

## Recollections from 60 ASHG Meetings

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### The Beginning

This article is not a history of The American Society of Human Genetics (ASHG); rather, it is a synthesis of the “wow” moments that are fixed in the memories of some of those who have attended the ASHG meetings since the 1950s, 1960s, and 1970s, when the program and events were organized by a local committee. The meetings were small and intimate; there were no concurrent sessions or exhibitors, and everybody got together for the banquet and dance. The precedent of an annual banquet was set at the fifth annual meeting (ASHG5) by Franz J. Kallmann (President 1952) to encourage discussion in relaxed and pleasant surroundings, as well as “indulgent gentleness toward presidential reports.”<sup>1</sup> The banquet, which also included the Allan Award address, remained a memorable part of the meeting until 1983 (ASHG34), after which it was felt that the number of attendees was too large for a sit-down dinner. At the early meetings, students and post docs were able to not only see but to meet the giants in the field. For many, the meeting provided the excitement that convinced them that they would pursue a career in human genetics. The opportunity for young investigators to meet their heroes is still a significant highlight of ASHG meetings, although it tends to be a little more difficult these days with the large number of attendees.

The first ASHG meeting took place in Washington, DC on September 11–13, 1948, with about 60 attendees; Hermann J. Muller (Nobel Laureate 1946) was president,<sup>2,3</sup> and there was one invited lecture, which was given

by James V. Neel (President 1954, Allan Award 1965) and entitled “The Detection of the Genetic Carriers of Hereditary Disease.”<sup>4</sup> In December of the following year, ASHG2 was held in New York City; this was also the year that the first issue of *The American Journal of Human Genetics (AJHG)* was published, with Charles W. Cotterman appointed as editor.

In 1948, the number of human chromosomes was still not known; to quote Charles J. Epstein (President 1996, Allan Award 2001, Leadership Award 2010), “When I started Medical School we had 48 chromosomes and when I finished we had 46.” All of us who have attended the ASHG meetings year after year were drawn to genetics by what it had to offer at the time; it may have been during high school when we were fascinated by Mendel’s laws or when, as undergraduates, we were amazed by chromosome staining and structure, or it may have been more recently when we were captivated by the magnitude and promise of the Human Genome Project. In the 1950s and 1960s, to imagine being able to sequence the whole human genome was “to dream the impossible dream.” But it became a reality, and in 2000 the Allan Award was presented for the completion of the draft sequence of the human genome; Francis S. Collins (Allan Award 2005) accepted the award on behalf of the incredible public team (20 centers in six countries), and J. Craig Venter represented the private contribution.

### Why Is the 2010 Meeting the 60<sup>th</sup>?

As some readers may have noted, if ASHG1 was in 1948, then the 2010

meeting should be ASHG63. Thus, there must have been 3 years in which ASHG meetings were not held. These were, in fact, 1966, 1976, and 1991, the years of the 3<sup>rd</sup>, 5<sup>th</sup>, and 8<sup>th</sup> International Congresses of Human Genetics (ICHG) in Chicago, Mexico City, and Washington, DC, respectively. In these years, the decision was made to not have an ASHG meeting. Thus, ASHG18 was in 1965, ASHG19 in 1967, ASHG27 in 1975, ASHG28 in 1977, ASHG41 in 1990, and ASHG42 in 1992, putting us on track for ASHG60 in 2010. Incidentally, the 2011 meeting in Montreal has been given a combined designation of ICHG12/ASHG61. It is also of interest to note that, because 1966 was skipped, the 25<sup>th</sup> anniversary meeting held in 1973 was, in fact, ASHG25. From 1948 to 2010, 62 individuals have served as ASHG President, 53 males and 9 females.

### Numbers of Attendees and Sessions

Attendance grew from 60 in 1948 to about 1000 in 1980, and then to 5683 in 2009 (Figure 1). San Francisco in 1999 (ASHG49) holds the record for the largest number of attendees (7153), but that record may be broken in 2010. In order to accommodate as many presentations as possible based on submitted abstracts, two concurrent platform sessions were needed in 1964, increasing to three by 1969, four in 1980, five by 1986, six in 1993, seven by 1995, and eight in 2010. Poster sessions were introduced in 1977. Kurt Hirschhorn (President 1969, Allan Award 1995, Excellence in Education Award 2002) mentions

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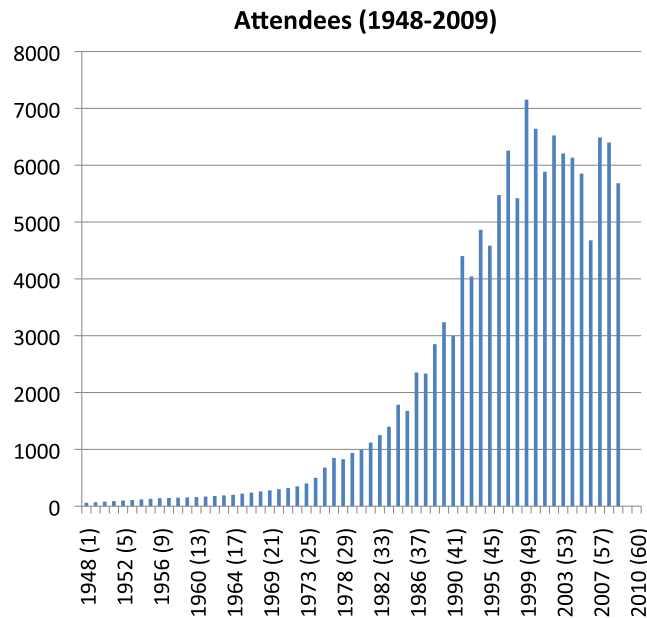
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in his Allan Award address that at his first meeting in 1956, in Storrs, CT (ASHG9), there were 15 submitted papers, one given by Newton E. Morton (Allan Award 1962) on “A Critical Review of Autosomal and Partial Sex Linkage in Man.” In New York, NY in 1963 (ASHG16), when Hirschhorn was program committee chair, 70 abstracts were received, but the program only had room for 51 presentations; thus, the decision was made that 19 would be read by title only to avoid introducing two concurrent sessions that year. Six years later in San Francisco, CA (ASHG21), 134 abstracts were submitted, and 71

were selected for presentation in three concurrent sessions: biochemical genetics, population genetics, and clinical genetics.<sup>5</sup>

Topics evolved over the years to the large number that we have today. At the 1977 meeting in San Diego, CA (ASHG28), Arno G. Motulsky (President 1977, Allan Award 1970, Leadership Award 2009, Excellence in Education Award 1999) estimated that two-thirds of the abstracts could be categorized as biochemical genetics, cytogenetics, or somatic cell genetics.<sup>6</sup> In 1982, the abstracts were assigned to six different topics: molecular genetics, cytogenetics, clinical genetics and counseling, population genetics, biochemical genetics, and somatic cell/cancer genetics. Since then, as pointed out by Ethylin (Mimi) Jabs, who attended her first meeting in Norfolk, VA in 1983 (ASHG34), the meetings have covered “the evolution of not only genetic science but also technology from Southern blot, cloning, PCR, microarray to whole exome sequencing; linkage analysis, association studies to GWAS; somatic cell hybrids, transgenic mice, embryonic stem cells to RNAi.”



**Figure 1. Number of Attendees, 1948–2009**

The numbers for some of the early meetings are estimates based on recollections (ASHG meeting number in parentheses).

#### The William Allan, Curt Stern, and Victor McKusick Awards

The inauguration of the William Allan Memorial Award for Outstanding Work in Human Genetics was announced at the 1961 meeting in Atlantic City, NJ (ASHG14); each recipient receives the medal shown in Figure 2. William Allan (1881–1943) was born near Baltimore, MD and attended medical school at the College of Physicians and Surgeons in Baltimore; he received his MD in 1906 and established his practice in Charlotte, NC in 1908, specializing in clinical bacteriology. His interest in human genetics grew and resulted in 93 papers in the medical genetics literature on many disorders, including migraine, hypertension, and retinitis pigmentosa. In addition to his research, Allan continually emphasized the critical need for human genetics in the medical school curriculum, and he organized the Department of Medical Genetics at the Bowman Gray School of Medicine in 1941.<sup>7</sup>

The first and second winners of the Allan Award, Newton Morton and Oliver Smithies, were 32 and 39 years of age, respectively, when they

received the award. This led Neel, the third winner, to comment in his 1965 Allan Award address<sup>8</sup> that, at the age of 50, he was rather old to be receiving the award; however, since then, many winners have been older, several in their 60s and even 70s; in fact, Curt J. Stern (President 1957, Allan Award 1974) was 72 when he received the Allan Award. Furthermore, it is of note that Neel was only 39 when he was ASHG President (probably our youngest president).

The Curt Stern Award was established in 2001 to recognize major scientific achievement in the field of human genetics on the basis of research performed

over the previous 10 years. Stern (1902–1981) was born in Hamburg, Germany. He spent 2 years (1924–1926) as a postdoctoral fellow with Thomas Hunt Morgan in the “Fly Lab” at Columbia University, then accepted a position at the University of Berlin, before moving permanently to the United States as a refugee from Nazi Germany in 1933, first to the University of Rochester and then to the University of California, Berkeley in 1947. His classic textbook, *Principles of Human Genetics*, was first published in 1949. In his Allan Award address, Huntington F. Willard (President 2001, Allan Award 2009) refers to it as the “red book,” which he describes as “the best textbook on human genetics that has ever been written, and certainly the book that opened this field to me.”<sup>9</sup> Stern was ASHG President in 1957; his address was entitled “The Problem of Complete Y-Linkage in Man.”<sup>10</sup> In introducing Stern as the recipient of the 1974 Allan Award, Neel painted a picture of an outstanding scientist and teacher who always made the “right comment” to encourage his students and for whom genetics was always exciting and fascinating.<sup>11</sup>

Tom Shows recalls that in Stern's Allan Award address, "he told a story about sending his wife to a haberdasher to buy him a hat (a homburg, I believe). His wife indicated she needed a small size hat for her husband. The haberdasher brought out several hats, and all were too big. He held up the smallest hat he had and said, 'If your husband's head is smaller than this, he is surely an imbecile!'

Mrs. Stern bought the hat anyway, which was still too big and covered most of her husband's ears. After telling this story, Stern joked about his accomplishments and the questioning of his intelligence."

The Leadership Award was first given in 2006 and was renamed to honor Victor A. McKusick (President 1974, Allan Award 1977, Leadership Award 2008, Excellence in Education Award 1997) in 2009. It is awarded to an individual who has portrayed leadership and vision in advancing human genetics in the context of science, medicine, and health. McKusick (1921–2008) was born in Maine, one of a pair of identical twins. He received his MD in 1946 from The Johns Hopkins School of Medicine and remained in Baltimore for the rest of his life. Upon receiving the McKusick Leadership Award in 2009, Motulsky stated that "Victor was the leader who shaped and documented the edifice of human genetics knowledge that all of us use." McKusick's contributions to human genetics were enormous. His indispensable reference, "Mendelian Inheritance in Man: Catalogs of Autosomal Dominant, Autosomal Recessive, and X-Linked Phenotypes" (MIM), was first published in 1966. It continued in print until the 12<sup>th</sup> addition in 1998, and the online version, Online Mendelian Inheritance in Man (OMIM), has been available since 1987; it is an essential resource for medical geneticists worldwide.

It is curious that there are only 5 females among the 48 winners of the



Figure 2. The William Allan Memorial Award Medal

Allan Award. The most recent female winner, Dorothy Warburton in 2006, commented that this ratio is difficult to explain, considering that there are "so many distinguished women in our profession."<sup>12</sup> Up until this year, all recipients of the other two awards have been male (5 for the Leadership Award and 11 for the Curt Stern Award). However, the 2010 winner of the Curt Stern Award is Vivian Cheung, who is honored for her novel studies demonstrating extensive genetic variation in human gene expression. In collaboration with her late husband, Richard Spielman, she combined molecular, genomic, and statistical approaches to identify DNA variants that influence gene expression and disease susceptibility.

#### ASHG Luminaries

Among the ASHG members, many have excelled as outstanding scientists, leaders, educators, or servers of ASHG. The 21 individuals (20 males, 1 female) listed in Table 1 are those who have served as ASHG President and received at least one ASHG award. Of particular note are two presidents, Motulsky and McKusick, who each received three ASHG awards: the William Allan Award, the Leadership Award, and the Award for Excellence in Education. Fittingly, Motulsky introduced McKusick when he received the Allan Award in 1977, describing him as "the man who more than anyone has made clinical genetics the field it is today."<sup>13</sup> In his

Allan Award address, McKusick made it clear that Motulsky had done as much as he to establish medical genetics and that they had "always felt a strong brotherhood, with only a little sibling rivalry!"<sup>14</sup> It is of particular note that in 1957, both were establishing Divisions of Medical Genetics in Departments of Medicine, McKusick in Baltimore at The Johns Hopkins School of Medicine,

Motulsky in Seattle at the University of Washington.

It is also noteworthy that five of the presidents listed in Table 1 received two ASHG awards: F. Clark Fraser, Kurt Hirschhorn, Barton Childs, Charles R. Scriver, and Charles J. Epstein. In addition, three of those in Table 1 were also editors of *AJHG*: Motulsky (1970–1975), Epstein (1987–1993), and Stephen T. Warren (2000–2005). Incidentally, several other presidents served as journal editor: Laurence H. Snyder, C. Nash Herndon, Arthur G. Steinberg, H. Eldon Sutton, David E. Comings, and Peter H. Byers.

Motulsky is truly remarkable. He was born in Fischhausen, Germany, and in 1939, at the age of 15, he and his family attempted to escape from Nazi Germany on an ocean liner bound for Cuba. However, the ship was sent back to Europe, where the family was given asylum in Brussels for a year until Belgium was taken over by the German army, at which point Motulsky was sent to internment camps in Vichy, France. Finally, just before his 18<sup>th</sup> birthday, he managed to cross into Spain, then Portugal, and from there he made his way to Chicago. Motulsky received both his Bachelor of Science and his MD from the University of Illinois, and then, in 1953, he set about developing his vision for human and medical genetics in Seattle. He is a leader who has attracted many to the field, some of whom have had the good fortune to be his students,

**Table 1. ASHG Presidents Who Have Received at Least One ASHG Award**

Name	President	Allan Award	Leadership Award	Award for Excellence in Education
James V. Neel (1915–2000)	1954	1965		
Curt J. Stern (1902–1981)	1957	1974		
C.C. Li (1912–2003)	1960			1998
F. Clark Fraser	1962	1979		2000
Philip Levine (1900–1987)	1966	1975		
Kurt Hirschhorn	1969	1995		2002
Victor A. McKusick (1921–2008)	1974	1977	2008	1997
Barton Childs (1916–2010)	1976	1973		1996
Arno G. Motulsky	1977	1970	2009	1999
Alfred G. Knudson, Jr.	1978	1991		
David L. Rimoin	1984		2006	
Frank H. Ruddle	1985	1983		
Charles R. Scriver	1986	1978		2001
L. Luca Cavalli-Sforza	1989	1987		
Michael M. Kaback	1991	1993		
Walter E. Nance	1992		2007	
Janet D. Rowley	1993	1991		
Charles J. Epstein	1996	2001	2010	
Arthur L. Beaudet	1998	2007		
Huntington F. Willard	2001	2009		
Stephen T. Warren	2006	1999		

fellows, and colleagues at the University of Washington. His contributions are enormous; in introducing Motulsky for the 2009 Leadership Award, Judith G. Hall (President 1995) listed just a few of them, including his work on the genetics of hyperlipidemia and coronary heart disease that set the stage for the Nobel Prize-winning work by Michael S. Brown and Joseph L. Goldstein. Incidentally, they received the Allan Award in Salt Lake City in 1985 (ASHG36), just a few days after the announcement of the Nobel Prize. Motulsky wrote an invited article for *Science* about their work.<sup>15</sup> A story from Bonnie Pagon (Excellence in Education Award 2006) typifies Motulsky; she recalls that “on his return to Seattle following the 2004 meeting in Toronto (ASHG54), Arno lost his balance and fell on an airport escalator, fracturing his hip. He was hospitalized at the University of Washington; upon

hearing this, and being concerned that he may be feeling a little disoriented, I stopped by his hospital room. Arno was looking pale and tired, but he started conversing in his usual gracious manner. Shortly he asked: ‘Have you seen the article about fetal alcohol syndrome in last week’s *Science*?’ Wow! Still a million miles ahead of me and going strong!”

#### The First Male and the First Female Recipients of the William Allan Memorial Award

At first glance, the University of Hawaii (UH) might seem an unlikely outpost for contributions to ASHG, but over the years it has been an important player in the meetings. Indeed, no fewer than ten UH faculty, trainees, or alumni have served on the Board of Directors of The Society or on the Editorial Board of *The Journal*. Further, UH might even be said to have housed the “first family” of

ASHG, because the husband-wife team of Newton Morton and Patricia Jacobs both recorded notable “firsts”: Morton received the inaugural Allan Award in 1962, and 19 years later Jacobs was the first female Allan Award winner (Jacobs would also have been President of ASHG had she not decided to move back to her native Great Britain). Neil Risch (Curt Stern Award 2004) recalls that one of the greatest thrills of his career was at the 1983 meeting in Norfolk, VA (ASHG34), when “Newton introduced himself to me and requested that I join him and Pat at their banquet table—I felt as though I’d been invited by the pinnacle of ASHG royalty.”

Jacobs’s Allan Award address<sup>16</sup> was one of the highlights of the 1981 meeting in Dallas, TX (ASHG32), and many people have commented on the impact it made on them. For example, it was the first ASHG meeting attended by Jeff Murray (Curt Stern Award 2007), who comments that the talk was “extremely moving in outlining both her continued love of the beauty of looking at chromosomes through the microscope ... and the pain of having been accused of discrimination by the community opposed to seeing if genotype (that is, XXY and XYY) might be associated with behavioral traits. Given the still-recent history of eugenics ... she captured very movingly how science is never free of politics (certainly today), and she remains one of my early heroines for her candor and insight and love of science.” And Tom Gelehrter (Excellence in Education Award 2010) writes, “In her wonderful address, Pat conveyed such delightful enthusiasm about discovery.” It is also worth noting that one of the authors of the present article (T.J.H.) somehow wound up with the original typewritten version of Jacobs’s talk, which he has to this day and considers among his most treasured personal mementos.

Morton’s Allan Award address was notable for another reason: there wasn’t one! He was in Brazil at the time, and, because this was the initial



Allan Award, the distinction was not yet obvious. As he puts it, "As the first recipient of the Allan Award in 1962, I was unprepared for the substantial lectures established by my successors and preoccupied both by research in Brazil and acceptance of an offer from the University of Hawaii. Hence, I did not attend my own award ceremony." Had he been there, he would have presented his major contributions in (1) linkage, (2) mutational damage estimated from inbreeding, (3) segregation analysis of major genes, and (4) interracial crosses in Hawaii. It is truly astounding that he had accomplished so much only 7 years after completing his PhD with James F. Crow (President 1963). While working on his PhD, Morton spent 2 fascinating years in Hiroshima with Neel. Then, in 1963, he was drawn back to the University of Hawaii (he had received his Bachelor's degree from there 14 years earlier), where he created and directed the Population Genetics Laboratory for more than 20 years. In 1972, Jacobs and Morton married; after a brief (and failed) attempt at commuting between Honolulu and Edinburgh, Jacobs moved to Hawaii to set up shop there as a Professor of Anatomy and Reproductive Biology.

At the ASHG meetings from the 1970s to the 1990s, one could always be guaranteed a lively (some may say heated) scientific discussion at the Population Genetics and Genetic Epidemiology sessions, with Morton being one of the major participants. Such discussions usually included Robert Elston (Allan Award 1996, Excellence in Education Award 2007), and David Goldgar fondly recalls them "going at each other back in the good old days." At the 1981 meeting in Dallas, TX (ASHG32), Mark Skolnick remembers discussing ways to compare statistical methods with Morton, and Jean MacCluer elaborates: "A notable event happened at a contributed paper session at the ASHG meeting in Dallas in 1981. Those were the days when Newton Morton, Robert Elston, and a couple of others were each declaring

that their statistical approaches were best for detecting major gene effects on complex traits. Newton proposed a contest in which simulated data sets would be distributed, participants would analyze the data, and whichever group came closest to 'the truth' would be declared the winner. I was elected to do the simulations, and the Genetic Analysis Workshops were born. Newton declared himself the winner, but in fact, he had guessed that I probably would generate relatively simple models and major locus allele frequencies, and he was correct."

Although they had worked together for 2 years in Hiroshima, Neel and Morton did not always see eye to eye on scientific issues. In fact, in his 1965 Allan Award address, Neel referred to Morton as "a distinguished critic of my genetic life and times, who has recently termed the type of study which we are currently conducting on the Xavante Indians 'the intensive investigation of a historical accident interposed between arbitrary definition and extinction.'"<sup>8</sup> However, a touching story from the 1998 meeting in Denver, CO (ASHG48) is told by Gelehrter: "I rushed to hear a symposium talk by Jim Neel .... As I entered the back of a large hall, before I saw the stage, I heard sentences and thoughts that were clearly Jim's, but the speaker's voice was not. As I moved toward the front, I saw that Newton Morton was reading Jim's paper. Having heard about the long-running scientific feud between the two, I immediately called Ann Arbor to ask what had happened to Jim. As I found out later, Jim's cancer had relapsed, he was unable to travel, and Newton substituted for his old foe. In keeping with this, Newton was a staunch defender of Jim when the nastiness of Darkness in El Dorado broke."

Both of the authors of the present article had the good fortune to spend several years in Hawaii (B.J.B.K. with Morton, T.J.H. with Jacobs) beginning in the mid 1970s; Morton and Jacobs were inspirations to us then, and they remain so today. Given their

many contributions to ASHG and their love of Hawaii, it was very fitting that both were present at the 2009 ASHG meeting (ASHG59) in Honolulu and that a special symposium on genetic epidemiology was presented in honor of Morton's 80<sup>th</sup> birthday. In his presentation, Aravinda Chakravarti (President 2008) told the story of a 1979 gene mapping nomenclature discussion, during which Morton asked why Duchenne (DMD) and Becker (BMD) muscular dystrophy still have different symbols when the evidence is very good that they are allelic and thus the same gene. The answer given was, "We are prisoners of history." Morton immediately shot back with, "Too bad we are not prisoners of logic!" The room for the 2009 symposium was packed with an audience of more than 1000, and after his presentation Morton received a standing ovation.

#### Memorable Presidential Addresses and Presentations

Presidential addresses have not always been a meeting tradition and, as pointed out by Neel,<sup>17</sup> "the only requirement for our Presidential Address is that the speaker talk about some subject close to his heart at the moment." Thus, a large number of diverse topics have been discussed, and the addresses given between 1963 and 1973 were not published. James F. Crow, who was president in 1963 (ASHG16), provided us with the recollection that the opinion at the time was that the presidential talks should not be automatically published. And he continued, "I gave my talk in a hotel room in New York, after a meal, with a rather small crowd. I wish I could remember what I said, but my only memory is of a very pleasant occasion, with my giving a talk and, I believe, some happy discussion afterward." Walter E. Nance (President 1992, Leadership Award 2009) described the occasion a little differently. It was his first meeting, and he recalls a crowded room with at least 200 attendees all fascinated by Crow's wonderful address on genetic load theory.<sup>18</sup>

This was also the theme of the first presidential address, given by Muller at ASHG2, entitled "Our Load of Mutations."<sup>19</sup> The topic was tackled again and expanded upon in 1978 (ASHG29) by Alfred G. Knudson, Jr., in his presidential address.<sup>20</sup>

Many presidential addresses deserve to be mentioned, but we will include only those that people listed in their recollections. Hirschhorn's favorite was C.C. Li's (President 1960, Excellence in Education Award 1998) talk at ASHG13 in Memphis, TN on "The Diminishing Jaw of Civilized People";<sup>21</sup> this address should be read by all those who consider themselves scientists. The following year in Atlantic City, NJ (ASHG14), L.C. Dunn (President 1961) gave a scholarly review of the history of human genetics and its interaction with the eugenics movement,<sup>22</sup> described by Motulsky as "an outstanding contribution to the history of our field."<sup>6</sup>

In San Francisco, CA in 1969 (ASHG21), Hirschhorn recalls that he did not give a presidential address, but instead prepared the audience for Jérôme Lejeune's Allan Award address<sup>23</sup> in which he spoke of "The National Institute of Death"; Epstein, in his 2001 Allan Award address, describes Lejeune's talk as the "second earthquake of the meeting." (The first was an actual earthquake; see below.) Epstein was the local organizer and had taken Lejeune to dinner the previous evening, which, to his distress, was less than pleasurable.<sup>24</sup> In his talk, Lejeune, who was completely opposed to elective abortion, "accused us of encouraging abortion by our studies of prenatal diagnosis."<sup>5</sup>

By 1980, The Society was starting to grow, and changes were needed in the way it was run. Leon E. Rosenberg's presidential address in New York, NY (ASHG31) was entitled "On the State of Our Society," and in it he expressed concern at the disorganized running of The Society, stating that "the time has come to establish a permanent executive office for [T]he Society, preferably in Washington."<sup>25</sup>

Another unpublished presidential address was the one given by David

L. Rimoin (President 1984, Leadership Award 2006) in Toronto, ON (ASHG35). Rimoin recalls, "I felt that [T]he Society was in a major transition from a small society to one with a large number of members, ranging from basic molecular and population geneticists to clinicians and genetic counselors. I did a poll of the society membership, and in my address I discussed the results of the poll and directions we might take."

An especially memorable address was given by Janet D. Rowley (President 1993, Allan Award 1991) in New Orleans, LA (ASHG43), because it was just 4 months after the Unabomber attack on Epstein. Rowley paid tribute to Epstein, who recalls, "I remember the very warm welcome I received in 1993 from Janet Rowley, who was the President, and the assembled membership when I attended the ASHG meeting four months after having been injured by Ted Kaczynski, the Unabomber (June 22, 1993)." In her talk, Rowley also reported that a letter had been written to Hillary Clinton about the need for incorporating rules prohibiting genetic discrimination into the universal health care proposals being drafted at that time.<sup>26</sup>

Three years later, in San Francisco, CA (ASHG46), President Epstein elaborated on the 1993 attack by the Unabomber and examined the tension between scientific advance and societal concerns, as well as the challenges that face human geneticists in finding the proper balance. His statement, "Not everyone loves human genetics," is not forgotten by any of us who listened to his talk.<sup>27</sup> And, as Motulsky said in introducing Epstein when he received the Allan Award in 2001, "We all respect, revere, and love him."<sup>28</sup>

The meeting was back in San Francisco again in 1999 (ASHG49). Uta Francke recalls that her presidential address was not published, but she did write an article about her year as ASHG President.<sup>29</sup> In her talk, she made a strong pitch for open-access publishing, which was resisted by some. However, it is of note that

within a year, *The Journal* became one of the few to have open Web access fairly soon (6 months) after publication.<sup>30</sup>

In Philadelphia, PA at ASHG50, Ronald G. Worton (President 2000) told us that because of recent events, The Society had developed a public policy statement on gene therapy and sent a message to the Patent and Trademark Office, endorsing their efforts to develop revised criteria that restricted the patenting of genes. He also reported that a full-time professional geneticist would be hired as Executive Vice President of ASHG.<sup>31</sup> Joann Boughman was recruited to this position and continues to serve as an outstanding EVP. In addition, Worton listed some of the landmark ASHG presentations over the years, several of which were recalled as highlights. In particular, the presentation by Y.W. Kan (Allan Award 1984) in Vancouver, BC in 1978 (ASHG29) amazed us all. This was the first meeting for Francis Collins and also the first for one of us (B.J.B.K.). In his Allan Award address, Collins describes the "wow" that we felt as we listened to Kan explain how he and Andrée Dozy had identified a particular restriction fragment-length polymorphism (RFLP) that was associated with the sickle cell mutation.<sup>32</sup>

### More "Wow" Presentations

Several people remembered the exceptional 1964 Allan Award address by Oliver Smithies (Nobel Laureate 2007) at the banquet in Boulder, CO (ASHG17), which concluded with Smithies playing the flute, accompanied by Margery Shaw (President 1982) on the piano. Their performance of a Bach composition was, in the words of Tom Shows, "a very clever, clear, and entertaining way by which Oliver illustrated his work using a musical score." Smithies's concert is also mentioned by Epstein in his Allan Award address; Epstein let us know that "for a fleeting second I thought that I might emulate him and play my cello for you," but unfortunately for us, he "thought better of it."<sup>24</sup>

Presentations on gene mapping via a variety of techniques have been a major part of the ASHG meetings since the early 1970s. However, before 1980, the number of polymorphic markers was relatively small, and success with mapping disease genes by linkage analysis was limited. That all changed in Norfolk, VA in 1983 (ASHG34), when Jim Gusella presented the mapping of the Huntington gene with the G8 probe. Collins recalls that “it was electrifying—RFLP mapping of human Mendelian diseases was no longer hypothetical!” Ten years later, in the Distinguished Speakers’ Symposium at the 1993 New Orleans, LA meeting (ASHG43), Gusella provided a follow-up in which he weaved an incredible tale of two genes, “Huntingtin’s gain and Merlin’s loss.” This symposium is particularly memorable to one of us (B.J.B.K.), who was the 1993 program chair, because there was a cancellation just 3 weeks before the meeting: “I called Stan Prusiner (Nobel Laureate 1997), and after apologizing for the late invitation, asked if he might be able to speak at the ASHG Distinguished Speakers’ Symposium in New Orleans. To my amazement and delight, he said yes, and gave an outstanding talk on his pioneering work on prions and Creutzfeldt-Jakob disease.” Also, as part of that symposium, Jim Hudspeth fascinated us with his presentation on “How Hearing Happens.”

The one presentation that is truly memorable to almost everybody was given by Lap-Chee Tsui and Collins in Baltimore in 1989 (ASHG40): it was their report of the cloning of the cystic fibrosis (CF) gene. Judy Hall, the 1989 Program Chair, remembers it well: “I was on sabbatical in Oxford, and I remember getting a phone call from Ron Worton saying the CF gene had been sequenced, and could that be slipped into the program—of course we had to do so, but what a new concept! Late-breaking reports!” Harry Orr recalls his excitement after hearing the presentation: “This gave gene hunters reason to think we could be successful and kicked off one of the

golden ages of human genetics.” And Bob Nussbaum (President 2004) relates, “I remember the audience got to its feet as if it were a single organism and applauded—everyone was giddy with the realization that the vision of gene mapping had come to fruition, we really could use disease gene mapping to find genes that had been such elusive and frustrating quarries for so many years.”

Other talks that were recalled as being amazing included:

(1) The presentation by Frank H. Ruddle (President 1985, Allan Award 1983) on Hox genes in humans in Toronto, ON in 1984 (ASHG35). Rod McInnes (President 2010) writes, “The most incredible scientific moment for me was hearing Frank Ruddle present the data of Bill McGinnis, showing that humans had Hox genes, just as did flies. It was mind-boggling. He told us about DNA molecules in the human genome that hybridized to fly Hox probes. I think I can almost ‘see’ the low stringency Southern blot! This remarkable discovery stuck in my mind. A few years later, when a new post-doc came into my office asking if it might be important that she had found a novel homeobox gene using the screening strategy we had designed to identify important retinal genes, I knew immediately that she had a wonderful finding. This gene we eventually named Chx10. It was one of only two known ‘non-Hox’ homeobox genes at the time, and with Margit Burmeister and Mansoor Sarfarazi, we showed that it was a major regulator of eye development.”

(2) The PCR talk by Randall Saiki in Salt Lake City, UT in 1985 (ASHG36) entitled “A Novel Method for the Prenatal Diagnosis of Sickle Cell Anemia.” Peter Byers (President 2005) recalls that after the talk, “Dan Cohn and I felt we could see the future of genetics! We came home and started using ad hoc means to do PCR until the brother of one of our lab members built a plywood encased, 12 sample, device that was all electronic.” In his 2008 Allan Award address, Haig Kazazian commented

on the excitement he felt in 1986 after seeing the incredible PCR bands that could be obtained with Taq polymerase.<sup>33</sup>

(3) Albert-Laszlo Barabasi’s presentation in Baltimore, MD in 2002 (ASHG52) on “The Structure and Robustness of Metabolic and Protein Interaction Networks.” To quote Sriver, “If I had to pick one time and talk and session that disturbed the universe as we knew it, I would say that Barabasi’s talk on networks was a paradigm moment for myself and many others.” Barabasi spoke again at the 2008 Distinguished Speakers’ Symposium on “Systems Biology, Regulatory Networks, and Disease.”

(4) Svante Pääbo’s talk in San Diego, CA in 2008 (ASHG58) entitled “A Comparative Approach to Human Origins” in the invited symposium “Human Brain Evolution: What Makes Us Unique?” Juleen Cavanaugh notes, “The exciting results in Dr. Pääbo’s presentation on the *Foxp2* humanized mouse made the hair on the back of my neck stand up—the likely evolutionary pathways to human speech changed the way I teach human evolution to medical students.”

### Importance of Education

The mission of ASHG is (1) to encourage and integrate research, scholarship, and education in all areas of human genetics, (2) to bring into close contact investigators in the many general fields of research that involve human genetics, and (3) to encourage discourse on applications of human genetics to society at large. As Nussbaum stated in his 2004 presidential address, “A commitment to education is a duty,”<sup>34</sup> and it is a duty that ASHG takes very seriously.

One of the early symposia that attempted to shed light on a controversial educational topic was held at the 1974 meeting in Portland, OR (ASHG26). It was entitled “The Utility of Heritability Estimates in Human Genetics.” Ernie Hook, the organizer of the session, sets the stage: “The February 1969, Harvard Educational Review, published an article entitled

'How Much Can We Boost IQ and Scholastic Achievement?' by Arthur Jensen, UC-Berkeley, with the following theses: Human intelligence (as measured by IQ) had a high heritability, African-Americans were on average about 1.0 standard deviation (roughly 15 'points') below whites in IQ values, measures included as part of the recently introduced national 'Head Start' programs intended to boost IQ scores of African-American children had failed, and, he concluded, such measures were in essence, likely to be fruitless because of the high heritability of IQ." The article implied that there was not much that could be done about racial differences in intelligence, and it ignited a national controversy. Jensen became one of the most controversial figures in academia, with demonstrations following him wherever he spoke. Because of this ongoing controversy, Hook put together a symposium featuring two speakers who were "anti" Jensen, one who supported Jensen's basis thesis, and Jensen himself. To avoid potential disruptions, the speakers were not advertised in advance, but, as Hook notes, "Someone leaked the news ... and we had hundreds present, hoping to see and hear Jensen .... The four speakers and I, as moderator, sat at an elevated table. Jensen was the last speaker, so the audience had to sit through the first three presentations. After Jensen spoke for a while, he asked for the first slide ... the room grew dark, and there was much rustling[,] about which I got a little nervous. But he had not said anything provocative to that point. When the lights came on, at least a third of the audience had left. Apparently they found his material boring. In fact, this was the first time there had been a direct exchange between Jensen and his critics, and for those who remained the interactive discussion at the end was quite illuminating. Jensen told me later that this was the first time since his article was published that there were no demonstrators." However, as Boughman recalls, all was not quiet: "There was quite a

'flurry' in the back of the room. I am not sure whether that was the time at which we made the rule about 'no badge, no entry,' but it helps keep us clean every year. We are always prepared, and potential protests are a point of discussion with each convention center and city."

In large part because of the possibility of a highly restrictive abortion law being passed in Louisiana, the 1993 meeting in New Orleans (ASHG43) saw the introduction of several new educational initiatives into the program. The highly successful all-day program for high school teachers and students began that year with 25 teachers and 50 students. The following year in Montreal, parallel high school workshops were run in French and English. The high school workshop is now an integral component of the meeting. Similarly, the education sessions were introduced in 1993.

Another feature of the 1993 meeting was the "Genetic Awareness" symposium entitled "The Genetic Health of Our Children," to which the public was invited. There was some concern that it might be disrupted by antiabortion demonstrators; fortunately, this did not happen. Several more public Genetic Awareness symposia were held at the next few meetings. In Montreal, Quebec (ASHG44), the topic was "Social Aspects of Population Genetics—Genes in the Community," and in Minneapolis, MN (ASHG45), it was "Genetics, Justice, and Access to Health Care." A slightly different public Genetic Awareness symposium took place in 1997 in Baltimore (ASHG47); it was a performance of "The Cutting Edge" by the Bethesda Academy of Performing Arts' Imagination Stage, followed by a panel discussion. This production portrayed the emotions and issues involved in genetic testing from the viewpoint of a teenage girl.

In recent years, several special educational symposia have been organized by the program committee chair. For example, in Salt Lake City, UT in 2005 (ASHG55), a historical

session was held on "Origins of the Human Genome Project," moderated by Tony Wynshaw-Boris, and the 2009 program in Honolulu, HI (ASHG59) included a symposium moderated by Les Biesecker on the 200<sup>th</sup> anniversary of the birth of Charles Darwin and the 150<sup>th</sup> anniversary of the publication of "On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life."

As part of ASHG's commitment to education and to recognize and honor outstanding contributions to human genetics education, the Award for Excellence in Human Genetics Education was introduced in 1995, with Margaret Thompson being the first recipient. Upon receiving this award in 2002, Hirschhorn remarked, "For me, the meetings of [T]he Society since my first one in 1956 have represented the best in learning and teaching, and I retain my perhaps naïve optimism that they will remain so for the future."<sup>35</sup>

### Lively Business Meetings

The business meetings have taken various forms over the years, with the more recent ones being rather mundane committee reports with few interruptions. However, this was not always the case. Hirschhorn comments that "some of my favorite memories concern the many years of business meetings featuring Herman Slatkin, who always loved making trouble by arguing about many Board decisions and initiated great philosophical arguments with several of the members, often with me. It certainly was a lot more fun than the dry reports we now get with only a rare question." And Shows concurs; he recalls: "The business meetings were often the scene of rousing debates, arguments, and lively declarations. I always looked forward to the serious presentations of Kurt Hirschhorn and Herman Slatkin that would invariably result in a hearty debate between the two. One never knew on which topic they would disagree[,] but that was the mystery and even the entertainment,



watching them defend their positions. The current business meetings are bland compared to the old days." A vivid memory for Cynthia Morton also involved Hirschhorn: at the 1980 meeting in New York, NY (ASHG31), he reported that his hospital had been contacted for the number of beds that could be made available for a limited nuclear war in Europe, which may spread to the US!

In some years, there were specific topics that sparked discussion. An example was at the time that the board exams began. A committee, set up in 1977 by Motulsky, with Rimoin as chair, recommended the creation of the American Board of Medical Genetics (ABMG) to consider the problems of accreditation and the establishment of specialty boards in medical genetics.<sup>6,36</sup> The members of this committee wrote the questions for the first board exam in 1982, and many, although not all, felt that they should be grandfathered in. After heated discussion and a vote that denied them grandfathering, almost all took the exam and passed with flying colors. In 1989, Rimoin was asked by ASHG to chair a committee to deal with clinical matters in genetics, and in 1991 the American College of Medical Genetics (ACMG) was founded. In the same year, ABMG was accepted by the American Board of Medical Specialties (ABMS) as the first new Board in 20 years. However, this was not without controversy, because the ABMS would not allow certification of master's level geneticists and genetic counselors. Epstein led an informational session at the 1992 meeting to explain and discuss this awkward situation. The result was the formation of the American Board of Genetic Counselors (ABGC), with financial support from ASHG, which gave genetic counselors the independence to shape their own training and certification programs. At the same time, Skip Elsas recalls the formation of the Council of Medical Genetics Organizations (COMGO) and "working with an alphabet soup of associations (ASHG, ACMG, ABMG, NSGC, ABGC, ISONG,

APHMG, etc.) to maintain partnerships and communication among all groups involved in human and medical genetics. Within a few years it became clear that the leaders of the member associations were talking to one another anyway and COMGO was deemed redundant."

With the cloning of the CF gene in 1989, there was much excitement, but also the need for caution. Michael M. Kaback (President 1991, Allan Award 1993) expressed his concern to the ASHG Board that "an enormous entrepreneurial opportunity presented itself for laboratories, with licensing from those who had patented the gene discovery, to carry out population wide (pregnancy-related) carrier screening for CF prevention. It was disconcerting to me that this would be unfortunate and potentially harmful to many, as we had little information as to how to educate physicians, other health care providers, and most importantly, the public, about such a potentially complicated and imperfect highly technical matter. Issues of sensitivity, phenotype predictability, ethnic variability, etc. were very uncertain at the time. After much discussion it was decided that I, together with Tom Caskey [President 1990] and Art Beaudet [President 1998, Allan Award 2007], would draft a statement discussing some of these complexities and the need for further investigation: scientific, educational, and sociologic, before CF carrier screening might be recommended on a populational basis. This statement was read by the president, Luca Cavalli-Sforza, at the 1989 Business meeting [ASHG40] and was published in *The Journal*;<sup>37</sup> it stated unequivocally that CF heterozygote testing was NOT the standard of care for all prenatal clients seen at that time. CF screening did become "standard of care" about ten years later, after much work on education, pilot testing, mutational research, etc. was conducted (and some of which continues to date)."

Peter Byers (President 2005) recalls that at the 1991 ASHG business meeting (held during the ICHG in Washington, DC), after much discus-

sion concerning the strong possibility that Louisiana would pass very restrictive abortion legislation and thus would not be a place we would want to hold our meeting, "It was decided to continue with plans to go to New Orleans and introduce new educational programs for the attendees, the public, and high school teachers and students—a notable meeting and one of the best attended." More on this from Kaback, who was the ASHG President and chaired the meeting: "Probably the longest business meeting in the history of ASHG, lasting about 2 and 1/2 hours was the result of a State of Louisiana proposed state law abolishing elective abortion. ASHG was scheduled to meet in New Orleans in 1993 and the membership expressed concern that we shouldn't meet in a place where such a prohibition was in place. Because of contracted commitments with the City and Convention Center (with major financial obligations for [T]he Society) and because there was considerable opinion that the law would not be enacted and, if enacted, would be found unconstitutional, the Board had voted not to withdraw our plans for the meeting. Well this created a maelstrom at the meeting and many folks had opinions on the matter. After everyone had a chance to speak for and against the issue, a vote was held and the Board's position was sustained. Fortunately the Louisiana law was declared unconstitutional and the meeting was held as planned in New Orleans and was a great success. Everyone had their say and I believe most felt that the prolonged discussion was appropriate as this was a deeply troubling matter."

New Orleans was again the major topic in Salt Lake City in 2005 (ASHG55), this time because it had just been devastated by Hurricane Katrina and the meeting was scheduled to be there in 2006. After considerable discussion, the decision was to go to New Orleans. Other societies cancelled (e.g., Society for Neuroscience), but ASHG was committed to going and held a fundraiser to help

the city (Katrina Fund). Joe McInerney (Excellence in Education Award 2005) relates his favorite moment: "A representative from a major biotech firm in San Francisco argued that the risk of another hurricane in New Orleans was too great and stated that her company might not exhibit. Peter Byers, our President, responded, 'Isn't your company's major research facility on the San Andreas fault?'"

### Unanticipated Events

The number of events that have caused some disruption for the ASHG meeting is quite astounding. Other societies probably check where ASHG is being held and make sure they select another city! A few of the most memorable are listed:

**Earthquake: San Francisco, CA, 1969 (ASHG21).** Hirschhorn was president, and despite the fact that a strong earthquake had occurred, the board meeting began as scheduled on an upper floor of the Sheraton Palace Hotel. However, after it had been in progress for about an hour, a violent aftershock rocked the room, leading to a mass exodus of board members. Only Hirschhorn and Neel remained, with Neel suggesting that this was a sign that an hour or so was long enough for a board meeting.<sup>5</sup> Dorothy Warburton (Allan Award 2006) recalls that a later aftershock "brought quite a few ASHG members down to the bar in their pajamas, which turned into a fun time."

**Fire in hotel: Norfolk, VA, 1983 (ASHG34).** A fire in the meeting hotel interrupted the opening reception. McInerney recalls, "Undaunted, the members carried the food and drinks out to the parking lot and continued the reception while watching the Norfolk Fire Department battle the blaze."

**Baseball frenzy: Cincinnati, OH, 1990 (ASHG41).** The World Series has often coincided with our meeting, causing many non-American attendees to puzzle about why people are standing around rapt at the TV, where some indecipherable kind of ballgame is being played. After Cincinnati won the World Series in 1990, the noise in the streets made sleeping

impossible, and Warburton recalls, "Many of the ASHG attendees (including me!) joined in the street celebration that took place that night."

**9/11: San Diego, CA, 2001 (ASHG51).** The meeting was just 4 weeks later; Willard was president, Orr was program committee chair. Orr recalls: "I never in my wildest dreams would have anticipated participating in a conference call with Hunt and the ASHG staff discussing what we would do if there was another 'event.' Anyway it was great to see the ASHG membership rally and come to the meeting, particularly those from overseas." Many, however, did not come because of travel concerns and, as Chakravarti puts it, "Traveling in the US for a dark skinned person at that time was not fun." McInerney comments, "The hotel staff members continually expressed their gratitude for our traveling to San Diego despite the climate of fear in the country."

**Sniper attacks: Baltimore, MD, 2002 (ASHG52).** Diana Bianchi, the program committee chair, recalls her concern when one of the invited speakers, Ron McKay, in the Distinguished Speakers' Symposium on "Stem Cells: Hype or Hope for the Treatment of Genetic Disorders?" did not show up to give his important first talk in the session: "It was the ultimate program chair's nightmare! Ron worked at NIH, so his absence could not be explained by a flight delay. Everyone was worried that he had been shot by the sniper. We ended up having only two speakers for that session, and they expanded their talks to fill the void. Post meeting, we heard from Ron that he had been involved in a minor car accident, and that it had precluded him from getting to the Convention Center. Of course this episode plays very prominently in my memory, not only because of the concern for his wellbeing but also the fact that I had to be flexible enough to accommodate the lack of a key speaker at the last minute." One of the authors (B.J.B.K.) was chair of the Information and Education Committee that year and remembers

the concern that teachers and students would not show up for the student/teacher workshop because schools were locked down and field trips throughout Maryland were canceled in the wake of the sniper attacks. However, we were pleasantly surprised that 58 students and 12 teachers were able to get to the convention center, where they participated in hands-on and interactive sessions on hereditary cancer, human variation, evolution, disease, and newborn screening.

**Hurricane Katrina: Salt Lake City, UT, 2005 (ASHG55).** The ASHG meeting was less than 2 months after Hurricane Katrina, and, as one of us (B.J.B.K.) recalls, "those of us from New Orleans had only just been able to get back into the City to see the horrible mess, and find our homes and office buildings falling apart with everything covered in mold and thousands of precious samples ruined. Our Society and many of its members were wonderfully supportive and generous in reaching out to help us get back on our feet. And the incredible commitment by [T]he Society to help New Orleans by continuing with plans to have the 2006 ASHG meeting there was something that we will never forget."

**Fires surrounding city: San Diego, CA, 2007 (ASHG57).** McInerney recalls, "As we flew into the City, we could see the smoke and brush fires that were consuming vast areas of the San Diego suburbs. Attendees began to double-up in hotel rooms to make space for families that had been evacuated and we found ourselves riding on the elevators with evacuees and their pets, including some very interesting reptiles. A zoologist from the San Diego Zoo, who had graciously kept his commitment to make a presentation at our high school workshop, told me that he expected his house to be ashes by the end of the day."

### A Few Personal Recollections

Tom Shows attended his first ASHG meeting in Boulder, CO in 1964 (ASHG17) at the University of

Colorado. He writes, "The ASHG meetings were very important to me, not only for the excitement of the science, but also for the lasting friendships. At my first meeting, we met in classrooms and one could meet practically everyone attending. This was a very special meeting for me since I was a pre-doctoral student at The University of Michigan at the time and was able to meet so many geneticists and legendary figures whose work I had studied. I presented my first paper at the 1964 meeting and it was a distinct privilege to present at least one paper at the next 38 annual meetings. The Portland, OR meeting in 1974 [ASHG26] is particularly memorable because the local committee had arranged a bus trip to a restaurant on Mt. Hood. The Society was small enough in those days to take everybody to this scenic lodge in four or five buses. The bus I was on broke down and it was a long evening. I don't recall making it to the lodge, but I do remember making new acquaintances, learning more about the research of fellow passengers and initiating collaborations. Few are still around to reminisce about the bus trip to Mt. Hood."

As mentioned earlier, Hall introduced Motulsky when he received the 2009 Leadership Award. He began his address with, "Being introduced by my very first medical student in the then elective course of human genetics at the University of Washington who later became a well-known pediatric geneticist is very much appreciated." Hall recalls, "I'd gotten turned on to genetics in college and it was really before medicine understood how important genetic issues were. Arno Motulsky was a real inspiration to me regarding applying genetic concepts to clinical care. So when the meeting was held in Seattle, WA in 1965 [ASHG18], it was quite thrilling to go. The next meeting I remember was in Portland, OR in 1974 [ASHG26]. Fred Hecht asked me to be on the Program Committee. It was still in the days when the local people did all the organizing. That was also thrilling as a very young

academic to have my thoughts and ideas about what made an interesting program taken seriously for a national meeting."

Warburton also recalls the 1965 meeting in Seattle, WA (ASHG18), particularly the banquet at which attendees were treated to "a beautiful smoked salmon dinner cooked by Indians."

Bob Desnick made his first ASHG presentation in Austin, TX in 1968 (ASHG20). He recalls, "It was my first paper on Fabry disease and two questions were asked—one from Curt Stern and one from Joshua Lederberg. It was a most stimulating experience having these legendary geneticists asking thoughtful questions of the presenters, especially memorable and stimulating for trainees presenting their research." And he adds, "The 1969 meeting in San Francisco, CA [ASHG21] was particularly moving—the hotel chandeliers swayed during the evening session as I experienced my first earthquake tremor."

The first ASHG meeting for Bruce Korf (Excellence in Education Award 2009) was the 25<sup>th</sup> anniversary in Atlanta in 1973 (ASHG25) where he gave a talk on the summer research he had been doing as an undergraduate. He recalls, "It was my first time meeting the luminaries in the field and the experience played a big role in my subsequent decision to embark on a career in genetics. Then, a few years ago ASHG sponsored several MD/PhD students to attend the meeting, one of whom was a UAB student. They attended the reception, and Boughman made a point of bringing by some of the senior people in the field to meet them (the students tended to hang together at the reception). It was remarkable to see through their eyes some of the same impressions I had had many years earlier. We should not underestimate the power of the meeting to inspire young people who are considering a career in genetics."

Uta Francke (President 1999) attended her first ASHG meeting in Portland, OR in 1974 (ASHG26). She recalls that she spoke in a symposium

on the use of chromosome banding techniques for identifying novel rearrangements and in another session on the use of somatic cell hybrids for regional gene mapping, and she was a coauthor on a plenary session presentation on half-chromatid mutations given by Stan Gartler (President 1987): "The meeting presented an incredible opportunity for an unknown and just appointed assistant professor to make a visible entry into [T]he Society. The hippie-flower days were still palpable, I remember respectable men, like Lee Rosenberg and Jerry Mahoney, having shoulder-long hair and I bought a long dress for my symposium presentation."

ASHG26 was also the first meeting for John Mulvihill. He recalls, "I presented a sarcoma family that became a MIM entry, OSLAM syndrome. Victor McKusick was famous for taking notes at the meetings and making MIM and OMIM entries basically overnight. I also remember the thrill of escorting a trainee to his first ASHG meeting, and in a sense, seeing the wonder of it all through new eyes."

Chakravarti's first meeting was in 1977 at a hotel on Mission Bay in San Diego (ASHG28). He writes: "They are always fun and that is how I have made friends in [T]he Society and how [T]he Society took someone like me from god knows where and made me feel welcome. I remember the first talk I gave the following year in Vancouver, BC (ASHG29) and I also remember meeting Victor McKusick at one of my early meetings and him talking to me seriously about mapping."

Bonnie Pagon (Excellence in Education Award 2006) recalls her first meeting in 1979 (ASHG30): "It was in a grand, but small old landmark hotel in Minneapolis named The Leamington. All the rooms, hallways, lobbies, foyers were so jammed we could not circulate, get a seat for a concurrent session, or catch our breath. No one ever thought the ASHG meeting would get to be so big!!"

And those were the days when, if the slide projector broke, the slides

could simply be passed around the room—no such possibility with the PowerPoint presentations of today. Speaking of slides, Mulvihill and Reed Peyeritz recalled the presidential address at the 1991 ICHG in Washington, DC with thousands of attendees, during which one of McKusick's slides got stuck. When the projectionist took off the carousel and turned it over to reset it, slides went everywhere. There was no hope of correctly reordering those slides, but fortunately some of McKusick's slides were in a second carousel. He continued his address, first using the slides that had been retrieved from the floor and thrown back in the carousel in a random order, before moving to the second carousel.

For Ed McCabe (President 2009), the major recollection was “the excitement of the era of gene discovery (mid-1980s into the 1990s) when the buzz was what new gene(s) would be cloned and presented at the annual meeting. Some of the highlights were the DMD, CF and BRCA1 genes. The excitement was about what the protein products of these genes would look like and what were they actually doing in a cell.” And Rick Myers added the first positionally cloned X-linked gene, the chronic granulomatous disease (CGD) gene, to this list. The CGD, DMD, CF, and breast cancer 1 (BRCA1) genes were cloned and reported in 1986, 1987, 1989, and 1994, respectively.

In his 2004 presidential address in Toronto, ON (ASHG54), Nussbaum commented that the reason he has been coming to the meetings for many, many years is “because it is the one place where not only are novel and exciting findings in human genetics presented, but the attendees care about what these results mean to patients, their families, society at large, and our understanding of who we are as a species.”<sup>34</sup>

Tom Glover recalls “the many hallway social and scientific interactions and one-on-one meetings made possible by bringing human geneticists together” and describes that exhilarating feeling of “going home

over the years with countless new ideas and experiments buzzing around in my head.” And, as Warren stated in his presidential address in New Orleans, LA in 2006 (ASHG56), “it is the remarkable collection of people from all over the world who come together annually at our meeting that is special. It makes this Society our home.” He continued, “I come to this meeting every year to see all those friends I have made in the human genetics community since 1975 .... Collaborations are established, data and insight are informally shared, potential postdocs or faculty are met, and, yes, a good time is had by all.”<sup>38</sup> Incidentally, Glover and Warren drove in a caravan with one of us (T.J.H.) from East Lansing, MI (we were all Michigan State University students at the time) to Baltimore, MD; luckily, Glover's beat-up Pinto made it there and back for that 1975 meeting (ASHG27).

A particularly memorable time for McNerney was at the 1997 meeting in Baltimore, MD (ASHG47): “I met Barton Childs and Jim Neel (it was the first time I'd met him) at the registration desk for a lunch meeting to discuss ways to incorporate some of the content from Jim's book *Physician to the Gene Pool* into Biological Sciences Curriculum Study (BSCS) programs. As we were walking towards the restaurant, and the two old friends were catching up on personal matters, a graduate student who had overheard our plans whispered to me, ‘Are you really going to have lunch with both of those guys by yourself?’ I responded, ‘Yes, and I'm afraid I'm in way over my head.’ He then said, ‘Can you write down everything they say and tell me about it later?’”

And finally, a vivid memory from the 1993 meeting in New Orleans, LA (ASHG43) revolved around the special social event at the aquarium, for which tickets were sold in advance. Previously it had not been customary to buy tickets to social events when registering for the meeting, so a lot of people did not do so. However, on the evening of

the aquarium event, everybody wanted to be there, and people were handing cash to Chakravarti and one of us (B.J.B.K.) to get in the gate. Chakravarti recalls, “You and I were standing outside the Aquarium in New Orleans collecting cash from people coming to the dinner-dance, who had not bought tickets, and then giving the [money] to [T]he Society. (I remember walking around the French Quarter with you and my pockets really full!!)” It was an outstanding event that included exploring the aquarium, dinner, dancing, and an amazing performance by the renowned rhythm and blues singer, Irma Thomas (Soul Queen of New Orleans), who had kindly agreed to perform for us.

### Next Steps

With anecdotes and stories recollected from the past, inaccuracies and exaggerations can often creep in, but this is in large part minor and immaterial; we must document the memories before they are forgotten. Vic Riccardi has frequently emphasized the importance of preserving the history of The Society, which certainly includes the memories of all those who have attended the annual meetings. This article is just the beginning of the collection, and hopefully it will prompt memories for many readers; please share your memories from ASHG meetings by visiting <http://www.ashg.org/2010meeting/meetingsgoneby/>.

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