed upon by the partners. There can be no assurances that the parties will agree to such milestones, and if agreed upon, there can be no assurances that these milestones will be achieved in a timely fashion, if at all. In addition to the above-described payments, Becton Dickinson and Nanogen have agreed to contribute certain additional amounts to fund marketing and manufacturing startup.

Revenues are recognized under the agreements as expenses are incurred, and totaled approximately $2.5 million and $1.2 million for the years ended December 31, 1998 and 1997, respectively.

Hoechst AG In December 1997, the Company entered into an agreement with Aventis Research and Technologies, an affiliate of Hoechst AG ("Aventis"), for an exclusive research and development collaboration and the establishment of a joint venture relating to new tools in molecular recognition and Nanogen's technology. Aventis also purchased common stock worth an aggregate of $10.0 million, at the offering price, in the private placement in April 1998. Revenue is recognized under the agreement as expenses are incurred, and totaled approximately $2.1 million for the year ended December 31, 1998. Funding received in advance of incurred expenses is recorded as deferred revenue until the expenses are incurred, and totaled $2.9 million at December 31, 1998.

In December 1998, the Company entered into a Collaborative Research and Development Agreement which, among other things, extended the guaranteed term of the research program from two to three years. As a result of the signing of this agreement, the Company will be issuing to Aventis a warrant to purchase 120,238 shares of common stock exercisable through March 2004 at an exercise price of $8.75 per share.

Élan Corporation, plc In December 1997, the Company entered into an agreement with Élan Corporation, plc ("Élan") for a non-exclusive research and development agreement for the development of genomics and gene expression research tools. Pursuant to the agreement, Élan purchased Company common stock worth an aggregate of $5.0 million, at the initial public offering price, in the private placement in April 1998.

Revenues are recognized under the agreement as expenses are incurred, and totaled approximately $929,000 for the year ended December 31, 1998.

Note 11 Contract and Grant Revenue

In September 1998, the Company was awarded a contract by the Space and Naval Warfare Systems Center San Diego ("SSC San Diego") for the Defense Advance Research Projects Agency in an amount that could total in excess of $7.0 million over the next five years. The contract award which was made by SSC San Diego for the Defense Advance Research Projects Agency includes over $2.0 million to be paid during the first two years, and options to extend the program for up to an additional three years that would pay the Company up to an additional $4.8 million. The goal of the program is to create an advanced miniaturized lab for biological warfare defense applications.

In July 1998, the Company received a grant of $500,000 from the National Institute of Justice. This grant was the Company's second grant awarded under the U.S. Department of Justice, Office of Justice Programs to enable the Company to continue its work in the development of a portable microchip array-based genetic detector for rapid forensic DNA testing and identification at the crime scene.

Report of Ernst & Young LLP, Independent Auditors

The Board of Directors and Stockholders
Nanogen, Inc.

We have audited the accompanying consolidated balance sheets of Nanogen, Inc., as of December 31, 1998 and 1997, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 1998. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Nanogen, Inc. at December 31, 1998 and 1997 and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles.

Ernst & Young LLP

San Diego, California
January 22, 1999

Corporate Information

Board of Directors

Howard C. Birndorf
Chairman and Chief Executive Officer, Nanogen, Inc.

Brook H. Byers
General Partner, Kleiner Perkins Caufield & Byers

Cam L. Garner
Chairman, President and Chief Executive Officer, Dura Pharmaceuticals, Inc.

David G. Ludvigson
Senior Vice President and Chief Financial Officer, Matrix Pharmaceuticals, Inc.

Thomas G. Lynch
Executive Vice President, Chief Financial Officer, Élan Corporation, plc

Tina S. Nova, Ph.D.
President and Chief Operating Officer, Nanogen, Inc.

Officers

Howard C. Birndorf
Chairman and Chief Executive Officer

Tina S. Nova, Ph.D.
President and Chief Operating Officer

Clare L. "Bud" Bromley III
Senior Vice President, Marketing and Business Development

W.J. Kitchen, Sc.D.
Senior Vice President, Operations

Daniel D. Burgess
Vice President, Chief Financial Officer

Kieran T. Gallahue
Vice President, Strategic Marketing

Harry J. Leonhardt, Esq.
Vice President, General Counsel and Secretary

James P. O'Connell, Ph.D.
Vice President, Science and Technology

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San Francisco, California

Patent Counsel
Lyon & Lyon LLP
Costa Mesa, California

Independent Auditors
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San Diego, California

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E-mail: www.equiserve.com

SEC Form 10-K
A copy of the Company's annual report to the Securities and Exchange Commission on Form 10-K is available, without charge, upon written request to:
Investor Relations
Nanogen, Inc.
10398 Pacific Center Court
San Diego, California 92121

Investor Relations
Investor Relations
Nanogen, Inc.
Phone: (619) 546-7700
Fax: (619) 546-1682
E-mail: investor@nanogen.com

Annual Meeting
The annual meeting of stockholders of Nanogen, Inc. will be held at 9:00 a.m. on Wednesday, June 30, 1999 at the Hilton La Jolla Torrey Pines, 10950 North Torrey Pines Road, La Jolla, California 92037. All stockholders are cordially invited to attend.

Market Information
The Company's common stock trades on the Nasdaq National Market under the symbol NGEN. No cash dividends have been paid on the common stock and the Company does not anticipate paying any cash dividends in the foreseeable future.

Price Range of Common Stock

1998	HIGH	LOW
2nd Quarter (from April 14, 1998)	$11.250	$5.375
3rd Quarter	$ 8.375	$3.000
4th Quarter	$ 5.750	$2.875

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