

Joel Buchanan Part One

(As published in The Oak Ridger's Historically Speaking column the week of September 5, 2022)

Benita Albert continues her series on the Buchanan family of graduates from Oak Ridge schools.

Joel Buchanan is a 1973 Oak Ridge High School (ORHS) graduate who has had a distinguished career in medicine. Now he is initiating a technology plan that offers problem-oriented, auto-summaries of medical records for physicians. The plan promotes the use of concept maps generated from electronic health records (EHRs) with filters for sorting patient data related to a current medical condition. His innovation is a game changer for the many massive data bases that exist for individual patients and doctors whose task is to diagnose and treat.

Joel is now Professor of Medicine (Emeritus) at the University of Wisconsin School of Medicine and Public Health. From 1993-2019 he served as the Medical Director for Information Systems for the University of Wisconsin Hospital and Clinics. This position and his medical practice experience no doubt shaped what is now his ongoing quest to provide enhanced technological support for the medical community. Though the technology of his early medical career was limited, Joel stayed abreast of the rapidly expanding tech world. In this first part of his story there is evidence that some of the influences Joel experienced as an Oak Ridge youth foretold his eventual career.

You may recognize the name Buchanan from an earlier story published this year on Steve Buchanan, ORHS Class of '75. They are brothers, both native Oak Ridgers, and the sons of Joel and Jane Buchanan. When I began my search for these men, I made contact with their mother, Jane, who was thrilled to talk about both of her sons. Joel Sr. and Jane were sixty-year residents of Oak Ridge (1951-2012). They were scientists, active volunteers in community activities, and also noted photographers. You may read more of their story via an online link to Steve's part one article:

<https://www.oakridger.com/story/opinion/columns/guest/2022/03/18/stephen-buchanan-and-memories-oak-ridge-schools/7038123001/>

Joel shared many special memories from his Oak Ridge childhood. Speaking of his years at Woodland Elementary, Joel praised the opportunity to be in split-grade classes where he reaped the benefits of exposure to higher level work. He recalled the school assemblies where all the students watched the US space shots on a small, black and white television, the school's technology of the time.

Seventh grade, his first year at Jefferson Junior High School (JJHS), was in the original ORHS building which sat above Blankenship Field. The new Jefferson Junior High School opened at the first of Joel's eighth grade year. Joel said, "It was exciting to be in the first group of students in a new building with updated features."

A first memory of ORHS centered on band. Joel returned home from his first day in band camp to announce to his parents that he could travel to Europe with the band the following summer of 1971. Jane also recalled this moment: "Doc Combs (the ORHS band instructor) believed in getting started early, so band practices were scheduled before school actually started. You can imagine this mother's shock after sending her first-born off for his first ORHS band practice and his first high school experience, when the first thing he said after his return home was, 'Mom may I go to Europe with the band next summer?' Europe? A tenth grader? What are we talking about? Well, he did go, and it was a great experience. He paid for part of his way by working at Weigel's Jug O'Milk."

Director Combs made arrangements for his ORHS band students to travel with a high school band from Bowling Green, KY. The group held concerts in the town squares of many villages. Joel played the clarinet from fifth grade through his sophomore year after which his academic course schedule conflicted with the band schedule. He would later return "to play for fun" when, as a freshman at Duke, extracurricular student participation in school activities such as band were encouraged. For three years, Joel played with the marching band at Blue Devil home games, and the band also performed at several away games.

Joel's mother also wrote, using her 'pet' name for son Joel: "Joey was interested in 'gadgets' from an early age. He became a ham radio operator when he was fairly young. He seemed to always be building one device or another." When I related this story to Joel, he laughed and clarified that his interest started with a Boy Scout leader who was an operator himself and who offered instruction in Morse Code, the first step in earning a communications license.

He said, "I used my savings from my paper route to buy a receiver, and I built the transmitter myself using help from local ham operators when needed. I mostly taught myself with books from the library on electronics....I would go on the roof of

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our house to rig antennae, stringing wire between trees. Later, I set up an antenna at a summer camp in North Carolina so that fellow campers could get on line to talk to their parents."

Joel's training came in handy when he signed up for an extra-curricular activity at Duke University in his freshman year. In the Fall of 1973, Duke was looking to rejuvenate the student radio station, and Joel signed up for what became a four-year commitment performing such jobs as chief engineer, program manager, general manager, and even disc jockey.

I asked Joel if he had continued with his ham radio activity. Stating that he no longer had a license, he enthused over the enormous changes in communications, especially encryption capabilities and computer linkages that have enormously improved the science. As an aside, he mentioned the fact that some Russian military communications on the battlefield in Ukraine have been easily intercepted by citizen ham operators worldwide due to the Russians using primitive radio communications not unlike the kind he used as a teenager.

Another meaningful community activity was Joel's participation in Boy Scouts where he achieved Eagle Scout rank. He stayed active in the troop as a student mentor and camp counselor at Camp Buck Tom throughout high school. His Eagle Scout project created a photo board of church members at the United Church Chapel on the Hill, his family's church. He took Polaroid pictures and posted them for the convenience of members to associate names with faces as well as children with their parents. His project was a precursor to a later, popular practice of published, church member directories.

Joel recounted fond memories of his scouting activities: camping on Thief Neck Island in Watts Bar Lake, a site only accessible by boat; canoeing and camping in Maine; and a hiking venture in the Grand Tetons. He said, "Our troop put on our own summer camps. Our leaders were very creative and adventurous."

Jane recalled that Joel taught first aid to younger scouts which she described as "his introduction to health care and medicine." In addition, Zafer Malazgirt lived in the Buchanan home as an American Field Service (AFS) exchange student from Turkey during his and Joel's senior year at ORHS. Zafer was passionate about a future in medicine, and Jane believes that this further piqued Joel's interest in the medical sciences.

Joel said that he enjoyed having "another brother" in their home: "Zafer brought new opportunities to meet more of my classmates through many public events in which he was involved." The fledgling ORHS soccer team benefitted from Zafer's athletic skills in a sport he had played since childhood. As Joel described it, "Soccer was just catching on at ORHS, and I'm sure the coach was glad to have Zafer's experience."

The Buchanan family has remained close to Zafer throughout the succeeding years. Joel's visit in 2006 to Zafer's home in Samsun on the Black Sea in Turkey included a lecture to medical students and faculty at the local university. Zafer is a prominent surgeon in Turkey, focusing on colon and rectal problems.

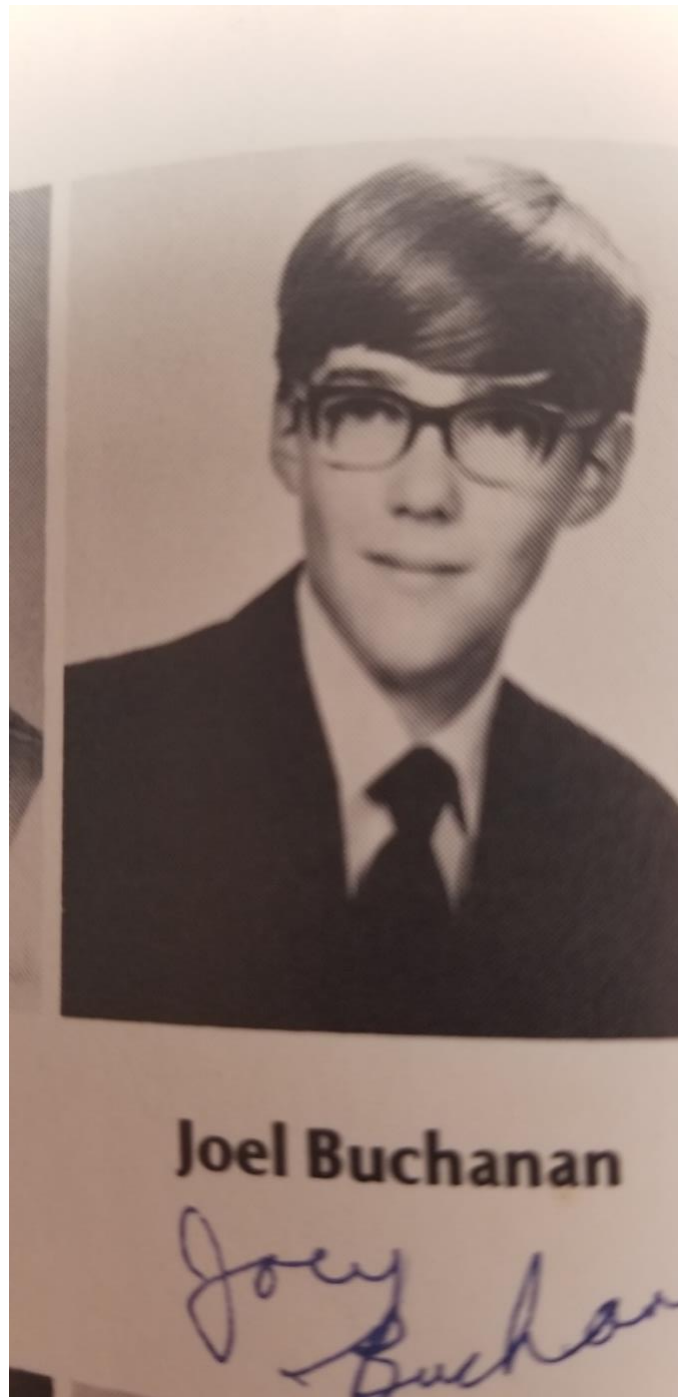
Joel lauded the AP Biology course with ORHS teacher Jo Henderson as a course that helped sway his choice of a biomedical engineering major at Duke. He said, "Because my parents were scientists, I thought it was my destiny to major in science." He also observed that the numerous AP credits he earned in many courses at ORHS were transferable for advanced standing at Duke, and that allowed him to diversify his academic program with coursework beyond the engineering curriculum requirements.

Joel is now an advocate for a smart approach to data retrieval inside electronic health records with his current plan for the use of "concept maps" to filter relevant health information. His career from emergency room physician to internal medicine practice to university teaching, researching, and consulting brings credence to his understanding of the ever-increasing challenges medical doctors face. Though his title is now an Emeritus Professor of Medicine, his problem-solving mind is still very much at work, and his quest for technological efficacy in medical practice is ongoing. To be continued.

Thanks, Benita, for another excellent series on Oak Ridge graduates. Next, we will see Joel as he works to advance medical technology and what he sees as the future in that area.

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Joel Buchanan school photo