

HUMAN GENETICS FOR NON-SCIENTISTS: PRACTICAL WORKSHOPS FOR POLICY MAKERS AND OPINION LEADERS

Abstract

These workshops form part of a series of workshops that the Banbury and the DNA Learning Centers of Cold Spring Harbor Laboratory have held for a number of years, introducing genetics, and the ways in which scientific research is done, to non-scientists. The purpose of the workshops as stated in the grant application was:

"Our objective is to foster a better understanding of the societal impact of human genome research by providing basic information on genetics to non-scientists whose professions or special interests interface with genetic technology.... Participants will be chosen for their interest in human genetics and for their roles as opinion leaders in their own communities. Primary care physicians are of particular interest to us for this series of workshops."

Two workshops were held under this grant. The first was held in 21-24 April, 1994 and attended by 20 participants, and the second was held 16-19 November, 1995, and attended by 16 participants. In each case, there was a combination of concept lectures on the foundations of human molecular genetics; lectures by invited specialists; and laboratory experiments to introduce non-scientists to the techniques used in molecular genetics.

Participants

At present, the application of molecular human genetics is largely confined to tertiary health care centers that have access to the expertise of molecular geneticists, often associated with high level research groups. However, patients first contact primary care physicians and while the number of such patients is still relatively small, it will increase rapidly as genes associated with common disorders such as cancer are found. In addition, there is increasing public awareness of genetics amongst the public, as evidenced by the increasing coverage of genetics in all manner of publications. Thus primary care physicians—essentially non-scientists in regards to genetics—will play a crucial role in the application of human genetics in the coming years. For these reasons, we chose to target this group for our workshops, especially primary care physicians who do not have ready access to lectures, seminars and meetings in tertiary care facilities.

To this end, our colleagues at Huntington Hospital provided us with a list of program directors for continuing education in hospitals in New York State. We felt that this was an especially important group to invite, in the expectation that they would be encouraged to institute genetics education programs in their own institutions. In addition we invited two non-scientists whom we knew had a special interest in genetics—a broadcaster on Long Island and a freelance journalist writing a book on the biological basis of homosexuality.

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This workshop demonstrated an enthusiasm on the part of the primary care physician community, so for the second workshop we extended our invitations to the whole country. Invitees were selected from a nation-wide listing of directors of continuing education. We decided to limit invitations to mid-west and east because of the need to keep travel costs to a minimum. Care was taken to ensure that there were not more than two invitees from any institution and that wherever possible these were one male and one female. 215 invitations were mailed to institutions in 25 states. The meeting was attended by physicians from 9 states, including Arkansas, Kansas, Louisiana, North Dakota, Tennessee, and West Virginia.

The participants' lists for both meetings are attached.

Program

Copies of the programs for the meetings are enclosed. They followed a similar format, one that we have found best suited for non-scientists.

Concept Seminars: Although the participants were physicians, we decided to treat them as non-scientists in regard to the fundamentals of genetics. This proved to be the correct decision. The first of these with a presentation began with an overview of Mendelian genetics, followed by a discussion of the eugenics movement in the early part of this century (intended as an historical introduction to a later talk by an invited speaker.) Participants were impressed to learn of Cold Spring Harbor Laboratory's involvement with eugenics. This was followed by a talk that went from DNA through gene structure, including splicing, "junk" DNA, gene families and DNA sequencing. The third concept seminar reviewed three topics that recur repeatedly in the genetics literature and are important in understanding how recombinant DNA techniques are used in mapping human genes. And, finally, how these same techniques are used to clone human disease genes.

Feature Seminars: These were given by eminent invited speakers who could talk to participants with authority. We organised them into three sets. The first set of two talks dealt with practical issues in the clinical use of human genetics:

cytogenetics	Susan Airhart Brian Ward
difficulties of genetic counselling	Patricia Ward

The latter was especially appreciated. The second set of talks discussed genetic advances in clinical problems. These included:

Cancer Genetics	Curt Harris
Gene Therapy	Ken Culver Charles Link
Alzheimer's Disease	Rudi Tanzi
Genetics of Obesity	Jeffrey Friedman

Fragile-X syndrome	Ted Brown
Genetics of Psychiatric Disorders	Melvin McInnis

The third set discussed controversial issues and we felt were especially important in alerting these primary care physicians to the notion that genetics is not going to be a panacea and is going to require very careful use:

Genetics and Behavior	Tim Tully
Future of Genetic Testing & Screening	Philip Reilly
Genetics & Cultural Attitudes to Disability	Marsha Saxton

Laboratory Experiments: Participants perform recombinant DNA experiments of the kind done in research laboratories. The few failures at even these simple experiments are a salutary reminder that doing such experiments is not merely a matter of following a recipe. The two experiments are:

- Using restriction enzymes to construct a genetic map
- DNA fingerprinting using the polymerase chain reaction

Assessment of Workshop

We enclose copies of letters from participants in the two workshops. It is clear that the workshops were beneficial and achieved their goal of exciting and informing primary care physicians about modern human genetics. Several refer to the implementation of genetic teaching in their institutions. The importance of the workshop was self-evident for one participant who received an invitation to be chair of an IOM on *Genetics, Health and Behavior* in the week following the workshop. In addition, Jan Witkowski was invited to speak at three of the participating hospitals.

Conclusion

These workshops demonstrate that primary care physicians are enthusiastic to learn about modern human genetics and that they will use what they have learned. Furthermore, physicians will travel considerable distances for these workshops. It is clear that this is a very worthwhile and effective method of educating an important section of the medical community. The challenge that faces us is to translate the kind of program that we can do here at Cold Spring Harbor Laboratory, into a program that can be used around the country.

HUMAN MOLECULAR GENETICS - A HANDS-ON WORKSHOP

Banbury Center and DNA Learning Center Cold Spring Harbor Laboratory

Organizers: Mark Bloom, DNA Learning Center
David Micklos, DNA Learning Center
Jan Witkowski, Banbury Center

THURSDAY, 21 APRIL

Afternoon	Arrival at Robertson House, Banbury Center for registration and room assignment
6:00 pm	Reception at Robertson House
7:00 pm	Dinner at Robertson House

FRIDAY, 22 APRIL

7:30-8:45 am	Breakfast, Robertson House
8:55-9:00 am	Welcome and Introduction
9:00-9:45 am	<i>Concept Seminar:</i> Mendelian View of the Gene - From Peas to Eugenics David Micklos
9:45-10:30 am	<i>Concept Seminar:</i> Modern view of the Gene Jan Witkowski
10:30-11:00 am	Break
11:00-11:45 am	<i>Concept Seminar:</i> PCR, RFLPs and (CA)_n: What they are; what they do Jan Witkowski
11:45-12:15 pm	Questions & Discussion
12:30-1:30 pm	Lunch at Robertson House
1:45-2:30 pm	<i>Feature Seminar</i> Cytogenetics in the Age of DNA Susan Airhart, Oncor Science, Gaithersburg, Maryland

- 2:30 pm Bus to DNA Learning Center
- 2:45-5:00 pm *Laboratory Part I:*
Using Restriction Enzymes to Construct Chromosome Maps
David Micklos
- 5:00 pm Tour of Cold Spring Harbor Laboratory
- 5:45 pm Bus to Banbury Center
- 6:00 pm Reception at Robertson House
- 6:30 pm Dinner at Robertson House
- 8:00 pm *Laboratory Part II:*
Construction of Chromosome Map
David Micklos
-

SATURDAY, 23 APRIL

- 7:15-8:15 am Breakfast, Robertson House
- 8:30-9:15 am *Concept Seminar:*
Cloning Human Disease Genes
Mark Bloom
- 9:15-10:00 am *Feature Seminar:*
DNA-based Diagnosis for Human Genetic Diseases
Patricia Ward, Institute of Molecular Genetics, Baylor College of Medicine,
Houston, Texas
- 10:00-10:30 am Break
- 10:30-11:15 am *Feature Seminar:*
Cancer Genetics - New Advances, New Surprises
Curtis Harris, Laboratory of Human Carcinogenesis, National Cancer Institute,
Bethesda
- 11:15-12:00 pm *Feature Seminar*
Molecular Genetics & Biology of Alzheimer's Disease
Rudolph Tanzi, Neurogenetics Laboratory, Massachusetts General Hospital,
Boston

12:00-12:15 pm	Questions & Discussion
12:30-1:30 pm	Lunch at Robertson House
1:30 pm	Bus to DNA Learning Center
1:45-4:30 pm	<i>Laboratory:</i> Fingerprinting Your Own DNA by Polymerase Chain Reaction Mark Bloom; David Micklos
4:30-5:30 pm	Visit to Cold Spring Harbor Laboratory
5:45 pm	Bus to Banbury Center from Cold Spring Harbor Laboratory
6:00 pm	Reception at Robertson House
6:30 pm	Dinner at Robertson House

SUNDAY, 24 APRIL

7:15-8:15 am	Breakfast, Robertson House
8:30-9:00 am	<i>Laboratory Results:</i> Analysing Fingerprinting Results Mark Bloom; Dave Micklos
9:00-9:45 am	<i>Feature Seminar:</i> Human Gene Therapy Trials Charles Link, Human Gene Therapy Institute, Des Moines, Iowa
9:45-10:30 am	<i>Feature Seminar:</i> Genetics and Behavior Tim Tully, Cold Spring Harbor Laboratory
10:30-11:00 am	Break
11:00-11:45 am	<i>Feature Seminar:</i> Genetics and Cultural Attitudes to Disability Marsha Saxton, Massachusetts Office on Disability, Boston
11:45-12:30 pm	<i>Feature Seminar:</i> Future of Genetic Testing and Screening Philip Reilly, Shriver Center for Mental Retardation, Waltham, Massachusetts

12:30 pm Closing remarks

12:45 pm Lunch

Afternoon Departure

HUMAN GENETICS: DOE WORKSHOP

The Banbury Center, Cold Spring Harbor Laboratory, 21-24 April 1994

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HUMAN MOLECULAR GENETICS - A HANDS-ON WORKSHOP

Banbury Center and DNA Learning Center
Cold Spring Harbor Laboratory

Organizers: Mark Bloom, DNA Learning Center
David Micklos, DNA Learning Center
Jan Witkowski, Banbury Center

THURSDAY, 16 NOVEMBER

Afternoon	Arrival at Robertson House, Banbury Center for registration and room assignment
6:00 pm	Reception at Robertson House
7:00 pm	Dinner at Robertson House

FRIDAY, 17 NOVEMBER

7:30-8:45 am	Breakfast, Robertson House
8:55-9:00 am	Welcome and Introduction
9:00-9:45 am	<i>Concept Seminar:</i> Mendelian View of the Gene - From Peas to Eugenics David Micklos
9:45-10:30 am	<i>Concept Seminar:</i> Modern view of the Gene Jan Witkowski
10:30-11:00 am	Break
11:00-11:45 am	<i>Concept Seminar:</i> PCR, RFLPs and (CA)_n: What they are; what they do Jan Witkowski
11:45-12:15 pm	Questions & Discussion
12:30-1:30 pm	Lunch at Robertson House
1:45-2:30 pm	<i>Feature Seminar</i> Cytogenetics in the Age of DNA Brian Ward, Integrated Genetics, Inc., Waltham, Massachusetts

2:30 pm Bus to DNA Learning Center

2:45-5:00 pm *Laboratory Part I:*
Using Restriction Enzymes to Construct Chromosome Maps
David Micklos

5:00 pm Tour of Cold Spring Harbor Laboratory

5:45 pm Bus to Banbury Center

6:00 pm Reception at Robertson House

6:30 pm Dinner at Robertson House

8:00 pm *Laboratory Part II:*
Construction of Chromosome Map
David Micklos

SATURDAY, 18 NOVEMBER

7:15-8:15 am Breakfast, Robertson House

8:30-9:15 am *Concept Seminar:*
Cloning Human Disease Genes
Mark Bloom

9:15-10:00 am *Feature Seminar:*
DNA-based Diagnosis for Human Genetic Diseases
Patricia Ward, Institute of Molecular Genetics, Baylor College of Medicine,
Houston, Texas

10:00-10:30 am Break

10:30-11:15 am *Feature Seminar:*
The Genetics of Obesity
Jeffrey Friedman, Howard Hughes Medical Institute, The Rockefeller
University

11:15-12:00 pm *Feature Seminar*
Molecular Genetics & Biology of the Fragile-X Syndrome
W. Ted Brown, Dept. of Human Genetics, NYS Institute Basic Research,
Staten Island, New York

12:00-12:15 pm **Questions & Discussion**

12:30-1:30 pm Lunch at Robertson House

- 1:30 pm Bus to DNA Learning Center
- 1:45-4:30 pm *Laboratory:*
Fingerprinting Your Own DNA by Polymerase Chain Reaction
Mark Bloom; David Micklos
- 4:30-5:30 pm **Visit to Cold Spring Harbor Laboratory**
- 5:45 pm Bus to Banbury Center from Cold Spring Harbor Laboratory
- 6:00 pm Reception at Robertson House
- 6:30 pm Dinner at Robertson House
-

SUNDAY, 19 NOVEMBER

- 7:15-8:15 am Breakfast, Robertson House
- 8:30-9:00 am *Laboratory Results:*
Analysing Fingerprinting Results
Mark Bloom; Dave Micklos
- 9:00-9:45 am *Feature Seminar:*
Genetics and Behavior
Tim Tully, Cold Spring Harbor Laboratory, New York
- 9:45-10:30 am **Genetics of Psychiatric Disorders**
Melvin McInnis, Dept. of Psychiatry, Johns Hopkins University, Maryland
- 10:30-11:00 am Break
- 11:00-11:45 am *Feature Seminar:*
Human Gene Therapy Trials
Ken Culver, OncorPharm, Inc., Gaithersburg, Maryland
- 11:45-12:30 pm *Feature Seminar:*
Future of Genetic Testing and Screening
Philip Reilly, Shriver Center for Mental Retardation, Waltham, Massachusetts
- 12:30 pm Closing remarks
- 12:45 pm Lunch
- Afternoon Departure
-

HUMAN GENETICS: DOE WORKSHOP

The Banbury Center, Cold Spring Harbor Laboratory, 16-19 November 1995

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GOOD SAMARITAN HOSPITAL MEDICAL CENTER

1000 Montauk Highway • West Islip, Long Island, NY 11795

May 26, 1994

Jan A. Witkowski, Director
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Dear Jan,

First of all, please excuse the fact that I have been so late in sending you this note to say, "Thank You". I did certainly want to send you a note to express my sincere thanks for what was probably one of the most scientifically interesting weekends of my life!

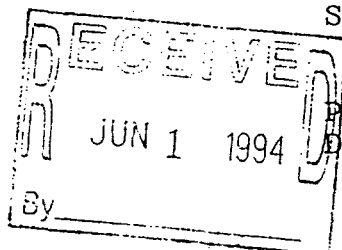
I graduated from medical school 33 years ago and since graduation, my knowledge of genetics has been limited only to what I have read and what I have been able to pick up on my own through my reading. Certainly the idea of bringing the physicians who are medical educators to the Learning Center to get, as it were, "brushed up" on the current advances in genetics is a marvelous one and should be continued.

The entire weekend was an unforgettable experience not only for the learning part of it, but also for the comradery which was shared at that time and the sense of closeness which developed between some of the members of the class and the instructors. The instructors were extremely helpful and interesting and the informality of it all lent itself extremely well to learning more than one could ever obtain in a rather formal and stiff way.

Jan, wouldn't it be interesting to see how many "older" doctors would be interested in a program of this type at some point during their continuing medical education careers?

Again, I would like to say "thank you", for a lovely weekend and I hope that I can be invited again some time to continue this.

Sincerely,



Paul S. Mandala, M.D.
Director, Graduate Medical Education

PSM:nvm



UNIVERSITY AT BUFFALO

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May 2, 1994

Jan Witkowski, Ph.D.
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Dear Jan:

I wanted to thank you for the superb course you conducted for us in medical education last week. It was a thoroughly enjoyable time in which I gained a lot of new knowledge and which I think I will be able to put in practice in the teaching programs here in Buffalo for our medical students and housestaff. You assembled a superb group of speakers and I was particularly struck by those of you at the DNA Learning Institute who conducted several sessions for us. I hope I may return in the future for some of your other courses.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Bob", with a stylized flourish at the end.

Robert Scheig, M.D.
Professor of Medicine
Program Director

RS/ajp

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April 25, 1994

Dr. Jan Witkowski
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Dear Jan:

Enclosed are all of the various receipts for the trip to present at the Human Molecular Genetics Workshop on April 22, 1994.

Airfare - \$300
Limo - \$150
Parking - \$10

\$460

I think your program to educate the primary care physicians is extremely important and that you are doing a great job. It is so difficult to explain this technology to someone who isn't familiar with the language. Would you mind if I used your car analogy for polymorphism? I thought that one was great.

It was good to see you again and I hope its not quite so long until our next visit.

*OK to pay \$460.00
Beatrice Miller 5/2/94
592-00-540/B62110*

Sincerely,

Susan

Susan Airhart
Director, Molecular Cytogenetics

✓

VANDERBILT UNIVERSITY



NASHVILLE, TENNESSEE 37232

TELEPHONE (615) 322-5000

*School of Medicine • Department of Medicine • Direct Phone (615) 322-3384
FAX (615) 343-7550*

December 4, 1995

Jan A. Witkowski, Ph.D.
Director
The Banbury Center
Cold Spring Harbor Laboratory
P.O. Box 534
Cold Spring Harbor, NY 11724-0534

Dear Jan,

I would like to thank you for the opportunity to participate in the workshop on Human Molecular Genetics the Banbury Center. The scientific content of the workshop was exceptionally well presented as was its societal context.

Given the objective of the workshop, you will be interested to see (attached) the request that arrived on my desk the week following the workshop. I would hope to be able to call on you and your colleagues for advice as the work of the Committee on Genetics, Health, and Behavior: Science in Perspective progresses.

With best regards,

Sincerely,

John A. Oates, M.D.
The Thomas F. Frist, Sr. Professor
and Chairman

JAO/ksf

enclosure



DEPARTMENT OF MEDICINE
School of Medicine
1801 Sixth Avenue
Huntington, West Virginia 25703-1585

Copy sent to you, Dr. Mickler

INTERNAL MEDICINE RESIDENCY PROGRAM
304/696-7242
304/696-7297 FAX

Kevin W. Yingling, M.D.
Program Director
Associate Professor of Medicine
and Pharmacology

November 22, 1995

Joyce A. Ray
Program Coordinator

Lana G. Smith
Secretary

Jan Witkowski
The Banbury Center
Cold Spring Harbor Laboratory
P O Box 534
Cold Spring Harbor, NY 11724-0534

Dear Dr. Witowski:

Please accept my deepest appreciation for the opportunity to participate in the Human Molecular Genetics-Hands on Workshop conducted November 16-19, 1995. My activities in this workshop and the information I received during the workshop are unparalleled regarding personal satisfaction and stimulation in an educational activity. The group from the DNA Learning Center and Banbury Center were outstanding. I attend many conferences across the country on a yearly basis. Clearly, the learning atmosphere, educational spirit, collaboration, camaraderie, and general good will of your program separates your program from all other learning activities I have participated in in the past several years.

I return to my home institution energized to continue my education regarding molecular genetics and its use in my practice of clinical medicine. I remain energized to begin to encourage students, residents and faculty regarding curricular issues in this area, as well as personal input regarding use of molecular genetics in clinical medicine.

Again, thank you for the opportunities provided to me during the workshop. I am deeply appreciative and plan to use this information in a positive manner over the next several years.

Sincerely,

Kevin W. Yingling, MD
Associate Professor of
Medicine & Pharmacology
Program Director

KWY/lis

P.S. Please find enclosed my expense voucher. Information regarding that issue can be forwarded to me at the above address.

The University of Kansas Medical Center

School of Medicine
Department of Internal Medicine
Division of Allergy, Clinical Immunology
and Rheumatology

Daniel J. Stechschulte, M.D., Director
K.N. Dileepan, Ph.D.
Herbert B. Lindsley, M.D.
Karen M. Simpson, M.D.
Kathryn E. Welch, M.D.

Nurse Clinicians
588-3929

Tracey Castleman, R.N., B.S.N.
Nadine Colbert, R.N., B.S.N.
Glenda Virtue, R.N.

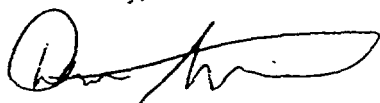
November 21, 1995

Jan Witkowski, Ph.D.
The Banbury Center
Cold Spring Harbor Laboratory
P.O. Box 534
Cold Spring Harbor, NY 11724-0534

Dear Jan:

I appreciated the opportunity of participating in the Human Genetics: DOE Workshop. I felt it was well run and it was certainly a stimulating experience for me. Best wishes.

Sincerely,



Daniel J. Stechschulte, M.D.
Professor of Medicine
Director, Division of Allergy,
Clinical Immunology & Rheumatology

DJS/gns

Enclosure - Expenses Voucher

Southside Hospital

301 East Main Street

Bay Shore, NY 11706-8458

516-968-3000

May 2, 1994

The Banbury Center
Cold Spring Harbor Laboratory
PO Box 534
Cold Spring Harbor, NY 11724-0534

Attn: Jan A. Witkowski, Director

Dear Dr. Witkowski:

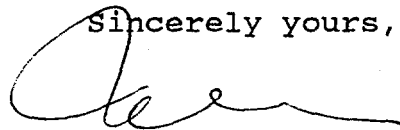
I wish to thank you, your staff and the Center for providing me the opportunity to participate in an outstanding seminar on genetics which was well planned with no effort or resources spared.

This undertaking is particularly difficult for a group with heterogeneous interests. It is also remarkable that the seminar tried to counter-balance genetics with social and environmental issues. In my belief, the latter two topics were not contributory.

In the overall, it was a most exciting experience.

With best wishes,

Sincerely yours,



Jak Albuquerk, M.D.

Enclosure

Long Island Fertility & Endocrinology IVF Associates PC

(516) 331-7575

DANIEL KENIGSBERG, MD

LI
IVF



April 28, 1994

Jan Witkowski, Ph.D.
Director, Banbury Center
P.O. Box 534
Cold Spring Harbor, NY 11724-0534

Dear Dr. Witkowski:

I would like to express my appreciation for allowing me to participate in the program "Human Molecular Genetics - A Hands On Workshop" at Banbury Center and the DNA Learning Center, Cold Spring Harbor Laboratory. The organization and quality of teaching were excellent; well beyond the quality of any post graduate course that I have ever attended.

Specifically, the intramural faculty of David Micklos, Mark Bloom, and yourself are excellent teachers of this complex material and harked back to my experiences over 20 years ago at an elite American university that prides itself on instruction as well as research. The obvious dedication and patience in explaining every aspect of this field was greatly appreciated by this participant.

The extramural faculty was also very good with exceptional lectures by Rudolph Tanzi from Massachusetts General Hospital and Charles Link from the Human Gene Therapy Institute in Iowa. As a physician, these two lecturers both gave me an in-depth appreciation of how one might approach a clinical or scientific problem with DNA technology and then how that technology might be potentially applied in a research and eventual clinical setting.

In closing, I can say that without reservation that the experience of participating in this course will forever positively change my understanding of the biological sciences and my practice of medicine.

Again thank you for allowing me to participate.

Best regards,



Daniel Kenigsberg, M.D.

DK/cjm

April 26

Dear Jan,

Thanks for the great conference! Now I have to sift through all the paper and notes I took and find out what I learned, sort of a process of consolidating the information in my brain. I need sticky glial cells so it all sticks in there.

These are the questions I was going to ask you up there, but it's just as well we do it this way. Can we set a date for a phone conversation? Take a look at this, and then, maybe next week? I'll call you and find out a good time.

I'll be in San Francisco May 19-25, and was thinking of going down to Stanford Monday, Tues, or Wed (23-25). That's when Botstein and I are tentatively set up. I'm going to try to get Cox to talk to me then. What should I ask both of them? And is there anyone else?

Again, thanks. I'll talk to you soon.

Chandler

A handwritten signature in cursive script, appearing to read "Chandler", with a long horizontal flourish extending to the right.



Affiliated with
State University of New York,
Health Science Center at Brooklyn
and New York University
College of Dentistry

THE BROOKDALE HOSPITAL MEDICAL CENTER

Linden Boulevard at Brookdale Plaza • Brooklyn, New York 11212-3198 • (718) 240-5615

Division of Nephrology
and Hypertension

May 4, 1994

Dr. Jan A. Witkowski
Banbury Center
Cold Spring Harbor Laboratory
P.O. Box 534
Cold Spring Harbor, N.Y. 11724-0534

Dear Dr. Witkowski:

It has been more than a week since I left Cold Spring Harbor Laboratory, yet the impact on me of spending 3 days learning molecular biology from the scratch at the Laboratory has not diminished a bit. The Human Genetics: DOE Workshop is the most exhilarating learning experience I have ever had in my life. I could not imagine that there is any place in the world more conducive to learning than The Banbury Center/Cold Spring Harbor Laboratory. The program was extremely well planned, thoughtful, and above all, vital for physicians engaged in education in teaching other physicians or lay people to understand the importance of advancing molecular biology.

Before I attended the workshop, I had rudimentary knowledge about genetics and knew nothing of techniques used to study genes. I bore prejudice against molecular science largely due to ignorance. As a matter of fact, many of my colleagues share my view or have no interest of understanding molecular biology. This workshop simply changed me; I am now firmly convinced that curing diseases will depend on understanding disease at the molecular level.

I work in a teaching hospital with more than 1000 beds. I was fortunate to be able to attend the workshop because our director of medicine, Dr. Lyon, had to attend a meeting sponsored by American College of Physician during the week of the workshop. After we returned from the meeting, he inquired me of the workshop and was quite excited about it. He now plans for me to give a few talks about what I have learned from the workshop to house-staff and attending physicians at our hospital. I look forward to this exciting assignment.

Lastly, I would like to express my thanks to all staff at the Banbury Center for making this workshop so inspiring.

Sincerely,

Shyan-Yih Chou, M.D.

Professor of Medicine



LaGuardia Hospital
102-01 66th Road, Forest Hills, NY 11375
(718) 830-4000

Friday, 29 April 1994

Ms. Jan Witkowski
Banbury Center
Cold Spring Harbor Laboratory
P.O. Box 534
Cold Spring Harbor, NY 11724

Dear Jan,

This letter is intended to express my appreciation of the course on Human Molecular Genetics, which I was privileged to attend. It had a profound effect on my understanding of the subject, and the clinical implications. It was superbly organized; the speakers were outstanding; the interactions most valuable.

I do hope to be able to transmit some of this to our residency program and would be most pleased if you would accept invitations to participate in our basic science seminars, during the 1994-95 academic year.

Sincerely,

Joe Dwek, M.D.
Program Director
Internal Medicine Residency Program

JD/js



HOWARD S. FRIEDMAN, M.D.

CHAIRMAN, DEPARTMENT OF INTERNAL MEDICINE
PROFESSOR, SUNY HEALTH SCIENCE CENTER AT BROOKLYN

THE LONG ISLAND
COLLEGE HOSPITAL
BROOKLYN, NY 11201
718-780-1881
FAX 718-780-1300

April 26th, 1994

Jan Witkowski
The Banbury Center
P.O. Box 534
Cold Spring Harbor
N.Y. 11724-0534

Dear Jan:

I would like to express my appreciation to you, Mark and David for your informative and enjoyable conference. It was an extraordinary experience for me. I will be applying what I learned almost immediately, since, as I mentioned to you, the current methods of testing for tuberculosis based on clinical findings, acid fast smears, and cultures are inefficient in identifying patients with this disease. I hope to apply PCR for the early and accurate diagnosis of this disease.

I would also like to invite you to give Medical Grand Rounds at Long Island College Hospital so that the residents and attending staff could be given an update in the advances of molecular genetics. I would like you to give three conferences next year. These are held on Thursday morning, from 11:30 to 12:30. One conference would introduce the basics of molecular genetics and the techniques used, such as PCR and RFLP. Another would be devoted to the application of these methods in medicine: recombinant DNA, gene therapy, and its use for screening and testing. The third conference would be devoted to the ethical, legal and social implications of molecular biology, perhaps, with a historical perspective, discussing eugenics, similar to that presented at the conference. An honorarium of \$500.00 would be given. If you agree, I would suggest dates, perhaps, on three consecutive Thursdays.

Again, I would like to thank you, David, Mark, and Katya for three wonderful days.

Sincerely,


HOWARD S. FRIEDMAN, M.D.

HSF:df

CHARLES T. HENNINGS, M.D., P.C.
634 PARK AVENUE
HUNTINGTON, L. I., N. Y. 11743
TELEPHONE HA 7-1242

CHARLES T. HENNINGS, M.D., F.A.C.S.

May 5, 1994

Jan A. Witkowski
Banbury Center
Cold Spring Harbor Laboratory
P.O. Box 534
Cold Spring Harbor, N.Y. 11724-0507

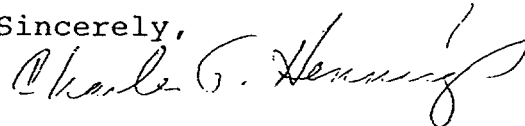
Dear Jan,

Enclosed you will find the survey for the DOE Sponsored Workshop on Human Genetics and Genome Analysis which took place April 22-24, 1994. Along with this survey, I wanted to take a brief moment of your time to Thank You and, when I say you, I am including Drs. Micklos and Bloom.

When I first heard of the workshop, I was hoping to come away from the weekend with a basic understanding of both the Genetics and Genome Analysis but I have to say that the workshop was much more than that to me. You and your staff, as well as all of the guest speakers, were absolutely fantastic. Even though, those of us who were in attendance had a scientific background, many of us were neophytes in our understanding of our Genetics. With the combination of discussions and laboratory workshops it became obviously clear how all these basic science projects are so important to all of us in our society. I am particularly pleased that the Department of Energy sponsored this workshop and would only be too happy to write to anyone in the Department of Energy who is involved in this sponsorship. The natural extension of this type of educational workshop is for those of us to understand the importance of a national effort to extend this type of teaching to the basic science labs of Junior High School and High Schools.

I can not Thank You enough and I will always remember this weekend as perhaps being the best scientific program that I have attended in the past 20 years.

Sincerely,



Charles T. Hennings, M.D.

CTH:eam

CC: Mark Bloom, DNA Learning Center
David Macklos, DNA Learning Center