**Question: How did you get involved in biosafety research?**

**Joseph Songer:** So he asked me if I would transfer from [unintelligible] over with him to work on the, the safety problems. Well, in the process of doing this, we set up, uh, a, uh, a safety project – a research project – and to me, that is one of the most important things to consider when you’re setting up a new lab is that you, um, establish a safety research group. The problem if you don’t, uh, the researchers are working on various projects, they have the goal to establish success in their research, and, uh, they don’t have time to take time out and find out why the sewage system isn’t working or what is the problem. So, that’s kind of what it, we fell into. At first, we were able to utilize employees here, because the lab wasn’t operational. So, I used them for collecting samples all over the place and adjusting filters and like. And, uh, so we did get a, a lot accomplished that way. But, we did end up with a safety research unit and, I’m not sure what the status of that is now, but at about the time I left, we still had the safety research unit.

**Question: Tell us about your first experience at the Biological Safety Conference in 1958.**

**Joseph Songer:** Well, actually, when, uh, they had, they had Biological Safety Conferences the first, um, eight, I believe, they had at Ft. Dietrich, and you had to have high-security clearance to get in to see it, to, to be part of it. And, it really made it too restrictive. So it was essentially all military. And then they lifted that restriction on, uh, being cleared, and from then on, people from all, all around came. And, the first one was held here at this lab. Um, we sponsored that first one. And, um, the, the, the sponsoring lab took care of all the arrangements and everything, housing and that sort of thing, and it worked out very well, so it continued from there on. And, uh, we, the objective, part of the reason for having it at different labs, the group was fairly small – maybe 20, maybe as high as 30 – people would be in for the meeting, and it was good to have it in the Summer time because you could bring your family along on a vacation and take in the conference and so on. So, that was, and we, that’s one reason why it didn’t get very large [laughs]. Um, you, you [clears throat] if you get it too large, then you can’t use it, can’t do this. But, uh, I don’t remember when we went from here to Plum Island and, and to Cincinnati [clears throat], and, uh, we would, were over at Ft. Dietrich a couple of times, a couple of times, and to, uh, um, NIH a couple of times. So, we moved around from place to place and in, uh 19.., I forget what date, what year it was that we, we came out here again for another meeting, a second meeting here, and um, we pushed real hard to get organized, and there were people resistant because they liked the whole home atmosphere because you could sit down and talk about your projects with each other and share the information. Wasn’t anything secret [clears throat]. And, so it, it worked out well for another year or two, but then we finally got it organized into the organization.

**Question: Do you have any wisdom to pass on to individuals trying to get into the biological safety profession?**

**Joseph Songer:** But then you have the function of people in all of our experience working in the laboratory with people we, I, I can’t recall a time that we had equipment failure. But, we averaged one a year, pretty much consistently, of a person being infected with a disease we were working on and it was a human failure. And so, uh, when you, when you’re approaching it, you need to especially look at how you educate, how you train, motivate, uh, people to perform safely. It’s, it’s a, it’s just like driving an automobile, more than anything, trying to get people to operate safely is a, is very difficult. And, so that’s, uh, one of the things I would advocate is that you, um, be very familiar with the, uh language of the, uh, for instance, when I was working here as a Safety Officer, I would go into the, go into Chicago and take the courses that the National Safety, uh, Association had, uh, on managing people and how to perform safe, get people to perform safely. And, it, um, it was, was quite a help. Get as much as you can about how do you influence people and motivate them to do the work. And be familiar with the, with the various type, types of equipment and systems, um, if you’re going to be working with pathogens that are transmitted by aerosol, you better know how to sample and how to quantitate and do all those things.

**Question: Tell us about the origins of what is commonly referred to as the Songer Bibliography.**

**Joseph Songer:** Back in the….. ‘60’s, it must have been, Hilary Burton was in the, eh, culture research service and she was a software developer. That was when, before there were, uh, uh, personal computers and that, that level of, uh, work, and she set up a program, it was called Famulus, and it was a program for, um, bringing the information together and cataloguing it and so on, and so she, uh, knew that she was doing this so I made contact with her and she agreed to set this Famulus program up for us and we had to send the information back to her and she would enter it in to the system and then, on about an annual basis at the time, she would send us, uh, the information back. And, um, I don’t know how we managed to do this, where she got the money, but she printed out 100 copies each time, as thick as that, uh, volume there, and, uh, sent them back to me and I would send them out to people I knew who were interested in the information, uh, across the United States, some in Canada and some in, in, uh, in Europe as well. But, um [clears throat], that went on for several years. And, uh, finally person, personal computers came in and it was impractical to try to use that system because you had to get into the system and it was, uh, much more difficult. In fact, we had, had a setup at Iowa State. She came out here and set the unit up at the Iowa State and we did some there. But, um, it was just too much computer time and things tied up. But, uh, that’s how we got started in this Bibliography and it, uh, it seemed to help, uh, a lot more exposure to thing. We not only treated on, on the, um, animal diseases and so on, but anything that was biological, um, was, um, uh, treated as a biohazard – uh, allergens, poisonous plants, poisonous fish and so on. So, we covered all those, and so I, I wrote up a chapter….publish it [laughing]. But it’s the biohazards in the work environment. And, it’s all the various exposures – oral, respiratory, conjunctival, skin puncture, penetration through the unbroken skin, allergic sensation, and then treated a whole series of infectious diseases like rabies, Newcastle, Monkey B virus and so on, that you could get work, in a work environment, not a medical environment. So, none of this has to do with medical laboratories, but it has to do with people getting exposed on the job. And, uh, so it’s, it, uh, felt that it would be of help, but, I don’t know it, uh, I, at first I joined the American Industrial, uh, Hygiene Association and it was a professional member and were, we organized the branch for biohazards and set it up, and, uh, I think it’s still going like we did. And, um, the idea was to try to get that applied into, and, uh, nobody in Industrial Hygiene was really looking at that aspect of it. And, so that was what we were trying to encourage, but we never did get very much progress as far as the Association was concerned. But, it was kind of interesting to see the various problems that arise in the work environment that is just a, uh, serious as problems in the laboratory.

**Interviewer:** I agree.

**Joseph Songer:** So, I think it probably would be good for people getting involved in, uh, biohazards that they might want to look at all these ramifications – farmers and all kinds of workers.

**Question: Tell us about the design and construction of this facility.**

**Joseph Songer:** Well, one of the things that, that we had the problem with here, the architect designed it and walked away, and then the builder came in and built it and walked away and we moved in here not knowing a thing about how the building was to operate [laughing in background]. And, they had such things as to, to accept the building, the things had to be tested. So, we to had to help the builder get, get out of here so he, he could do the jobs. But, the specifications said test the filters with ten to the five Newcastle disease. Ten to the five in what, you know? It wasn’t any clear at all. Didn’t give you any definition or boundaries or anything. So, we, we built cages and put the chickens up in front of the filters and behind the filters [laughs] and released the virus and some chickens died and some chickens lived and we got the builder out of the way and then we went ahead and did it like we wanted to. But, it’s, uh, it’s a real challenge you know, when you, if you can communicate with the, with the design people, that’s a tremendous help.

**Question: Tell us about the containment of large animals.**

**Joseph Songer:** When you try to isolate a cow, uh, it gets to be a real problem. I went back to the dairy industry and looked over what they were doing. They, they built plexi-glass chambers around the cows. They had to monitor every bit of food that went in, all the fecal material came out, the air, the amount of, um, energy that came out of the, the breath of the animal. They had everything measured like that, and it was great, you could, you could do that with, with a normal animal. But, if you get an infected animal in there and try to do that, you just lose all control, they can’t.

**Question: Why is it important to have a biological research program?**

**Joseph Songer:** It’s very important that the safety control be at the top. They, they redid Plum Island, oh, it must be twenty years ago, uh, maybe not quite that much, but [clears throat] they brought in contractors and, uh, and set them up in various places. And, they put the contractor as the safety officer. And, he was safety officer for the whole lab. That’s ARS employees that’s, uh, besides the, uh, his contract people, and I couldn’t believe that they would do that because, the, the person who is ultimately responsible for safety is the person at the top.

**Interviewer:** Yes.

**Joseph Songer:** And, here this guy was at the top and he had no legal responsibility as far as that was concerned. But, they must have made it work someway. Yeah, that’s, that’s a job to really get it to where you can believe it’s under control.

**Interviewer:** Yeah.

**Joseph Songer:** But, it’s, you, that’s where you really need the biosafety people because they don’t have, uh, other things distracting them like trying to get the jobs done.

**Interviewer:** Yeah.

**Joseph Songer:** [unintelligible]