HISTORY OF THE WINTER SIMULATION CONFERENCE:
COMING-OF-AGE PERIOD (1983–1992)

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ABSTRACT

This paper presents the history of the Winter Simulation Conference (WSC) for the time period covering 1983–1992. This was a healthy era of growth for WSC as conference attendance was strong, exhibits were added, proceedings became hardback, program tracks were added, the Ph.D. Colloquium was initiated, and the Twenty-Fifth Anniversary of WSC was celebrated in 1992. This article discusses all of the accomplishments for this "Coming-of-Age Period".

1   INTRODUCTION

This paper discusses the history of the Winter Simulation Conference (WSC) for its "Coming-of-Age Period", 1983 through 1992. This was a strong time period for WSC as conference attendance increased, numerous conference innovations occurred, the conference program was enhanced, and the Twenty-Fifth Anniversary of WSC was celebrated in 1992. These accomplishments are discussed in the following sections below.

2   THE CONFERENCE ATTENDANCE

To begin, it is interesting to consider the attendance at WSC for its first three historical time periods. The first period, which is called the "Origins and Early Years Period", covers the years of 1967–1974 and had by far the highest attendances, with an average attendance of 717 and a range of 400–1200. The large attendances were perhaps due to simulation being new and that these were the first major conferences on simulation. However, the trend of attendance went steeply down for the last three conferences of that time period with attendance of 1200 (estimated), 600 (estimated), and 463 (actual) for the years of 1971 (December), 1973 (January) , and 1974 (January), respectively. The second period, which is referred to as the "Renaissance Period", covers the years of 1975–1982 and had an average attendance of 325 and a range of 205–465. This period's attendance was probably heavily influenced by the failure of not having a 1975 conference, then followed by a late start for the 1976 conference because of WSC's rebirth. (These two issues are discussed in the WSC history paper covering the Renaissance Period.) The third period, which is called the "Coming-of-Age Period", covers the years of 1983–1992 and had an average attendance of 508 and a range of 350–734. This range is significantly higher than the range for the Renaissance Period and is further discussed in the next paragraph. (The attendance figures for past conferences are available at http://meetings2.informs.org/wordpress/wsc2017/past-conferences/.)

There are a number of comments that can be made regarding the conference attendance of the Coming-of-Age Period. See Figure 1, which contains the yearly WSC attendance counts for the Coming-
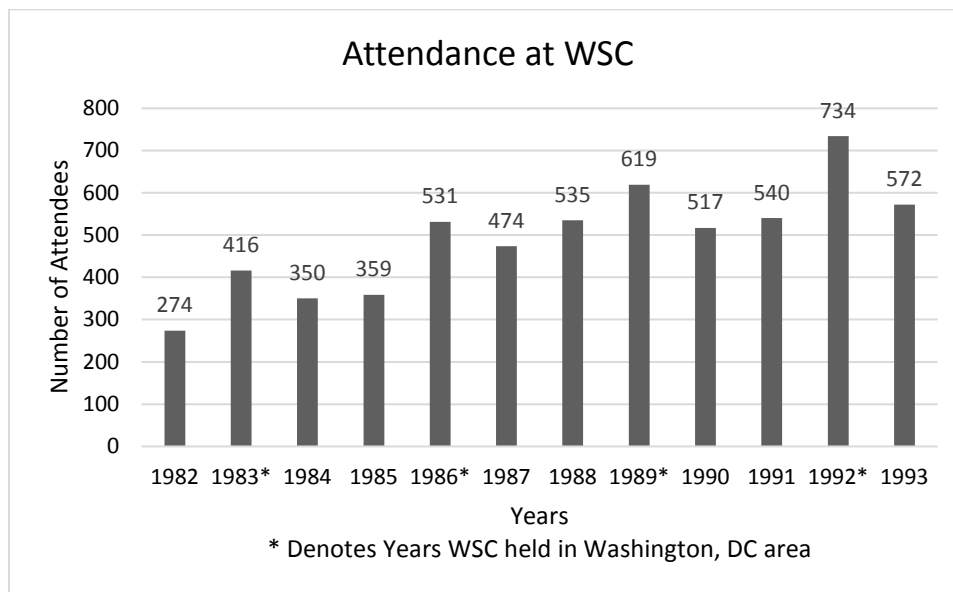
Attendance at WSC

Figure 1: Yearly WSC attendance for 1982–1993.

of-Age Period plus the attendances of the previous year and subsequent year to this period. The WSC Board of Directors had established a policy of having the WSC every three years in the Washington DC area because they had become aware that conference attendance is higher for conferences held in the Washington DC area than elsewhere if the subject matter is of major interest to government personnel. This occurred for the years of the years 1983, 1986, 1989, and 1992 during the Coming-of-Age Period. One can readily observe in Figure 1 that each of these years had higher attendance than the attendance for their previous year and following year. Also, it can be readily observed in Figure 1 is that the conference attendance increased throughout this time period. James O. Henriksen, the General Chair of the 1986 WSC, put a major effort into marketing the 1986 WSC, which had not been done previously, and this probably helped increase the 1986 WSC attendance. (Since 1986, the WSC has been actively marketed.) Furthermore, the attendance at the 1992 WSC was almost certainly influenced by the fact that it was the Twenty-Fifth Anniversary of the WSC and its associated publicity.

3   CONFERENCE PROGRAM EXHANCEMENTS

Enhancements were made to the conference program during the Coming-of-Age Period. Three new application tracks were established: a Manufacturing Simulation track was added in 1986, and a Construction Engineering track and a Health Systems track were added in 1992. These new tracks came about due to an increased number of papers being submitted in these areas. Modifications were made to the software vendor tracks in 1986 to enhance the ability of software vendors in make meaningful presentations at WSC regarding their simulation products. Also in 1986, the Methodology Track was broken into two tracks: Modeling Methodology and Analysis Methodology. Furthermore, appointing a track coordinator for each of the program tracks to assist the Program Chair became a policy during the Coming-of-Age Period. These enhancements led the number of papers in the conferences to significantly increase.

See Figure 2 for a graph depicting the number of papers and attendance for the same years as were used in Figure 1. One can observe that the numbers of papers for the Coming-of-Age Period were around 100 for the years of 1983–1985, around 130 for the years of 1986–1988, around 150 for the years of 1989 and 1990, and then increased to about 160 for 1991 and 180 for 1992. Thus, the trend for the number of papers was upward with an increase of about 80 percent over this time period. It is interesting to
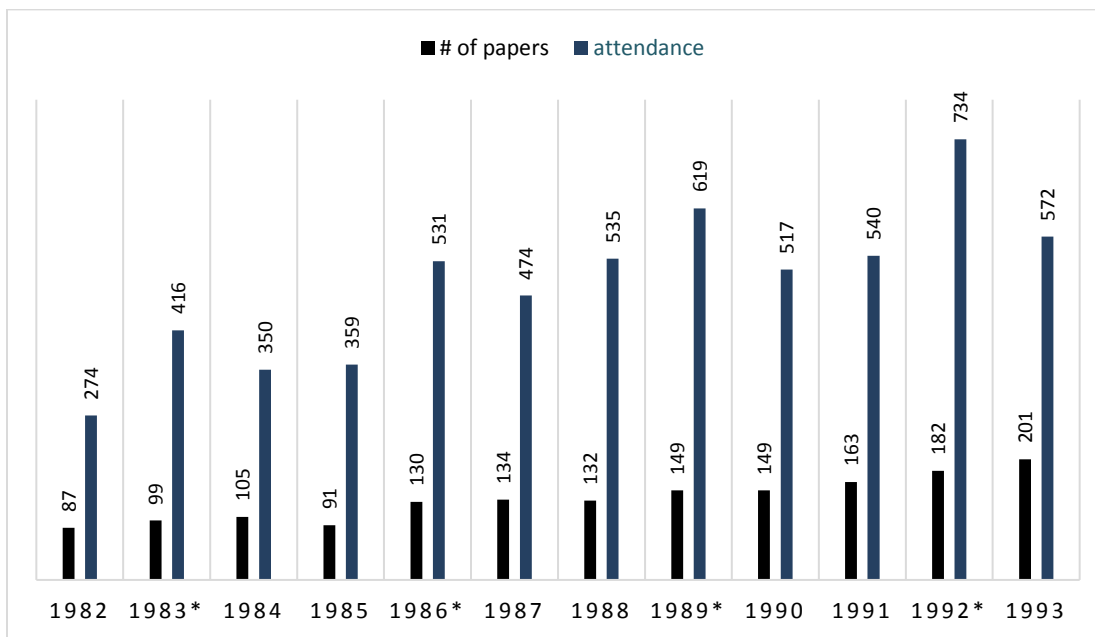
Figure 2: Yearly WSC numbers of papers and attendance for 1982–1993. (* denotes WSC held in Washington DC area.)

determine how the increase in the number of papers affected the conference attendance. Looking at the ratio of number of papers divided by attendance one finds that the range for this time period (1983–1992) is 0.24 – 0.30. This ratio is amazingly stable. Increasing the number of papers had the same multiplier effect on increasing the attendance during this entire time period; i.e., the proportional increase in attendance with respect to the number of papers remain approximately the same over this time period.

Some changes were made regarding the papers, themselves. A policy was established in 1986 that each paper in the Conference Proceedings must be at least three pages long. Also, a more-formal refereeing procedure was established in 1990 for refereeing contributed papers.

4   WSC CONFERENCE INNOVATIONS AND CHANGES

There were several fundamental conference innovations during the Coming-of-Age Period. Two major innovations occurred for the 1984 WSC, both of which had their origins at the 1982 WSC. One was that of establishing exhibits at the 1984 WSC. At the 1982 WSC, James O. Henriksen discussed with Robert G. Sargent and Thomas J. Schriber as members of the WSC Board of Directors the idea that there should be exhibits at WSC. Henriksen had carefully prepared for this discussion by developing very specific reasons why there should be exhibits at WSC. Sargent and Schriber were impressed by what Henriksen had developed and suggested that he submit to the WSC Board of Directors a formal written proposal containing his suggestion. Henriksen submitted his proposal to the WSC Board, the Board asked Board member Julian Reitman to evaluate the proposal, and Reitman gave the Board a positive evaluation of the proposal after a careful study. Based on the proposal and Reitman's evaluation of it, the Board decided to try out exhibits at the 1984 WSC, and then evaluate the results. Fortuitously, the exhibits were very successful at the 1984 WSC, and so exhibits continue to this day as a major component of WSC.

The second innovation that occurred at the 1984 WSC was that the Conference Proceedings were produced with hardback covers for the first time. During the 1982 WSC, Udo W. Pooch, the 1984 WSC General Chair came to Sargent, who was the current Chair of the WSC Board of Directors, to discuss his idea to have hardback covers on the 1984 WSC Proceedings. All of the WSC Proceedings since the beginning of the WSCs had been softbound. Hardback covers cost more than softbound covers. Sargent

suggested to Pooch that he include the extra cost for the hardback covers with reasons for this expense in the 1984 WSC budget presented to the WSC Board. This budget was approved by the Board and the 1984 WSC Proceedings had hardback covers. Having hardback covers for the Conference Proceedings then became the policy for future years of WSC.

A major innovation occurred in the 1988 WSC. A Ph.D. Colloquium was established in which each Ph.D. student whose dissertation is on an area involving simulation presents his or her dissertation work. This Colloquium has become an important component of each subsequent WSC, and the Colloquium always includes a keynote speaker.

During the Coming-of-Age Period, changes were made regarding the job of editing the Conference Proceedings. Associate Proceedings Editors were established in 1992 to assist the Proceedings Editor in developing the proceedings. They became co-editors of the Conference Proceedings along with the Proceedings Editor and the General and Program Chairs who were added as co-editors of the Conference Proceedings starting in 1976.

In 1985 the American Statistical Association became a co-sponsor of WSC. There were no other sponsor changes during the Coming-of-Age Period.

5   THE ANNUAL CONFERENCES

The individual conferences ran well during this time period. There was sufficient volunteerism to run the conferences, the conferences had no financial issues and every conference had a surplus, the management system for the conferences worked satisfactorily, the sponsoring societies were content, the conference programs were of good quality, and the conference attendees were pleased. There was one negative incident at the 1983 WSC, and the 1992 WSC was special because that was the twenty-fifth anniversary of WSC. The negative incident occurred after a session ended when the last speaker distributed a handout that contained a set of inappropriate remarks on an 'incorrect topic'. This was the same individual who had put similar content into a paper submitted to the 1982 WSC that was rejected due to inappropriate remarks contained in the paper. (This individual has never given another paper at WSC.) The twenty-fifth anniversary of WSC is discussed in a separate section.

The attendance and the number of papers for each WSC were discussed in separate earlier sections. The keynote speakers for the Coming-of-Age Period and the titles of their addresses are contained in Table 1. This list of keynote speakers is very impressive and contains many well-known individuals who pioneered the field of simulation. The titles of the keynote addresses show the wide range of topics of interest to the simulation community.

6   THE TWENTY-FIFTH ANNIVERSARY OF WSC

The Twenty-Fifth Anniversary of WSC occurred in 1992, the last year of the Coming-of-Age Period. The General Chair of the 1992 WSC was Robert C. Crain and the Program Chair was James R. Wilson. They placed an emphasis on celebrating the Twenty-Fifth Anniversary by dedicating the Keynote Address and a panel session to the History of WSC. The title of the Keynote Address was "The Winter Simulation Conference: Celebrating Twenty-Five years of Progress" and the title of the panel session was "The Winter Simulation Conference: Perspectives of the Founding Fathers." Both are contained in the *1992 Proceedings of the Winter Simulation Conference*. The Keynote speakers were Joseph M. Sussman who spoke on "Simulation—A Historical Perspective (1967–1992), Thomas J. Schriber who spoke on "The Renaissance Period (1976–1985)", James O. Henriksen who spoke on "The Coming-of-Age Period (1986–1992)", and Stephen D. Roberts who spoke on the "Prospects for the Future". (Note: The part of the Keynote Address written by Henriksen on the Coming-of-Age Period (1986–1992) contains considerable details of the 1986 WSC as Henriksen was the General Chair of that conference. Individuals desiring more information on the Coming-of-Age Period should see Henriksen's part of the Keynote Address.) The panel session had as speakers the first seven General Chairs of what is now called the Winter Simulation Conference: Harold G. Hixson (1967), Julian Reitman (1968), Arnold Ockene (1969),

Table 1: List of keynote speakers and the titles of the keynote addresses.

Year	Keynote Speaker	Keynote Address
1983	Harold Joseph Highland State University of New York	A Dinosaur's View of Simulation
1984	Robert E. Shannon Texas A&M University	Artificial Intelligent and Simulation
1985	David C. Evans Evans & Sutherland Computer Corporation	The Art of Visual Simulation
1986	Frank J. Babel Electronic Data Systems Corporation	Simulation--Striving to Its Full Potential
1987	John A. White Georgia Institute of Technology	Simulation: Pushing a Dead Mouse Through a Maze
1988	Julian Reitman University of Connecticut, Stamford Campus; George Mason University	A Concise History of the Ups and Downs of Simulation
1989	A. Alan B. Pritsker Pritsker Corporation	Why Simulation Works
1990	Philip J Kiviat Chartway Technologies	Simulation, Technology, and the Decision Process
1991	Thomas Cook American Airlines Decision Technologies	Simulation Applications at American Airlines
1992	Several Individuals—See Section on 25th Anniversary of WSC	The Winter Simulation Conference: Celebrating Twenty-Five years of Progress

Philip J. Kiviat (1970), Michael Araten (1971), Joseph Sussman (1973), and Michael F. Morris (1974). The first three General Chairs founded the conference in 1967. Wilson had these two sessions video-taped and these video tapes are in the Computer Simulation Archive located at North Carolina State Universities (https://d.lib.ncsu.edu/computer-simulation/).

7   CONCLUDING REMARKS

The Coming-of-Age Period (1986–1992) was a healthy one for WSC. Attendance increased, the conference coverage was enlarged (e.g., exhibits were added and the Ph.D. Colloquium was established), the quality of the conference program while already strong was strengthened and enhanced, adequate volunteer support for the conference continued, conference finances were solid, and the conference sponsors were pleased. The management system established in 1976 in which a WSC Board of Directors oversees the year-to-year operation of WSC continued to work well. Onward now to the following years.

AUTHOR BIOGRAPHY

ROBERT G. SARGENT is a Professor Emeritus at Syracuse University. He has made numerous contributions to the simulation community in the forms of both service work and scholarly publications. His many honors and awards include being a recipient of the 1988 Distinguished Service Award and the 2002 Lifetime Professional Achievement Award from I-SIM, the 2010 Board of Directors James R Wilson Award and the 40th Anniversary Landmark Paper Award from WSC, and the 2012 Distinguished Contributions Award from ACM/SIGSIM. Moreover, he was elected a Fellow of INFORMS in 2005. His email address is rsargent@syr.edu.