

## **Mesa Lab at 50 Anniversary Celebration and Re-dedication**

*Re-dedication Speeches*

*August 25, 2017*

Full video at <https://youtu.be/RdyxX6ce8EU>

**Jim Hurrell: Good evening everyone, good evening, good evening. My name is Jim Hurrell and I have the pleasure and the honor of serving as the director of the National Center for Atmospheric Research, NCAR, and this evening I also have the pleasure of serving as the master of ceremonies on behalf of the president of the University Corporation for Atmospheric Research, Dr. Antonio Busalacchi, who we will hear from a bit later this evening. It is my distinct pleasure to welcome you to this Mesa Lab rededication and 50th anniversary celebration for 50 years. The Mesa Laboratory has been NCAR's iconic home here in Boulder, Colorado. The Mesa Lab has been the site of countless advances in atmospheric and earth system research and many, many scientific luminaries past and present from across the country and from around the world have visited these halls and worked in collaboration with researchers here at NCAR, Thousands of families and schoolchildren have also explored its Visitor Center, gaining new appreciation and understanding of weather, climate, and the sun while enjoying the beauty of this remarkable structure. For those of you that were able to attend and/or listen to the fantastic seminar that we just had by Professor Bill Leslie you will have been reminded that the Mesa Lab was the brainchild of our founding director, Dr. Walter Orr Roberts, and the renowned architect Mr. I M Pei. Its realization here on Table Mesa above the city of Boulder would have been impossible without the generous support of the city of Boulder and its residents, the state of Colorado, and the National Science Foundation, which is NCAR's sponsor. In a few minutes I will be calling on Dr. Ruth from the National Science Foundation to formally rededicate the Mesa Laboratory but before we do that I would like to make one other comment about our founding director Dr. Walter Orr Roberts, and though he is remembered for many things but this evening we're especially thinking about the fact that he envisioned this remarkable structure, he was also extremely passionate about music and indeed this led him to commission a friend and a faculty member Cecil Effinger to compose a piece for the original dedication ceremony in 1967 so let's think back to 1967 and imagine the pride that Walter Roberts and his colleagues felt upon hearing the Fanfare for NCAR (<https://opensky.ucar.edu/islandora/object/archives%3A1930>) which will today be played by Mr. David Fulker and members of the Boulder Philharmonic Orchestra just outside these doors where the orchestra is set up. So, you are welcome to remain within the building here if you wish but I would certainly like to invite all of you to join me outside so that we can listen to the playing of this NCAR fanfare. When that is completed we will come back into the building and on your way back into the building**

for the formal rededication ceremony I strongly encourage you to pick up a glass of Champagne - not for the reasons that you're thinking - but so that we can have a formal toast in terms of the rededication of this building. So any of you who can and would like to please join me outside now and we can listen to the NCAR fanfare.

[brief break]

Jim Hurrell: All right, we're going to begin. Thank you much. It was it was difficult enough calming down the crowd initially let alone when you have a glass of champagne now. But that's, uh, let's try to get settled. It's my distinct pleasure now to introduce Dr. Sarah Ruth from the National Science Foundation, NCAR sponsor. Sarah is the section head for the NCAR/Facilities Section in the Division of Atmospheric and Geospace Science at NSF. So, Sarah.

Sarah Ruth: Thank you, Jim. I promised Warren I won't go on for too long. I think it's always good advice in these occasions. So good evening to all of you. I am delighted and truly honored to represent the National Science Foundation at this very, very special event, the rededication of this building, the NCAR Mesa Laboratory, in its -- incredibly -- its 50th year. 50 years ago representatives from my organization, the National Science Foundation, the National Science Board, NCAR, the University Corporation for Atmospheric Research, the City of Boulder, the State of Colorado, and of course the building's architect, I.M. Pei, gathered to dedicate this incredible building. And we were just going through some files at work because we're moving to another office and we found the original 50 year old dedication brochures (<https://opensky.ucar.edu/islandora/object/archives%3A1822>) so we've been passing this around the office and just touching it! It could not have been more timely -- we had no idea we had it. This is the official government copy so I should be holding on to it for another 50 years. The Mesa Laboratory represents a commitment to both the practice and to the wonder of science. We're going to overuse the word icon, and I was trying not to, but there really is no other word. It is a true architectural icon symbolizing the pledge that was made more than 50 years ago directly from the Blue Book, if for people who are familiar with that, to mount an attack on the fundamental atmospheric problems on a scale commensurate with their global nature and importance. So from the beginning they were thinking big. This, of course, was a time of great advances in science and technology. With the founding of NCAR in 1960 NSF and the research community had made a shared commitment, and there's no other word, to revolutionize atmospheric science, They recognized that, again from the Blue Book, to bring to bear on the problems of the atmosphere the full competence of the scientific community would take a concerted national effort and at its core should be a national institute that would bring together scientists from many different disciplines and would also provide highly

sophisticated tools and novel technologies such as aircraft and supercomputers that were at that time and largely still are beyond the reach of individual universities. And if we wrote that now, I think we would use very similar language and we would have the same aspiration as Walter Orr Roberts, the first NCAR director, said back in 1961, "A National Laboratory will help answer a growing national and world need to understand more profoundly and more comprehensively the basic processes of the atmosphere in which man lives for while we live on the earth we live in the air and this National Center would need a building that would match both the scale and the ambition of this vision." In 1961 that building moved closer to reality when the Colorado State Legislature purchased this stunning parcel of land and donated it to NSF. With heartfelt appreciation Alan Waterman, NSF's first director, who was also a trustee of UCAR issued a statement declaring, "This gift from the people of the State of Colorado to the National Center for Atmospheric Research is in larger terms a gift to the scientists of the United States. It is both an investment and an expression of confidence in the nation's future." NCAR/UCAR rose admirably to the challenge presented by this landscape, selecting I.M. Pei, who then was one and still is one of the nation's most innovative and exciting architects to design this new building. Pei came to know this land intimately; he hiked all throughout the day, picnicked, camped, and watched the changing sunlight on the foothills around us. His goal was to create a structure that was both bold enough to live up to the immensity of this setting and yet was in complete harmony with it and I think we can agree that he realized this goal brilliantly. Henry Houghton, the first chairman of UCAR, said at the dedication of the Mesa Laboratory, "This magnificent building that we dedicate today is tangible evidence of a national commitment to the search for a more complete understanding of our often fickle atmospheric environment to the ultimate benefit of all mankind." Since then NCAR's progress on the atmospheric impact - on the progress of the atmospheric sciences has been profound. Here are just a few highlights. In the early '60s, NCAR launched a lecture and seminar series for recent post graduates this became the Advanced Study Program which brings postdocs to NCAR and is a cornerstone of NCAR/NSF's work to advance STEM education and to educate the next generation of scientists in the Geosciences. A good many of the current leaders in our field began their careers as ASP postdocs. The 1960s also saw the opening of NCAR's Aviation Research Facility. NCAR's aircraft have played a critical role in field projects throughout the world that have dramatically advanced our understanding of weather patterns, cloud microphysics, atmospheric chemistry, and other essential atmospheric processes. The most recent of these, our G5 aircraft, is one of the most advanced airborne platform research platforms in the world. In the 1970s NCAR's Roland Madden worked here with Paul Julian to discover the Madden-Julian oscillation, the sequence of atmospheric waves in the tropical Pacific that influenced weather and climate systems worldwide. That same decade we took

delivery here of the CRAY-1, a supercomputer which at the time offered more memory and faster processing than any computer in the world. The Cheyenne supercomputer, which was dedicated last week at the NCAR-Wyoming Supercomputing Center continues that great legacy today supporting now thousands of users every year throughout the Geoscience community. In the 1980s, Raymond Roble of the High Altitude Observatory helped to develop the Thermospheric General Circulation Model, which was used to conduct the first computer simulation of a solar storm's effects on the Earth's upper atmosphere. By the '90s we were seeing the development of NCAR's GPS dropsonde which has played a critical role in measuring remote regions of the atmosphere and improving our ability to forecast hurricanes. By the 2000s the Weather Research and Forecasting Model, or WRF, had become -- and remains -- the most widely used weather model in the world. Meanwhile, the Community Earth System Model has become an indispensable tool for scientists, leading to almost weekly new and important insights into the Earth's climate. Along the way, NCAR and its partners throughout the community have made landmark discoveries that help safeguard society. These include laying the groundwork for protecting aircraft from potentially deadly microbursts, dramatically improving weather forecasts, projecting future climate conditions for vulnerable communities, predicting streamflow conditions and floods across the country, and predicting wildfire behavior. This work has been instrumental in protecting us from natural disasters while strengthening our economy and our national security. In closing, let me quote from Leland Haworth, director of the National Science Foundation. 50 years ago at the dedication of the Mesa Lab, he said "We have met here in a beautiful building which, I certainly do not need to tell you, it is one of the most effective homes for an institution of this sort that I have ever seen." I think we can all agree that these words are still true today. I'm sure I'm not alone in recalling the first time I came to Boulder as a young postdoc seeing the Mesa Laboratory and thinking something truly special must happen here. I'm equally sure that 50 years from now at the hundredth anniversary of the Mesa Lab our successors will still be awestruck by the beauty of this building and the incredible science being conducted and enabled within its walls. It's now my great pleasure to unveil a representation of the brass plaque that will be manufactured after our celebration today and which will be permanently placed here to mark this rededication of the Mesa Lab. It, it, reads: Originally dedicated -- originally dedicated on 9th May 1967" -- we didn't rehearse this, I think you can probably tell -- "this historic anniversary marks 50 years of scientific innovation and collaboration. 'Science, too, should have its cathedrals.'" Thank you.

Jim Hurrell: Thank you very much, Sarah. In my notes it you are going to lift this off, so see, I'm just doing what NSF tells me to do! All right, so thank you very, very much, Sarah, for those very well chosen words. Now I would like for all of you to raise a glass

to toast the Mesa Laboratory, it's rich and wonderful history, but just as importantly to this next 50 years. Thank you very much. Okay. So, just a couple of quick notes before we proceed. First of all, if you need to have a seat, there are some open chairs available up here. Feel free to come up. I was also just informed that maybe the acoustics near the door and back there are not the best. This is not a classroom, you are welcome to come up farther in the front. And I think the acoustics up on the second level are very good as well, so if you're having a hard time hearing please move around. If you need a seat, please join us up here. Okay, I'd like to continue with the ceremony by noting that on the occasion of the original dedication of this building in May of 1967 the building's world-famous architect Mr. I.M. Pei was present at that occasion and made a speech. I.M. Pei recently celebrated his 100th birthday but unfortunately was not able to join us on this occasion. But, we are extremely delighted to be able to welcome I.M. Pei's son, Mr. Sandi Pei, himself a very distinguished and accomplished architect. I call on Sandy Pei to say a few words.

[Applause]

Sandi Pei: Thank you, and they were very, very few because I think the building here that you work in speaks for itself, but I do want to say a couple of things. First of all, I'm very, very honored to be here on this occasion for the rededication. When I was invited and I mentioned this to my father he was delighted and insisted that I come as his representative and he said he wish he could be here himself. And the reason is because this building is extremely meaningful to him and I want to tell you a little bit of why. My father was 44 years old when he was given the privilege of doing this building. It was a competition with many very well-established architects, and at the time my father had been working in real estate for a developer and been doing sort of low-cost housing slum clearance and some modest commercial buildings and none that offered him the challenge of this project of this site. And when he was interviewed and expressed his enthusiasm for this project he said that it was a project that he wanted to give all of his time and energy and that all of his projects of this kind represented an important challenge for his career because he really wasn't very well known at all. And somehow despite the fact that he was not as well recognized as others in this group he still managed to find a direct support and friendship with Walter Orr Roberts, so that whenever I mentioned the National Center for Atmospheric Research the first thing he says is Walter Orr Roberts and I think that what he was able to do to here as an architect owes these fifty percent to the collaboration that he had with with the client Walter Orr Roberts. Walter Orr Roberts was the first client that he really could say was a cultivated man and by that it's not just cultivated in the arts. it's a person who shares a vision of humanity, a person who understands interactions with people, humankind. And my

father is very much the same kind of person, and they had wonderful conversations. They would hike up here in the foothills and they would drink wine as Stuart [Dr. Stuart "Bill" Leslie] mentioned earlier. They drank a lot of wine and they talked about how people would interact in this building. This was the vision of Walter Orr Roberts, which, which you see here is of a building that is a little bit quirky. The, you know, the circulation, it's a little bit of chaos here. You know a bit like my talk here now, a little bit improvisational. Sort of accidental encounters, those are the kind of things that Walter Orr Roberts really felt was essential to the scientific process -- the discovery and the encounters with people in corridors and in small nooks and crannies really would, would, help to inspire the kind of research and the kind of quality of product that he felt was essential to the scientific, the creative process. And my father really welcomed that challenge and together they really worked very, very closely on the creation of this building. And I think that if there's anything that we can derive from this, is the importance of this, this family, of this family that has been created here in this building. The family of researchers who work well together despite the fact that this building has changed many, many times and will continue to change over successive administrations and directorships. The fact that the building really is designed for that kind of flexibility is very much the vision of Dr. Roberts and and my father. I think that if you heard earlier Stuart -- Stuart's lecture -- as I said afterwards, he took everything I might have said! He said it, he actually said it much better and he said it with fullness because he he's done a lot more research on the origins and the development of this project than I was able to do, but I do just want to say that this is a very, very special occasion that I will be bringing back the news to my father when I see him tomorrow. I told him. I saw him last night, and he was again so pleased that I was coming. I just want you to know that this place is very much in his heart. He wished that he could be here tonight and I know that I'm not a good proxy for him. But his heart is here and and I just want you to know how much he wants to thank you for being part of this great institution. Thank you.

[Applause]

Jim Hurrell: Thank you very much, Sandi, and I'm very pleased of all the reminders in the comments about our founding director Dr. Walter Orr Roberts. And, in fact, extremely delighted tonight that we have several members of his family here with us. This includes his son, John Roberts and his wife Elaine over here. Walt's grandson Scott McCarthy and his wife Carrie, Walt's granddaughter Kim McKean and her husband Aaron and their children, and other members of the family. So I'd like to now call on Walt's Grandson, Scott McCarthy, to say a few words.

**Scott McCarthy:** Good evening. My 8 year old nephew Jack is here and flew all the way from San Diego just for this, and we were up here earlier hiking up on the trail and, and walking around NCAR, and then earlier tonight he said, "you gotta tell everybody that you're Walt's grandson!" So, hi, I'm Scott McCarthy and I'm Walter Roberts' grandson. I'm very honored to be able to say a few words on behalf of the Roberts family. I actually wrote a speech and it's not very good so I'm not gonna read it. I'm just gonna wing it. I will say my grandfather is-- everyone in this room knows -- was a pretty incredible man and had a very profound impact on -- trying not to start crying -- very profound impact on, on Boulder through UCAR and NCAR, HAO, CU, and really kind of being in a, playing a pivotal role, in establishing Boulder as a world-class scientific community. I must say though that my grandmother was pretty incredible herself. Janet Roberts spent many years on the Boulder City Council, was very active in politics here in Boulder, and you know had a number of very important social issues that she was very passionate about. So you know, my experience, my parents moved me before my sister Kim was born, moved me down to Albuquerque when I was 10 months old for which I never forgave them. But we would come back up to Boulder two, three times a year and, you know, come up with my grandfather up to NCAR. And, you know, to me, actually, I thought he *owned* NCAR. I didn't realize, that's not a joke, I really did, but we would come up here and you know go to the cafeteria. I think Professor Leslie mentioned how we enjoyed that, my grandmother would bring us up here and go to the cafeteria. I remember that CRAY computer, I think it was the CRAY-1 that, you know, this was the '70s so you know I had no idea what a computer was. It looked like a big ugly piece of furniture. It was actually a big ugly piece of furniture. And you know just walking around with him, he loved to show off the building, he loved to show off everything that was going on here. More than anything he loved the people and the work that was being done here and that was very evident. And when you got up here with him -- same thing with my grandmother -- I think the most annoying thing, Kim will attest to this -- was walking around town with the two of them because you would walk five feet and it would be: "Walt!" "Janet!" "Walt!" "Janet!" You know, they were just, they were definitely icons in this town and, you know, it was it was pretty incredible. I will say we had to call them Papa Roberts and Mom Roberts, not granny and Pappaw, grandpa and grandma. It was Papa. Actually, they wanted us to call them Walter and Janet and my mom said "No, that's, we're not going to do that." So that was the compromise. Listening to Professor Leslie speak tonight I realized a little bit, it's a few things of my grandfather rubbed off. I mean, not enough -- this apple fell pretty far from the tree, but a couple things rubbed off. I was definitely always, always loved math and sciences as a kid. I had the privilege of going to Harvard many years after him, albeit at the business school which is probably the least impressive of the schools at Harvard, became a pilot and he was always very passionate about flying. But professor Leslie told the story tonight that

made me realize there was one other thing I didn't realize. The fact that he would come up here and sit on the Mesa and drink wine. So you know Professor Leslie also mentioned the music. So they would have Sunday night music in their house. You know they have a bunch of people come over, they would turn down the lights, the wine would come out, and this god-awful music would come on. And my sister and I, we couldn't have the TV on, nothing. It was like go in the room, read a book. So instead, as I got older -- luckily my mom's not here to hear this -- I would go to, they had a closet in the back. Remember this, Kim? Down past the kitchen where they kept all the beer and wine. I'd go grab to warm Olympia's, I'd leave Sunday night music, and I would hike up to the top of the hill, and I would drink those warm Olympia's. So he obviously has a little more class than I, but apparently that rubbed off on me. In any event, this isn't, this is an incredibly special place for, obviously it was for my grandfather, it is for all of us in the family. We've had wedding celebrations here, we've had memorials here, including for both of my grandparents, and my uncle Alan, who just passed away recently. You know this is just, in fact when my mom passed away, the first thing I did after I left Hospice is come up here just to walk on the weather trail and be alone. This is such an incredible place and you know we're privileged to be a part of it. I know everyone who's had the privilege of working up here or visiting up here can appreciate that. So thank you to NCAR for including all the Roberts in this, we really appreciate it, and congratulations on 50 years. Thank you.

Jim Hurrell: Thank you very much Scott and I think I'm glad you didn't read the speech. Those were absolutely, absolutely fantastic comments. Thank you very much for sharing that. As I've already mentioned, and has been mentioned already on several occasions this evening, the building of the Mesa Lab on this truly remarkable site simply would not have been possible without the generous support of the City of Boulder and the many residents of the City of Boulder. Unfortunately the mayor of Boulder, Suzanne Jones, is currently in Vermont and is not able to join us tonight, but we are extremely pleased to welcome the Boulder Mayor Pro-tem, Mr. Andrew Shoemaker, to say a few words.

[Applause]

Andrew Shoemaker: Well, I heard because of the Boulder City Council this almost never happened, so I'm glad City Council came around. Good evening, I'm Andrew Shoemaker, and again, Mayor Jones wishes she could be here. She's traveling, but on behalf of the City of Boulder, I'm here to thank, to assist with this process, and the 50th anniversary of the NCAR Mesa Lab. And I'm really grateful for this weather that was forecasted it is, it is just absolutely gorgeous up here. Let me extend my thanks first off to UCAR President Tony Busalacchi and NCAR Director Jim Hurrell for inviting me up here, and I



also want to thank all the people who've made this institution stand out in Boulder for so long. There's a lot of talk about this building and obviously this building is a wonderful thing, but it's it's the people that that make this all work, and you know great organizations have made up of great people. And you think of all of the national and international leaders in the field of atmospheric science and their work in weather and climate research that have that have worked here and made a difference in all of our lives and will continue to make a difference in a world that is that is changing. I'm also, you know, these people Mr. Pei talked about, the fact that that this is part of the NCAR as a family, but it's also part of the family of Boulder, and it's so important we're a community that values its people, and the the people at NCAR have participated in this community in so many different ways. You heard about Janet Roberts on the City Council the you know - all the way to coaching high school teams and sports teams and things like that and, and it's through work with the City of Boulder that I think has assisted in the success of NCAR. And there's no doubt in my mind that NCAR has assisted with the success of the City of Boulder, and we would not be the City of Boulder, we wouldn't be the community that we are without NCAR. So in that spirit, I want to congratulate UCAR and NCAR on this historic 50-year milestone. We, the City of Boulder, are very grateful for your presence here on the Mesa and we honor the past 50 years and we look forward to the next 50 years.

Jim Hurrell: Thank you very much, Andrew, appreciate that. We're also very pleased to have with us this evening a number of members of the state and federal Colorado delegations including State Representative Tracy Kraft-Tharp. If you can raise your hand or stand up and raise your hand. State Senator Andy Kerr. Oh, he, okay. State Senator Don Coram. And Congressman Jared Polis. We're extremely grateful to all of them for their very strong and steadfast support, not only for NCAR, but for all of the federal laboratories located here in Boulder and along the Colorado Front Range. It's now my pleasure to call upon Congressman Polis to say a few words.

Jared Polis: I had the opportunity to enter a statement on behalf of this very special 50th anniversary in the record and I'd like to read that to you, and we will later have that framed and present it so it can be displayed for future generations. And this officially appeared in the Congressional Record just a few days ago. "In the foothills of the beautiful Boulder Flatirons stands a building that has been a beacon of exemplary research, groundbreaking discoveries, and an icon of the American spirit of research. I speak of the National Center for Atmospheric Research Mesa Lab, which is celebrating its fiftieth anniversary in 2017. The breathtaking design was crafted by I.M. Pei the the legendary architect. Pei's previous work in the urban jungle is transparent in the looming concrete five-story towers that comprise the Mesa Lab. The brush hammering [bush

hammering] technique that is used throughout the building offers a roughness to the exterior, while the pinkish aggregate mined in Lyons, Colorado helps the complex blend into the surrounding Flatirons. The NCAR Mesa Lab is home to 330 world-class scientists. These pioneers work every day to fulfill the vision of NCAR's founder, Dr. Walter Orr Roberts, blazing new trails in human understanding of atmospheric science, climate change research, solar astronomy, and much more. The scientists at NCAR are an interwoven part of the Boulder community. On behalf of my constituents, I offer gratitude to have this facility and everything in it be part of our community and our family and acknowledge that while the research that we produce creates global benefits, we recognize that those benefits are only a small payment on the debt we owe for having such a tremendous asset as part of our community." We will present that in the form of a plaque and I want to thank you for inviting me to join in a wonderful celebration of 50 years of science and innovation at the NCAR Mesa Lab. These stunning buildings have witnessed groundbreaking research and amazing investment advancements in so many fields. The three hundred and thirty scientists working in so many fields are a critical part of our Boulder community. I'm proud to represent a district that's home to the NCAR Mesa Lab, our federal laboratories and institutions, our sources of ingenuity, and advancements ranging from life-saving devices to renewable energy tech to weather prediction fuels- uh, tools impacting and improving the lives of farmers and those who rely on weather. They provide good-paying professional jobs that do important work in the public interest and, more importantly from our perspective here, help our community attract and retain a highly educated workforce in turn fueling future innovation. In fact I own my, I owe my own presence in this community to the fact that NOAA hired my father fresh out of a physics PhD to move to Colorado in 1970 and I very much owe that presence to the presence of the federal labs as do so many others. Now fifty years representing at least three, if not four, generations as we saw by the nephew of Dr. Roberts -- grandnephew. Since I've been in office there's never been a time like now when hundreds of acclaimed scientists and researchers and analysts have frankly called my office worried worried about what the future brings about the funding for research and investments in our future and I know that when some of the brightest minds in the world call my office I better listen and I'd better act. Our nation, as you know, is at a critical time and at this moment we're greatly concerned about our planet. The direction we're headed with regard to the acceptance and the use of science, the product that is produced here and at other facilities, and frankly I share the concern that decades of progress is in danger of coming being slowed or even coming to a halt because of the ability -- inability of some to accept the importance of the scientific process of theories and of publications that might be in contrast to some of the philosophical or political beliefs that they otherwise hold. Well I want you to know that I'll continue to work to support a budget that invests in our federal research labs,

invests in our future, the important future that's being built every day at NCAR and other federal labs. We as a country need to continue to be a model of a global platform for innovators and for entrepreneurs, for scientists, and for risk takers. For America to be great we truly need to continue to be the leader in global science and let us hope that 50 years hence when the century of this institution is being celebrated it will be an even greater celebration with even more contributions by scientists who are here today and those who haven't yet been born to celebrate the achievements of the NCAR Mesa Lab. I'm excited to join you today in congratulating NCAR Mesa Lab on 50 years and again I look very much forward to the next 50. Thank you.

Jim Hurrell: Thank you very, very much congressman. We're truly grateful this evening for our generous support for this event that's been provided by a number of sponsors: Vaisala, Ball Aerospace, Elevations Credit Union, TIAA, and the Western States Water Partners, LLC. Thank you very much for your generous sponsorship. It's now my pleasure to call on Mr. T.J. Mattimore, president of our Gold Sponsor, Vaisala, Inc., to say a few words.

T.J. Mattimore: Thank you, Jim. And it's truly a pleasure to be here and to say a few words on this special occasion. Vaisala's primary mission is to provide observations for a better world. To that end, Vaisala and NCAR have been symbiotic partners for decades and many products that Vaisala has been able to share with the world had its origins in NCAR and in this very building our long-standing relationship has resulted in significant advancements in environmental measurement, weather forecasting, and public safety, including recently both the revolutionary CheckTime product, a modern decision support system that helps airlines succeed during winter weather by accurately determining the period of effectiveness of de-icing fluid during difficult and often changing weather conditions, as well as our Dropsonde RD94s, which provide key data to assist experts to better predict the paths of hurricanes and other severe storms including properly predicting a turn of Superstorm Sandy in 2012 that greatly aided in limiting damage to life and property. Vaisala believes that true scientific advancement that actually benefits our country and our world requires cooperation from the public sector the private sector and the academic sector. Our long-standing partnerships with UCAR and NCAR reflect this belief as does our combined efforts with Colorado State University the University of Colorado and other outstanding academic institutions. Vaisala was proud to help host the Finnish ambassador to the United States in late April of this year and we could not think of a better final stop during her visit than coming to Mesa Lab, getting a tour of this amazing facility and then enjoying cocktails and hors d'oeuvres with our NCAR and UCAR colleagues. Others have spoken of this fantastic I.M. Pei creation and our modernist beauty much more knowledgeably and eloquently

than I can but I will say that Mesa Lab served as the perfect drop -- the perfect backdrop to educating ambassador Kauppi on the wonders of Boulder, of NCAR, and of our vibrant scientific community. That scientific community with its focus on atmospheric research and development was the primary reason Vaisala moved its US headquarters from Boston to Colorado at the turn of the millennium. One of our many fine hires from NCAR's ranks, Dr. Walt Dabberdt had advised Vaisala that if you want to be a player in the weather community you better have a major presence in the Boulder area. Our decision to follow Walt's advice has been proven to be a great one and nothing illustrates that more than our wonderful partnerships with UCAR and NCAR. Vaisala traces a significant amount of our past and present success to you and we are most appreciative. So on behalf of my colleagues at Vaisala here in Colorado, throughout the USA, in Finland, and throughout the world. Congratulations to NCAR for 50 years here at Mesa Lab. Thank you for all the incredible work you do. We look forward to another 50 years of innovation, cooperation, and making the world a better place. Thank you.

Jim Hurrell: Thank you very much, T.J. Our next speaker, Dr. Cliff Jacobs, was for many years the section head responsible for NCAR at the National Science Foundation, the position now held by Dr. Sarah Ruth. Like Sarah, Cliff was and is a true ally and a very strong supporter of NCAR at NSF and it's my distinct pleasure to ask Dr. Cliff Jacobs to say a few words.

Cliff Jacobs: Thank you certainly an honor to be here and asked to speak about the things that I remember about NCAR. So I started coming to NCAR probably in the mid-1970s as a researcher and later as the program officer for the National Science Foundation so I have a lot of memories. When I was young a researcher coming up the mountain the place overwhelms you and it took years for me coming again and again and again to actually appreciate this Mesa Lab and I don't think I really fully appreciate it yet. It's a masterpiece but I wanted to relate one story to you that of many, many that I have, that relates directly to the laboratory. So about 15, maybe 20, years ago there was a call within the National Science Foundation for a Opportunity Fund. In other words, the top management was going to provide special funding for opportunities that couldn't be met within the normal program. So I got to thinking, "well, actually, there is an opportunity," and UCAR had been sending me information about the state of repairs needed in the Mesa Laboratory. So I called him up and said could you send me some information. They sent me about a dozen eight-by-twelve photographs noting various leaks and pipes, breaks, and whatnot, and with little captions on it. I had a very little time to put together the information, so I slapped the memo on -- it was less than a page long -- and I sent it forward to management saying this is a great opportunity for you to give me some money. The month -- the memo made three points. First is, this is an

architectural masterpiece and it has supported research for a long time. It's absolutely essential that we maintain it. Two, you own the building and it's in a state of disrepair, serious disrepair. Third point was, you should be ashamed of yourself if you don't give me the money to fix up the lab. Well within a few weeks they hundreds of millions became -- not hundreds of millions, but millions -- became available to refurbish the lab. So we were able to fix the leaking Tree Plaza, we fixed the driveway, we did something to the side of the building to seal it, there was a bunch of things that had been building up for quite a while and we managed to get that done with the Opportunity Fund and so I'm kind of really grateful that I had some small part to do with maintaining this national treasure. Thank you.

Jim Hurrell: Thank you very much, Cliff. We're very happy tonight to have both former and current NCAR staff members with us. And I'd like to ask any of the staff members who joined the institution in the 1950s, the 1960s, or the 1970s - raise your hand for a moment. Thank you very much for being here and if you look at their nametags, there's a little ribbon that indicates the decade in which they began to work here at NCAR. On behalf of all of our staff, both former and present staff, and also in his own right as a former director of NCAR, it's my great pleasure to introduce Dr. Robert Serafin to say a few words.

[Applause]

Robert Serafin: A couple of preliminary comments, Cliff, it was the six million dollars that the National Science Foundation gave us and one of the things we had to repair was the asbestos in the ceilings. Apparently at the time the building was built asbestos was not considered to be an issue. That was, I think, \$400,000 or so -- in any event it was very significant, and that money was very very important in keeping this building in such fine repair. I joined NCAR forty-four years ago and brought my family -- my wife Betsy and my kids -- out here. And my job at that time was to begin developing the Doppler radar meteorology program. NCAR didn't really have any Doppler radars at that time. You heard from Sarah eventually those Doppler radars were determined to have detected wind shears at airports and that led to the installation of some Doppler radars at 45 major airports in our country. We haven't had a wind shear accident since then. My offices at that time were off-site. My work wasn't appropriate to be done up here, so for 16 years I labored off of this wonderful Mesa. When I was appointed as NCAR's director, I moved into the director's office up there and it was really a wonderful office in which to work. I, during those first 16 years though, learned an awful lot about this building because we had all sorts of meetings here -- meetings with our advisory panels and various functions, UCAR boards of trustees, and so forth, and through that period I became very familiar with this building. And, in a sense, it became a part of my life,

personally and professionally. My oldest daughter, Kathy, we hosted her wedding reception here right in this space, and it was really a fine party. We had the head tables up here, a bunch of tables here, tables up there, dance floor down here. So this served, uh, this building has served multiple purposes. The arc-- I want to say something about a friend of mine many years ago who was a local architect, and he said to me, "Bob, you know the only architecturally significant building in Boulder is the NCAR laboratory." I think based upon everything you've heard today would support that comment today as well. Today it's billed as one of NCAR's -- or one of Boulder's -- prime tourist attractions, as an educational center for the public and for young people, and it is a great research facility where great research is still being done. NCAR through the years has become the outstanding center for atmospheric research in the world. I don't think there's any doubt about that. This, of course, is due as mentioned earlier to the staff, top flight staff, scientific technical support staff; however, its prominence also I think is due in a very significant way to I.M. Pei, his genius in having created this facility as well as the wisdom of Walt Roberts, his colleagues, universities, the National Science Foundation through the years. So we can really be proud of this facility and I've enjoyed working here for sure. I had a great office up here -- I think was the best office in Boulder. I've often times said that some memories stand out particularly and they have to do with my drives up the hill in winter time to look at the building. When it wasn't snowing those days in that time in the early morning you have a beautiful red orange glow on the backdrop in the mountains. And this building, the building, is almost indistinguishable from what we see behind it -- a perfect, perfect blending which is what Pei and Walt were trying to do at that time. When, after, I had retired people would frequently ask me "how do you think about retiring? What do you miss?" And I said, "well I really love my job. I was blessed to have had that job and to have worked here for so many years, but also I will be able to do anything I want to do and I won't have to be burdened with the administrative tasks and personnel issues. We have them here, believe it or not." However, then I would say "there's one thing I regret and that regret is that I had to leave my office." Thank you.

[Music]

Jim Hurrell: Thank you very much, Bob. And once again I'd like to thank all of the speakers this evening. If we could give them one more round of applause. And now before the reception formally begins, I'd like to turn the podium over to my colleague and the UCAR President, Dr. Antonio Busalacchi.

Antonio Busalacchi: Thank you, Jim, and good evening and welcome to all. For those of you that know me, I like the wine theme that's been emerging tonight. I never knew until this evening that I was channeling Walt Roberts! But as the last speaker, as Jim said, I'm

standing between you and a drink so I'll keep my remarks brief. This afternoon's event has a lot of personal meaning for me. To this date, much like Cliff, I can vividly recall my first visit here to NCAR in 1978 when I was a 21 year old, wet behind the ears. While driving up that road up to the Mesa Lab for that very first time I was truly in awe of this facility. Not just the architecture, but the talent that was in this building I was less in awe when I drove back down the road at 2 o'clock in the morning to my room at the Lazy L Motel on 28th. In fact the computing that I did my Master's and PhD thesis -- here are the cards from right down there on the CRAY-1 machine and I'm afraid to drop this because I'll never be able to put them in order if I can find a card reader again. So I do stand in front of you today 39 years later as a UCAR president and indeed very special to me. So having come to this position straight out of academia I would like to take a moment to highlight the role that the UCAR member universities played in the creation of this beautiful building and institution. You may wonder how a group of scientists actually came to pick such a talented young architect as I.M. Pei to design the Mesa Lab and we heard some of that story earlier this evening. But at that time when UCAR began there were 14 founding member universities and as it turned out 7 of those 14 universities had architecture schools. The deans of those 7 architecture departments formed the committee in 1961 to help select the designer of the Mesa lab and the committee weighed several known architects as we heard and clearly made the right choice in I.M. Pei. This is an example of how collaborations within the university community have led to some great outcomes. In fact this building was made possible by additional collaborations that extended far beyond the university community to encompass the National Science Foundation, as we've heard this evening, other leading science organizations, the City of Boulder, the State of Colorado, the local business community that supported the concept of the building on the Mesa, and of course Mr. Pei. When the Mesa Lab was dedicated in 1967, the first chairman of UCAR, Henry Houghton, also remarked that the importance of partnerships that resulted in this building. He said that this was not -- it could not -- have been the result of a small group of proponents, rather it has been achieved by the possibly unprecedented cooperation and support of many individuals and agencies from both public and private sectors. Well he was talking about this building, but he could also have been describing what makes our organization so special to this day. Over the years UCAR and NCAR have focused on innovation and diverse partnerships. This collaborative approach has played a major role in advancing climate, weather, water, air quality, space weather, and other earth system phenomena. Our partnerships have led to truly landmark advances in understanding the climate system, severe storms, space weather, wildfire, droughts, and many other critical aspects of the planet that we live on. The science done right here in this building, in the other buildings within the organization, in collaboration with our partners, helps to protect life, property, support economic development and national

**security. As our partnerships have continued to strengthen, the original group of the 14 member universities has grown to a hundred ten member universities and just this year seven more universities have applied for membership. Fifty years ago at the original dedication of the Mesa Lab, Walt Robert said, as listed in your program, "I know we can create around this building as a focus a research program of the highest quality dedicated to the common goal of the atmospheric sciences for the welfare for all other people on earth." I think we can all agree that the work at NCAR, UCAR, and our partners has indeed advanced the atmospheric and related sciences with myriad benefits to society and I believe we can look forward to even more landmark advances in the future. So my thanks to all of you for joining us here today. Thank you for your support and I truly do look forward to the future. Thanks again.**

**[Applause]**

**Jim Hurrell: All right, thank you all very, very much for coming and please enjoy the rest of the evening and enjoy the reception. Thank you.**

**[Applause]**