

RESOLUTION ON THE RETIREMENT OF FREDERICK
CARL NELSON May 16, 2007

Adopted by the Faculty of Arts, Sciences and Engineering and
Placed in the Archives of Tufts University

Frederick Carl Nelson first came to Tufts in 1950 and entered the College of Engineering. Fred received his Bachelor of Science in Mechanical Engineering in 1954. He then attended Harvard University and received his Master of Science degree in 1955. The year 1955 proved especially pivotal for Fred Nelson as he was invited to become a Ph.D student at Harvard, he married Delia Dwaresky of South Boston, and he was offered a teaching position at Tufts in the Department of Mechanical Engineering. In September of 1955 Fred started his career as a full time instructor at Tufts and a part time Ph.D student at Harvard. He completed his Ph.D in 1961.

Professor Nelson's career at Tufts has shown a steady increase in his academic responsibilities, research activities and professional contributions. He rose through the ranks as Assistant Professor in 1957, Associate Professor in 1964 and Professor of Mechanical Engineering in 1971. Fred has had a number of important administrative positions at Tufts including Chairman of the Department of Mechanical Engineering from 1969-1980 and then as Dean of the College of Engineering from 1980-1994. During his tenure as Chairman, the department grew in student majors and research prestige. He personally started and administered the student exchange program between Tufts and INSA (Institut National de Sciences Appliquees de Lyon) in France. This exchange program continues to this day and has resulted in more than fifty Tufts students studying engineering in France for one year. Another highlight at this time for Fred was as a member of

the presidential search committee that selected Jean Mayer as Tufts' President. Fred's tenure as Dean coupled with the ideas and excitement engendered by the new president led to a period of sustained growth for the College of Engineering. Among the changes which occurred during Dean Nelson's tenure were renovating Bray Lab for the mechanical engineers, replacing the environmental labs for the civil engineers, renovating Halligan Hall for the electrical engineers and moving the Dept. of Chemical Engineering into a new facility in the Sci-Tech building. He was a major participant in capital campaigns that raised a total of \$50 million dollars for the College of Engineering. Additionally, Fred was involved in establishing Technology Centers in Electro-Optics and Biotechnology which gave the College of Engineering a national research reputation.

Fred Nelson's personal research has been of note nationally and internationally. His first research was on structural damping: in particular the damping due to layers of viscoelastic material bonded to metal structures. This work earned him an invitation (1968) to spend a sabbatical at the Institute of Sound and Vibration Research (ISVR) at the University of Southampton in England. While there he became fascinated by their work in acoustics and upon returning to Tufts he introduced courses and conducted research in this new field of study. Fred's work in damping, vibration and acoustics, together with his professional contributions in these areas led to his being named a Fellow of the American Society of Mechanical Engineers (ASME) and also a Fellow of the Acoustical Society of America (ASA). Prof. Nelson also studied abroad at INSA in Lyon, France during two sabbatical leaves. There he learned a new field of study in rotordynamics, and the last twenty years of his research has been primarily in this field. His research in vibrations and rotordynamics led to his involvement with the Shock and Vibration Information Analysis Center (SAVIAC) and The Vibration Institute (TVI). Since stepping down as Dean in 1994 he has become a member of the

SAVIAC Technical Advisory Group and a member of the Board of Directors of TVI. Fred is pleased that his research work has wide recognition as evidenced by being commissioned by SAVIAC to write a book on rotordynamics. This will also help ensure that Fred will continue to be an important presence on the Tufts campus.

Fred Nelson has a warm, engaging and witty personality. Many of his anecdotes mirror the years and changes at Tufts through the years. For example, he likes to tell the story of coming to the campus in 1950 to look it over as a possible college to attend. He was quickly ushered into Dean Harry Burden's office in Robinson Hall and after 15 minutes of conversation was told "you're admitted, see you in September". Fred doesn't have a recollection of even filling out an application! Fred also likes to tell the story of how when he was teaching at Tufts and pursuing his PhD at Harvard, what a challenge it was to finish a lecture at Tufts at 10AM and then drive to Cambridge and park to attend a 10:10AM class at Harvard. To this day this feat is known among the faculty as the Fred Nelson speed driving record. Since Fred has a 52 year association with Tufts and the School of Engineering, he has seen several major transitions in educational philosophy. When he was a student, Tufts was a commuter school (all but one of his classmates were commuters) as well as a teaching college. When he first became an instructor, he taught three and sometimes four courses per semester. There was no graduate program and no research. This all started to change in the late 50's when Ashley Campbell became Dean and by the late 60's there were nascent graduate programs and clear incentives for research. By the 70's the College had entrenched the model of a teaching college that did research. Today the College, now the School of Engineering, is undergoing another transition to a research school that prides itself on the quality and nurturing nature of its undergraduate program.

As a token of gratitude for Prof. Nelson's contributions to Tufts, when he stepped down as Dean a group of alumni contributed funds to the College of Engineering to renovate a room in Anderson Hall with modern facilities and state of the art computer technology. This room has now been changed into an elegant auditorium and is now an integral part of the School of Engineering, with Nelson Auditorium prominently displayed at the entrance to Anderson Hall. After a fifty-two year association with Tufts, Prof. Frederick Nelson certainly deserves the right to step back, retire from active teaching and pursue his new challenges. We wish him a long and happy retirement and hope that he will continue to share his talents with the faculty and the entire Tufts community. On behalf of the Department of Mechanical Engineering, I move that this resolution on the retirement of Frederick Carl Nelson be spread on the permanent record of this faculty and that copies be sent to him, his wife Delia, and his children Jeffrey Nelson, Karen Nelson, and Christine DeFilippo.

Presented by Robert Greif for the Department of Mechanical Engineering