

Opening Ceremony – Cérémonie d'Ouverture – Eröffnungsfeier

Program

Musical Prelude

The Rose Marie Coppola String Orchestra

Presentation of the Colors and National Anthem

Four Services Honor Guard

America Scenes Video

Opening by Congress Director

Lawrence W. Fritz

Welcome Statement from

USA Vice President Dan Quayle

Official Address by NASA Administrator

Daniel S. Goldin

Welcome by ASPRS President

Dr. Stanley A. Morain

Welcome by ISPRS President

Dr. Kennert Torlegård

Greetings from IUSM President

Dr. D. R. Fraser Taylor

Proposal for ISPRS Honorary Membership of Prof. Dr. Gottfried Konecny

Secretary General Dr. Shunji Murai

Presentation of Otto von Gruber Award to Dr.-Ing. Christian Heipke

Second Vice President Dr. Ivan S. Katzarsky

Presentation of The Brock Gold Medal Award to Gérard Brachet

First Vice President Dr. Gottfried Konecny

Keynote Address by Dr. Roy Gibson

*"Photogrammetry and Remote Sensing
in Today's Society"*

Closing Remarks by Congress Director

Lawrence W. Fritz

Musical Postlude



Opening by Congress Director

Lawrence W. Fritz

Good Morning Ladies and Gentlemen! I am Larry Fritz, your Congress Director. As we get started this morning, I would like to introduce the people we have on the stage here.

Starting from your left is Dr. Kennert Torlegård, President of ISPRS. Next is our keynote speaker, Dr. Roy Gibson. Next is the Treasurer of ISPRS, Keith Atkinson. Next is 1st Vice President of ISPRS, Dr. Gottfried Konecny. Next is the President of the IUSM, Dr. Fraser Taylor. Continuing on my right is Dr. Shunji Murai, Secretary General of ISPRS. Next is Dr. Ivan Katzarsky, our 2nd Vice President of ISPRS, and our President of the American Society of Photogrammetry and Remote Sensing is Dr. Stan Morain. And representing the United States and as Administrator of our National Aeronautical and Space Administration, Dan Goldin.

Distinguished guests, distinguished delegates, ladies and gentlemen: it is my pleasure to greet you at this opening ceremony for the 17th Congress of the International Society for Photogrammetry and Remote Sensing. From all indications it appears that this may well be the largest and most comprehensive convening of internationally acclaimed scientists, engineers and practitioners that compose our profession. For many of you this may be your first career opportunity to visit the United States, and for most of you this is your first ISPRS Congress in the United States.

But a few of you were here thirty-nine years and eleven months ago. That's right, it was 1952 when the 7th ISP Congress convened here in Washington, DC. It was held just a few miles northwest of here at the Shoreham Hotel and there were about 1300 delegates in attendance. That Congress was unique in several aspects. It was the first ISP Congress ever held outside of western Europe; it convened twice, 9 days in

Washington, DC and 2 more days in Dayton, Ohio; AND it was at that 7th Congress that our seventh Technical Commission was established to address the topic of "Photo Interpretation", the forerunner of the science we all know now as remote sensing.

Back in 1948, at the 6th Congress in The Netherlands, Captain O. S. Reading of the U. S. Coast and Geodetic Survey was elected ISP President with responsibility to direct the 1952 Congress. One of his successful efforts then was obtaining U.S. government sponsorship for about 30 leading photogrammetrists from war-torn European Countries to attend the Congress and to tour U.S. photogrammetric organizations. As a result of those efforts a permanent intercontinental bond in our profession was established.

Now 40 years later through this Congress we welcome the opportunity to further these international bonds. Today's ISPRS membership is truly world-wide and is actively growing. Its 89 national and regional member organizations represent over 90% of the earth's land mass. And it is with pleasure that I report that we have succeeded in securing assistance for over 100 of our colleagues from 37 developing countries to join us at this Congress. The technologies we represent are in the forefront for addressing our planet's environmental and settlement concerns. Just as photo interpretation advanced into remote sensing, we are now witnessing traditional mapping programs evolving into geographic information systems. We are at the heart, and maintaining the pulse, for all of society's information systems that rely on imaged data! In the sessions and exhibits you will attend this fortnight, the vitality of our profession will be amply demonstrated. All of us can appreciate and marvel at the state of our science and technology. Over 170 organizations have brought to our Congress Exhibition, representative sampling of their technologies, services and applications. And we are pleased that we will have the opportunity to interact with the 1,300 speakers who will share their knowledge with us through their scientific and technical presentations.

The Congress is a milestone marker for our profession. It not only offers a quadrennial summary of where we are, but also gives our international community an opportunity to resolve and document our directions for the future. Here at our Business Meetings and General Assemblies we will reach consensus on setting those topics of research priority that will best help solve global problems of the 21st Century. In this process we will choose the international leaders who will form Working Groups and Commission Boards to address those topics for the next 4 years.

It is with these noble intentions that so many of you have contributed to the content and staging of this Congress. We are indeed grateful for the generous support of the many volunteers, benefactor organizations - both commercial and governmental, that have

contributed their time and resources. As a result, you will find a wide variety of technical tours, social events, cultural tours and excursions in addition to the scientific and technical program. An ISPRS Congress is by definition a scientific, cultural and social event for the advancement of international cooperation in photogrammetry and remote sensing! I encourage all of you to partake fully of our offerings and to enjoy your stay with us.

Last week, like many of you, I watched the opening of the summer olympics. In many ways I feel like I am the photogrammetry and remote sensing torch bearer having just entered the stadium. The last few, weeks and months I and my committee have been running to prepare for our technology's olympics. The stage is set, the arena is decorated, it is now time for you the olympians to present your achievements for all the rest of the world to see.

I now declare the 17th Congress of the International Society for Photogrammetry and Remote Sensing -- Open!

Welcome Statement from USA Vice President Dan Quayle

L. Fritz: We had scheduled originally that our Vice President would be here to greet you. But as you are aware we do have national elections! On his behalf and on behalf of the Administration it is my pleasure to introduce to you our Administrator of NASA, Mr. Dan Goldin.

D. Goldin: Thank you Mr. Fritz. On behalf of NASA and the American contingent here, welcome to Washington! We are pleased that America could host this very, very distinguished gathering. Before I begin to make my remarks today, Vice President Quayle has asked me to read this letter of greeting.

THE VICE PRESIDENT
WASHINGTON

July 29, 1992

Dear Friends:

It gives me great pleasure to extend my best wishes and warmest greetings to everyone attending the 17th International Congress of Photogrammetry and Remote Sensing. Remote Sensing is an increasingly important tool for understanding environmental change, and conferences such as this, which bring together users of remote sensing data from around the world, contribute greatly to international cooperation and the fruitful exchange of ideas and information.

The President's record is clear, he has and continues to be highly supportive of research to understand global environmental change. This May, he signed a National Space Policy Directive establishing a focused national,

space-based observation effort to improve the world's ability to detect and document changes in the Earth, especially the global climate. This ability to observe and measure from space, directly supports the U.S. Global Change Research Program.

Over the next decade, the United States and its international partners will launch over 30 missions, including NASA's Earth Observing System, as part of a coordinated effort to monitor our Earth. These missions will provide us with the data we need to make the best possible policy decisions to protect our planet's environment.

Remote sensing data from spacecraft is important for global change research, but data itself does not yield understanding. To process and interpret this data, the Administration has initiated an interagency Global Change Data and Information System with NASA providing a major component. We are working to ensure that researchers from all over the world have access to this important information.

Photogrammetry and remote sensing are key processes that will contribute greatly to the success of the U.S. Global Change Program. Best wishes for a successful conference and I wish you all the success in your deliberations.

Sincerely,
Dan Quayle



Official Address by NASA Administrator

Daniel S. Goldin

On behalf of NASA and the American contingent here, welcome to Washington. We're pleased that America could host this distinguished gathering.

Over the years, NASA has produced many spectacular missions and images. One of the most unforgettable was in 1968, when Apollo 8 circled the Moon and sent back a completely new vision of Earth. For the first time, we saw our home as it really is; a small, blue planet, alone in the blackness of space. From that distant perspective, one could not see international borders, just one great

mass of water, clouds, and land. That amazing picture taught us that every country shares one environment, and that we are all crew members on a spaceship called Earth.

Unlike previous generations of human beings, we have the opportunity today, because of technology, to understand the processes that affect the Earth's environment. We must separate fact from emotion in determining the regional consequences of natural events and human activities. Then armed with this knowledge and understanding, we can consider how to alter or adapt to these climatic changes.

The scientific community of the world has been tasked by the leaders of the world to begin this immense research project. They ask us for the hard data to make hard decisions about global change. The future of our economies and quality of life depend on our answers.

Viewed from space, we can see that the Earth is a large and complex system. Carbon, in its various forms, circulates through the biosphere, atmosphere, and oceans. Heat is transported not just through the atmosphere, but through deep, slow-moving ocean currents. Clouds can either warm or cool the Earth, depending on their altitude and type.

Despite years of research on these individual systems, we know little about how these systems interact and how they adjust to change. And we are only beginning to understand how human activity might affect these huge, complex natural processes.

Space is the ideal vantage point for gaining unique and complimentary data to combine with airborne and terrestrial measurement. Some of the data we need is impossible to gather on Earth. For example, we do not know the planet's total rainfall. We do not have sufficient knowledge of ocean currents, because there cannot be enough ships to fully study the three-quarters of Earth covered by ocean.

To make many of these measurements, we must go into space. Mission to Planet Earth is already underway. There are 20 other spacecraft that will precede the Earth Observing System Satellites. Next week's launch of the joint United States/France oceanographic satellite TOPEX/Poseidon will revolutionize the way we view our blue planet.

The radar altimeters of TOPEX/Poseidon will measure the sea surface to within 3 centimeters. These measurements will yield accurate topographic maps of entire oceans and allow quantitative studies of ocean currents that are a key component of climate change.

Even the temperature we experience here in Washington is influenced by ocean currents. The ocean is like a vast flywheel regulating the Earth's temperature. The deep

currents that circulate heat from pole to pole can take a thousand years to complete their circuit. No model of global climate change can be complete without understanding how the oceans' thermal system works.

We know that our climate will continue to change, just as it has for millennia, even if adverse human activity stopped today. Information to project our future climate in decades ahead is essential; therefore, we must complete Mission to Planet Earth.

NASA takes this mission as a sacred trust. But Mission to Planet Earth and the Earth Observing System are part of a balanced NASA program. Despite the seriousness and urgency of this mission, it cannot claim infinite resources. NASA will manage this mission like all other programs -- to get the needed high quality science as fast as possible at the lowest possible cost. It is more than a responsibility, it is our duty. And we are accountable to the world for answers.

NASA is currently reviewing all its programs to figure out how to do things better, faster, and cheaper .. without compromising safety, or scientific quality. We are committing ourselves to world-class excellence in everything we do through total quality management. And we are challenging our contractors to do the same. We will measure our contractors' performance and use those rankings when considering future contracts. I ask all of you to work with us as we improve. Mission to Planet Earth is too important to get bogged down in bureaucratic inefficiency.

There is an old saying: "We do not inherit the Earth from our ancestors; we borrow it from our children." Our children, and all future generations, are counting on us. So let us search for the truth with the spirit of cooperation, and demonstrate to all nations what we can do for the benefit of all humankind.



Welcome by ASPRS President

Dr. Stanley A. Morain

Good Morning Ladies and Gentlemen. Mr. Goldin, President Torlegård, President Taylor, members of the ISPRS Council, Delegates, Friends and Colleagues...I stand before you at one of the high points in my career,

being surrounded by my mentors and colleagues on this historic occasion. There are so many prominent people in this hall today that I am advised to say that each of you is more distinguished than the others. You might glance at your neighbors for a moment to recognize that you are seated next to an important person in at least one of the fields of photogrammetry, remote sensing, GIS, GPS, mapping, or surveying. It is well known that George Washington, the father of these United States, was himself a surveyor a few miles from where we sit today. It is less well known that Abraham Lincoln, the savior of our Union, was also a surveyor in Indiana before his political life led him to his fate, a few blocks from here. We are Surveyors and Mappers...we are Photogrammetrists...we are Remote Sensing Specialists...and we are Geographic Information Scientists.

I call this an historic occasion because today, exactly 500 years ago, on August 3, 1492, another of my heroes ...Christopher Columbus...began his voyage to this hemisphere. We are here now in his wake, but with technology that has cascaded down the Centuries to give us our present capabilities. His spirit, and those of other heroes who advanced these technologies are here to watch and guide our deliberations. We should celebrate this year the anniversaries of several profound discoveries and inventions that enable us to pursue our dreams. A Dutchman, for example, invented the magnifying lens 400 years ago this year...Isaac Newton first created a color spectrum from white light 325 years ago in 1667. The Transverse Mercator Projection is 220 years old this year, and film emulsion was invented by the French 185 years ago. Alexander Von Humboldt invented the isoline 175 years ago, and this year's birthday of the French gyroscope makes it 140 years old. In the modern era, the electron was discovered by the English 95 years ago...Italy gave us wireless transmission 85 years ago...the first satellite was launched only 35 years ago by the Soviet Union, and last month, only 10 days ago, was the 20th anniversary of Landsat. A mere five years ago, the first constellation of satellites enabling Global Positioning became available. Columbus may have shown us where to go, but all these others showed us how to get there! Before this decade is finished, the world will see another constellation of satellites forming the Earth Observing System. Thus, we are celebrating both the history *and* the future of spectral and spatial analysis at this Congress.

The ASPRS membership is pleased and honored by your presence. You older folks represent the essence and heritage of accomplishments in these technologies over the past 50 years, but you youngsters are equally distinguished because *you* represent our means for achieving the legacy our forefathers only dreamed. Who among you is the new Columbus and how can you help us achieve our dream?

My friends, this Congress, and the concurrent three Society meeting on Global Change, organized by

ASPRS, the American Congress on Surveying and Mapping, and Resource Technology '92, brings together the international community for Earth observing technology. We all know colleagues who could not be here this week, or next, but they will not be left out, if we share our experiences after returning home. Thanks to the Congress organizers and their national counterparts, we have the opportunity to learn about hundreds of advances in our fields of expertise, as well as to learn about entirely new programs and research directions. Mr. Goldin will be pleased to know that a large number of technical presentations and workshops have a direct relationship to the Landsat Program, and to its descendant in basic and applied research, the EOS Program. There are also technical results being presented from the SPOT system, the Indian, Japanese and Canadian initiatives, among others, and a host of related programs. Mr. Goldin---our Joint Satellite Mapping and Remote Sensing Committee will deliberate this week on our Societal role regarding the Landsat 6 and 7 Programs. That Committee represents the technical and social conscience of some 15,000 professional society members around the world, the vast majority of whom know that NASA will join as it has in past with operational Departments of our government, and with Ministries around the world, to ensure continued delivery of high quality and timely satellite sensor data. You can trust that we will utilize these data to maximize their application for the benefit of humankind. In turn, we trust that NASA will redouble its already considerable effort to ensure Program effectiveness, technology transfer, and commercialization.

As some of you know, I have been involved for over 20 years with international remote sensing and GIS projects sponsored by USAID, the USGS Office of International Geology, UNDP, UNEP, and FAO. These works have taken me to many countries...Thailand, The Philippines, Nepal, the Sudan, the Peoples' Republic of China, Kenya, Egypt, Senegal, Morocco, Sierra Leone, all of the Countries of Central America, and Ecuador. I have reviewed the roster of attending delegates and I am pleased to discover that many of my career counterparts are in this hall today. I look forward to renewing our acquaintance in the coming days, and in reminiscing about our projects and their current status. I mention these memories on this occasion to show my affiliation with the global community, and through that affiliation, my support for all the good works we represent. Governments should heed our technologies and subscribe to our purpose. I represent a heritage of Society leaders who all feel the same. We are, I'm sure, singular in our view that human and economic resources *can* and *must* be reconciled with natural resources and environment, if our children and their descendants are to enjoy a better world through our efforts.

We sincerely welcome you delegates to this Congress because we are impassioned with the urgency of today's global challenges. In past our Congresses have addressed current urgencies, but I submit to you that *this*

Congress will address urgencies that are not yet well understood, and that may be changing faster than we can learn about them. In the afterglow of the Environmental Summit in Rio de Janeiro, it is essential that we remind ourselves and our national leaders about the fragility of our planet...the need to preserve its biological and cultural diversity and the moral, economic and political responsibilities we have to protect its air, water and land resources. Since these are global issues, it seems to me they can best be addressed in context of Earth observing technology.

Mr. President, Congress Director Fritz, Dr. Stevens, Dr. Hoffer...I salute you and your organizing committees in preparing for this Congress and its companion meeting on Global Change; and I salute all the numerous sponsors and vendors who have given so freely to support us. In short, I salute, and I applaud the excellent way we have all been allowed to come together for this occasion. Welcoming you as delegates and as participants is a singular honor for me as President of ASPRS. Whatever we can do to enhance your collective experience is our command. On behalf of the ASPRS Officers, Board of Directors, and over 8000 members, I welcome all of you to America, and to this Congress.

Thank You!



Welcome by ISPRS President

Dr. Kennert Torlegård

Administrator Dan Goldin, Dr. Stanley Morain, Distinguished Guests and Dignitaries, Ladies and Gentlemen. On behalf of the Council and the 84 Ordinary Members and the Regional, Sustaining and Honorary Members of the International Society for Photogrammetry and Remote Sensing, I greet you welcome to the XVIIth International Congress of our Society.

We owe our presence here to the untiring efforts of our Congress Director, Dr. Lawrence Fritz, to the support of his wife Evelyn, and to his excellent staff on the Congress Committee. We are also indebted to the American Society for Photogrammetry and Remote Sensing, the member organization that represents USA

in our Society, and which is the host of this Congress. We also owe our gratitude to the many organizations, both government and civil, which have contributed time, funds, materials and services to make this Congress possible. Many of the people behind the preparations, we will never get to know, but on behalf of all of us coming here, I thank them warmly.

A Congress is a mile-stone in the life of our Society. We summarize the past and look forward to the future. It is an occasion when you are reminded that time passes. We see how much we can do together, and also how little you can achieve yourself in four years time. We are also reminded of our mortality when friends and colleagues pass away. I recall to your memory some of those who have died since the last Congress.

Prof. Dr. Luigi Solaini, Italy, Honorary Member of the Society and its President from 1968 to 1972.

Prof. Giovanna Togliatti, Treasurer of the Society from 1984 to 1988, and chairperson of the Financial Commission from 1988 to her death.

Prof. Dr. Karl Rinner, Austria, who made very early and fundamental contributions to analytical photogrammetry.

Dr. Jürgen Hothmer, Germany, President of Commission VI from 1980 to 1984 and Editor-in-Chief of the official Journal of the Society from 1984 until his death.

Prof. Dr. Vassil Peevsky, Bulgaria, one of the pioneers of photogrammetry. He was a pupil of Prof. Eduard Dolezal who founded ISP(RS) in 1910. Peevsky was one of the founders of the International Union of Surveys and Mapping.

In their memory and in the memory of our other unnamed colleagues who have died since the last Congress, may I ask you to rise for a moment of silence. May they rest in peace.

Thank you.

When our host the ASPRS invited us to come here this year 1992, they underlined the timeliness. This year is International Space Year, it is 20 years since the first Landsat was launched, 40 years ago ISP held its 7th Congress here in Washington, and 500 years ago Columbus arrived in America. I can - as I come from Sweden - add to this that a thousand years ago the Vikings with Lief Eriksson as leader came here from the Nordic countries of Europe to trade and explore. And here we come again from all corners of the world to this huge country. This time we come to see, to listen, and to learn about photogrammetry and remote sensing.

The purpose of a Congress is to review the scientific and technical progress in our disciplines and fields of engineering during the last four years. The Congress

Committee and the Council of ISPRS have just provided a framework. It is filled with content by all the scientists, engineers, professionals and managers who will submit papers and posters, participate in discussions and seminars, present products and services in exhibitions and publications at this Congress. These are the core activities of our Society. The seven Presidents of the Technical Commissions and the about 50 Working Groups have studied various topics since last Congress. I have had the privilege of attending all seven Technical Commission Symposia and several meetings arranged by the Working Groups in the past four years. My definite impression is that photogrammetry and remote sensing are presently at a stage of strong development and this Congress will be most interesting. Never before have so many abstracts been submitted, never were so many papers printed in the technical part of the ISPRS Archives as at this time.

New sensor systems on platforms in space and air produce images suited for inventory, mapping, management and monitoring of the environment and of man-made and natural resources. New hardware and software becomes available for analysis and presentation of image data with better and better man-machine interfaces. Theory is developed and mathematical and computational tools are developed, particularly in image analysis and image understanding, and automation of production and processing of spatial and semantic information with offer new possibilities to us. Integration of photogrammetric and remotely sensed data into geographical information systems will open up new avenues for applications in spatial data base management, in digital cartography, and in knowledge-based interpretation of images from air and space. In close range metrology we have seen very interesting developments in the common field of photogrammetry and machine vision. The implications of this development will of course influence education and training at all levels, and this discussion has already been initiated.

Technical progress has changed and even eliminated boundaries between traditional professions in surveying and mapping. Such things as GPS, GIS, database management systems, and computational engineering and telecommunications in general are used by geodesists, remote sensors, photogrammetrists, hydrographers, cartographers, spatial data analysts, and so on. The problems which we all study, and the tasks which we have to solve are seldom isolated, they are rather more complex and related to conditions outside the competence of our own profession. We have to contribute to the study of a wide range of problems from global environment monitoring, world climate, tropical rain forests, via physical planning and urban infrastructure management, to measuring problems in industry, medicine, and architecture. The integration of disciplines is also reflected in the fact that the International Union of Surveys and Mapping (IUSM) has become mature and operational. ISPRS is one of its

members, and I am very pleased that the President of the Union, Prof Fraser Taylor, is here to greet us on behalf of our sister societies.

I am very happy to see two of the Honorary Members of the Society being present here today, Placidino Fagundes and Fred Doyle. I will send greetings from the Congress to the four Honorary Members who could not come here.

Finally, let us remember that the ultimate goal of our work is the betterment of man regardless of his nationality, creed, color, or political philosophy. Our sciences recognize no political barriers and we are here in a spirit of cooperation and peace. I urge you use this opportunity to seek out and make new friends. If our Society and this Congress contributes to wider and deeper friendship, then we have made the base broader for peace on Earth and improvement of the quality of life.

Thank you for your attention.

Proposal for ISPRS Honorary Membership of Prof. Dr. Gottfried Konecny

Secretary General Dr. Shunji Murai

The administrator of NASA, Mr. Daniel Goldin, Mr. President of ASPRS, Dr. Stanley Morain, Distinguished Guests, Distinguished Delegates, Ladies and Gentlemen!

In recognition of distinguished services to the ISPRS and its aims, an individual may be elected an Honorary Member. Honorary Members shall be nominated by the Council and elected by the Congress according to the Statutes and Bylaws. There may not be more than seven living Honorary Members at any given time.

Now the Society has six Honorary Members; M Jean Cruset, Dr. Placidino Fagundes, M Georges de Masson d'Autume, Dr. Frederick Doyle, Mrs. Aino Savolainen and Prof. Wang Zhizhou.

Very sadly Prof. Luigi Solaini has passed away in the four year period since the last congress. The Council has decided to nominate an Honorary Member to be elected by the Congress. This is Professor Gottfried Konecny from Germany. May I ask Prof. Gottfried Konecny to come forward?

Gottfried Konecny was born in Troppau, Czechoslovakia in 1930. He graduated from the Department of Surveying Engineering, Technical University Munich in 1954 and received the Master of Science from Ohio State University in 1955. In 1960 he was awarded Dr. of Engineering at Technical University Munich. He was Assistant Professor at Department of Civil Engineering at New Brunswick, Canada from 1959 to 1962, and promoted to Associate Professor of Division of

Surveying Engineering at New Brunswick University for 1962-1965. He became Professor and Head, Department of Surveying Engineering at University of New Brunswick for 1966-1971. Since 1971 he has been Professor and Director of Institute of Photogrammetry and Engineering Surveys at University of Hannover. His major accomplishments were analytical method of aerial triangulation, digital mapping with photogrammetry and GIS and mapping from space.

Gottfried Konecny has served the ISPRS in many distinguished ways; he was Chairman of Working Group III/1 for 1972-1976 and ratified as Congress Director for 1976-1980. In 1980 he organized Hamburg ISPRS Congress twelve years ago with great success. He was Secretary General for 1980-1984, President for 1984-1988 and First Vice President for 1988-1992. In these twenty years Gottfried Konecny has always been a key person in the Society. At every corner of the world there was an active and very important person. It is Gottfried Konecny. Whenever photogrammetry and remote sensing experts gathered, Gottfried Konecny was there. He has always been a good leader of the Society. He will leave the Council after this Congress. Council has decided to make him as an Honorary Member as well as an advisor.

Now Ladies and Gentlemen, may I ask the Congress to approve with an applause the election of Gottfried Konecny as an Honorary Member of the Society.

Thank you.

Prof. Gottfried Konecny, please receive your certificate and my congratulations.

Stan Morain:

The ASPRS would like to add its congratulations to you and we have prepared this plaque for Dr. Konecny. It reads, "In recognition of your selection as an Honorary Member of the International Society of Photogrammetry and Remote Sensing from the American Society of Photogrammetry and Remote Sensing, August 1992."

Congratulations to you.



Answer to Election of Honorary Membership

by G. Konecny

Distinguished Guests, Dear Congress Participants:

I feel very honored that I have been nominated by Council and ratified by the Congress as an Honorary Member of the Society. I am grateful for the initiatives of this nomination to Council, which have come from the United Kingdom National Committee for Photogrammetry and Remote Sensing, seconded by the Australian Photogrammetric and Remote Sensing Society. I have tried to serve the last 20 years in this Society in various, changing tasks. If these activities have pleased my colleagues and coworkers, I am very happy indeed. But I must particularly be grateful to my wife Lisl, that after all these years she is still with me, despite of the many sacrifices she had to bear. I am also happy that this event takes place in Washington, the seat of the American Society for Photogrammetry and Remote Sensing, which I joined in 1955, when I was Fred Doyle's student at Ohio State University, who prepared me for a photogrammetric career.

Like Eduard Doležal, who founded our International Society in 1910 I am a native of Czechoslovakia of German descent. Both Doležal and myself have experienced political changes which happened through World Wars I and II. Perhaps because of this, we both recognized the powerful uniting element of scientific societies for the betterment of human conditions across political boundaries, which can be overcome by a true international spirit. I have tried to follow Doležal's lead in this respect. This is why I was there, as Prof. Murai has expressed it.

I have recently visited India on a Technical Cooperation mission and I found an inscription in Tamil, which was translated to me as follows:

"Don't look back at past achievements, but look at what you can do now for society's needs of tomorrow."

This is addressed to us all including myself. Thank you for making me your Honorary Member.

Presentation of Otto von Gruber Award to Dr.-Ing. Christian Heipke

Second Vice President Dr. Ivan S. Katzarsky

Distinguished Delegates, Guests, Ladies and Gentlemen, it is my pleasant duty to bestow the Otto von Gruber Award.

On the initiative of Prof. Schermerhorn from the Netherlands, the Board of the ITC Foundation decided in 1961 to set aside funds for the assignment of a periodic award in memory of Otto von Gruber. According to the regulations, the award shall be known as the Otto von Gruber Award and consist of a medal

and a monetary grant. It is awarded every four years to the author of a paper of outstanding merit on photogrammetry, photointerpretation or remote sensing.

Otto von Gruber was a famous German photogrammetrist dealing with different aspects of our profession. His book known as, "Vacation Course of Photogrammetry", published in 1930, has worldwide recognition. His method of relative orientation of aerial photos is still in use by the operators of analog stereoplotters. Otto von Gruber was one of the pioneers of aerial triangulation.

A jury comprising the President of ISPRS, and three individuals appointed each from the Council of the Deutsche Gesellschaft fuer Photogrammetrie and Fernerkundung (German Society of Photogrammetry and Remote Sensing), the Council of the Photogrammetric Society, Great Britain, and the Rector of ITC, have decided to grant the Otto von Gruber Award to **Dr.-Ing. Christian Heipke** from Germany for his papers:

"A Global Approach for Least Squares Image Matching and Surface Reconstruction in Object Space" and *"Integration of Digital Image Evaluation and Multiple Image Shape from Shading"*.

Dr. Heipke you have our sincere congratulations.

May I ask Dr. Heipke to approach the stage.

This is the Certificate signed by the President of ISPRS Prof. Dr. Torlegård and the Secretary General Prof. Dr. Murai.

May I request Prof. Dr. Beek, Rector of ITC (The International Institute for Aerospace Survey and Earth Sciences), Netherlands to present the Award.

Acceptance of Otto von Gruber Award

by Dr.-Ing. Christian Heipke

Dear Mr. Vice President of the United States of America, dear Mr. President of the International Society for Photogrammetry and Remote Sensing, dear Mr. Rector of the International Institute for Aerospace Survey and Earth Sciences, dear Ladies and Gentlemen, dear Friends.

This is a very important and a very joyful moment in my life and since I am more than only a little nervous it is not easy for me to find the right words straight away.

I would like to express my sincere thanks to the International Society for Photogrammetry and Remote Sensing and to you, Mr. President, to the Rector of the International Institute for Aerospace Survey and Earth Sciences, and to the jury for selecting me as the recipient of the Otto von Gruber Award 1992. Let me extend my thanks to all those who have a share in this success.

There are a few persons, whom I want to mention in this context. First, there is Prof. Dieter Fritsch, who introduced me to photogrammetry, a rather odd subject for someone who can't see 3D. My deepest thanks go to Prof. Ebner, who not only encouraged me to apply for the award - the Otto von Gruber Award is an award one has to apply for - but who since the beginning of my career promoted me in every possible way. Needless to say, that he is also my PhD...well, and here I have to deviate a bit from my subject. I am aware, that one should not interfere with the language business of other peoples. However, I hope that you will understand why I suggest to the English and the Americans to adopt one German word into their vocabulary. Not that this has been unheard of in the past. Think of Kindergarten, Sauerkraut, Waldsterben, or - more in photogrammetric terms - of Gestalt as in Gestalt mapper or Gestalt theory. Anyway in German we have a name for somebody who guides and motivates young researchers and who leads them to the PhD - we call him "Doktorvater" or doctor father. I think this term in most cases expresses the relationship much better than the common English word PhD supervisor. It certainly does in my case. To pick up the thread again I would like to thank my Doktorvater Prof. Ebner very much indeed for all he did for me.

I would also like to thank my parents. Without their influence I would not be here today because beside many other things I would not have studied surveying. Also my wife Sigrid, who at this very moment probably feeds our 6 week old baby boy and who therefore can't be here today, has of course a major part in the game. Besides her understanding in letting me work as long as I like she backs me up in less pleasant moments. Also she does most of my typing and believe it or not there is no better proofreader in the world, and this includes even my Doktorvater.

Thank you very much once again, all of you, and all, whom I have not mentioned right now!

Presentation of The Brock Gold Medal Award to Gérard Brachet

First Vice President Dr. Gottfried Konecny

During the 7th Congress of the International Society for Photogrammetry in Washington, D.C. in 1952 the Society introduced the Brock Gold Medal Award for the advancement of photogrammetry. The Award is funded by the American Society for Photogrammetry and Remote Sensing. The Award is to honor the memory of the two American pioneers Arthur and Norman Brock, who succeeded in making photogrammetry a practicable survey technique in the United States of America, through their many innovations at Aero Service Corporation.

The Award shall be made by Council for an accomplishment of an individual which stands for an

outstanding landmark in the evolution of photogrammetry. The Brock Gold Medal is the most prestigious award of the Society and can thus be termed somewhat as a modest equivalent to the Nobel Prize in the field of Photogrammetry and Remote Sensing.

The Award has since been granted to Prof. Bertele in 1956 for his lens design, to Prof. Schermerhorn in 1960 for the establishment of the ITC, to Dr. Helmut Schmid in 1964 for his analytical photogrammetric concept, to Dr. Uki Helava in 1972 for his invention of the analytical plotter, to Prof. Friedrich Ackermann in 1976 for his contributions in block aerial triangulation, to Mr. Gilbert Hobrough in 1980 for the invention of image correlation, to Dr. Fred Doyle in 1984 for his developments in space photography, and to Dr. Duane Brown in 1988 for his analytical photogrammetric applications.

The recipient for the 1992 Award is **M. Gérard Brachet** of France. Mr. Brachet, more than others stands for successful definition, development and use of the French SPOT-satellite system. Gérard Brachet was born in 1944 in Lyon in Southern France. He studied Aeronautics in Paris and did graduate studies at the University of Washington in the late 1960's. He joined CNES, the French Space Agency, in 1970 while the American Landsat Program was in preparation in the USA. From 1975 to 1983 in the crucial development years, he was the Agency's Manager of Scientific and Application Satellite Programs. Just 4 years before the launch of the first French Remote Sensing Satellite SPOT-1 he became chairman of SPOT Image in 1982.

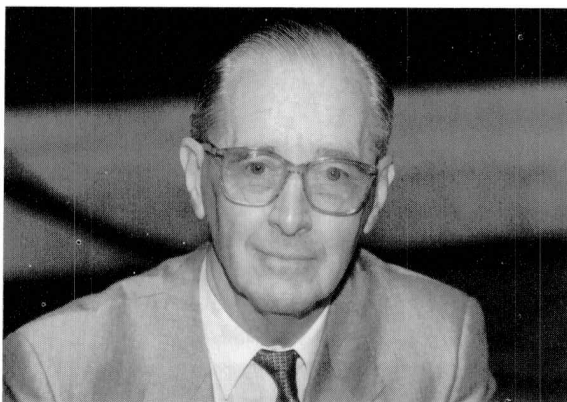


Anyone with experience in the activities of Space Agencies knows about the many interactions with government, science, industry, application groups and international bodies which finally lead to the successful launch and application of a satellite program. For other remote sensing programs it is difficult, if not impossible to nominate a key person who can be identified with the program. Not so for SPOT. Gérard Brachet personally combined the required qualities in a unique way, and brought them to a successful conclusion of particular significance for photogrammetry and remote sensing. Besides being active in the SPOT Program he participated in international space cooperation with Canada, the US and the former USSR in the Cospas-

Sarsat Search and Rescue Satellite and as chairman of the Remote Sensing Program Board of the European Space Agency when the European Remote Sensing Satellite ERS-1 was decided upon in 1984. Mr. Brachet was President of the French Society for Photogrammetry and Remote Sensing from 1981 to 1985. He was awarded the Order of Merit by the French Government in 1983 and became member of the Légion d'Honneur in 1986 for his achievements.

As the development of the SPOT satellite system is a true landmark in the history of photogrammetry and remote sensing, and as Gérard Brachet has been the key individual, who can be identified with this program, it is most fitting that Gérard Brachet is honored in 1992 with the award of the Brock Gold Medal.

M. Brachet, puis-je vous inviter de recevoir la médaille Brock et le certificat avec toutes nos félicitations.



Keynote Address by Dr. Roy Gibson
*"Photogrammetry and Remote Sensing
in Today's Society"*

When preparing a talk on an occasion like this, in front of a multitude of highly qualified specialists, all impatient to get to the meat of the conference, it is tempting to take refuge behind platitudes. You know the sort of thing: a few compliments to the organizers, one or two references to the developing countries, plus a fashionable nod in the direction of the environment- the time is soon gone. In case of the ISPRS the temptation is particularly strong, because of the enormous range of disciplines represented, and the breadth of the subjects to be dealt with in the sessions. Perhaps, too, this sort of bland introductory talk is easier on the audience. At half past eleven the gastric juices are beginning to run, and to many delegates the prospect of a long, cold drink is more attractive than a long dry discourse.

I sympathize with you, but nevertheless have to disappoint you. I do have a few things to say, which I hope go a little beyond the level of a polite platitudes, and I need your indulgence. I will try to make it quick and reasonably painless.

My excuse for importuning you in this way, stems from the particular importance of photogrammetry and remote sensing in our society. Twenty-five year ago, it was ripe with unfulfilled and sometimes exaggerated promise; ten years ago remote sensing, at least, was starting to disappoint: too many false color images in executive suites and not enough real users. But now it is at the very heart of many of the world's most crucial and urgent problems. With such an expert audience, I don't need to catalogue the many, many areas in which photogrammetry and remote sensing are relevant, helpful and even essential to give effect to the increasing number of political declarations from most parts of the world on the importance of saving and restoring our environment. Inside our community, we have always been convinced of the value of these new techniques, but the crucial change is that political decision-makers have now also begun to understand. I believe there is now a brief 'launch window' during which there is the chance of raising this whole subject to the level of accepted importance which it deserves. The window is not, however, large, and to benefit from it we must demonstrate beyond doubt that we are not playing toy trains, and that the scientific and technological breakthroughs which have emerged over the past couple of decades, have the capacity of making solid contributions in the fight against some of society's most intractable problems, principally, of course, those problems connected with environmental research, monitoring and protection.

The basic facts- if not the intricacies- are now well appreciated by the well-informed man-in-the-street, and more important- by the politicians. They are both predisposed to believe that photogrammetry and remote sensing can provide some of the answers- but the interest will wain if we cannot relate our activities to their concerns rather quickly.

Most governments now seem to be of a mind to devote more attention - and more funding - to this complex area, and most governments also appear to realize that the road to success passes through the labyrinth of international cooperation. But it is not simple to chart the way ahead. It is not to be compared with a single international project - even the most complicated- because it is in fact a network of overlapping activities, involving large numbers of actors with a variety of motives. It truly needs a systems approach, and yet not all the elements of the system are under the same control.

So far as satellite remote sensing is concerned, it has been easier to find financial support for the expensive space segments than for the means of exploiting their products on the ground. I suppose that the European Space Agency satellite, ERS-1, must have cost around 700 million US dollars to develop, but it is not uncommon to meet university departments scratching around to find ten thousand dollars or so, to buy some piece of lab equipment they urgently need to handle the ERS data. I don't intend this in any sense as a criticism

of the ESA satellite: it is operating well, and the boys at the Agency are absolutely competent. It is simply that as a whole we are not operating in an optimum manner. We do not regard it, as it should be, as an integrated system. Everyone looks after his portion as best he can, and within the limits of the funds he can lay his hands on. In Europe, at least, we have not yet learned to provide more or less equally for each of the various parts of the system. There is indeed no institutional mechanism for this.

ESA fights hard to have its Member States fund the space segment and it also uses its influence- and some cash- to encourage the development of the ground segment. but it has no mandate for the overall system.

Space agencies, both national and regional, seem to talk to each other fairly effectively, but the end-users are not yet satisfactorily organized. Indeed, some of them are not yet fully informed. The subject is further bedeviled, on both sides of the Atlantic- by most governments wishing to allow data to reach scientists with the minimum cost and delay, and yet at the same time to encourage the creation of a healthy commercial activity. The absence of a commonly accepted data access and pricing policy is also becoming progressively more worrying.

The science community, in Europe and elsewhere, has always shown an endearing liking for international cooperation- not least in the space science field- and they are relatively well organized, even if not always equally well funded, in several of the important global programs like WCRP, IGBP, but, taken altogether, there are still important gaps in our knowledge of the Earth. For example, satellite coverage south of 82 degrees is very thin. Recent ERS 1 data is being used to produce very significantly improved topographic maps of the Antarctic ice sheet, but nevertheless, we know more about the far side of the Moon.

There are also important gaps of a different nature: missing links in the chain, so to say, between our undoubted capability and its full, effective, exploitation. When you each consider what could be done in your own field, compared with what is really happening on the ground . . . I think most of you will agree that while the engine is turning over, the gear box is not allowing the power to get through to the wheels. Although, to continue the metaphor, the engine races and the wheels spin from time to time.

We need to produce some visible forward motion, if we are to gain or retain governmental funding for the next vital stages. It is easy for a powerful international professional society to ignore such unpleasant considerations. There is so much interesting work to be done, so many new developments to track; and the 'politics' are frustratingly complicated and unrewarding. I understand all that, but nevertheless hope that the

ISPRS will use its international influence to work increasingly towards a more practical exploitation of the scientific and technological development which it has helped to foster.

If what I have to say seems to have more connection with remote sensing than with photogrammetry, you must blame it on my background. I can't resist saying, however, that one of the things I have always admired about the ISPRS, is the way the Society brings together the two communities: photogrameters and remote sensors, who derive from somewhat different backgrounds and cultures.

It would be hypocritical of me to pretend that, through the ISPRS, they have coalesced into a single, harmonious community, but the mechanism for this exists, and I suggest it ought to be one of the society's permanent goals to promote a more thorough-going collaboration. This is particularly important nowadays, because of their growing inter-dependence and the increasing overlap in their end-user communities.

Whilst I am still in the carping mode. There are two specific areas that I want to mention:

- Over recent years I have been repeatedly disappointed by examples of new users being sold expensive new systems which have failed to live up to expectations. It is unfortunate that, smelling the chances of lucrative contracts, a number of private concerns has been spawned which aggressively market their wares among the new, not to say naive, and inexperienced users. This takes the form either of hardware/software systems, or simply paper studies designed to show what the customer needs. In both cases the disappointment rate is too high for comfort. A new user often finds it hard to obtain impartial advice, and even harder to find a specialist willing to be objectively critical of a product commercially offered by someone else. The danger is that this conduct will not only retard the spread of photogrammetry and remote sensing systems at ground user level, but will slowly disillusion a user community which is only just beginning to recover from the over-selling of the past decade or so. We owe it to ourselves, as well as to the users, to provide a more reliable service.
- My second plea is for an ever greater effort to achieve relevance: relevance, that is, both in scientific and technological research, to the world situation around us today. We should never, of course, try to constrain researchers to specific, pre-defined areas, but at the same time it makes good sense for research managers to be aware of the problems which are on the critical paths of the end-users. The reward for such perspicacity may not come in Heaven, but it will certainly make the research more likely to qualify for funding here on Earth; and few researchers these days can afford to disregard this sordid consideration.

To identify these critical areas, the end-users must be cajoled into defining their needs- in their own terms- so that the scientific community can start to open dialogues with them, and to see to what extent- and within what probable timescale and cost- research can help. I can already hear the bristling of hair among the 'blue skies' research community, and I know how risky targeting can be. However, I also know that many senior decision - makers, both politicians and senior civil servants, are more than a little impatient at what appears to them to be the episodic and patchwork presentation of results, at a time when they need operational, or at least semi-operational systems, even if this means accepting a somewhat lower standard for the end product.

For many years it has been left to the space agencies to develop satellite Earth observation programs, and, since there was no organized user community (such as they had been accustomed to working with in, say, telecommunications and meteorology), they consulted with the non-space experts as best they could. Many impressive results have been achieved in this way, but it is only in very recent years that the real end-users have woken up to the value of space-borne systems, and shown a tentative willingness to find money to support them.

Recently in Europe there have been a number of useful and interesting initiatives from the user side. Rather unexpectedly, one such came in the form of a letter from the Prime Minister of the UK to his ministerial colleagues in Europe, in which he extolled the virtues of satellite data for environmental monitoring and protection. This positive attitude has not only filtered down through the British hierarchy, but it has also resulted in a very useful meeting in April between space system providers and end-users. It has also produced results in other EC countries. The German ministries for research and technology and for environment, are, for example, hosting a meeting in Bonn in the middle of November, to which representatives of all states in geographical Europe are to be invited to discuss environmental users needs for satellite data. It may well lead to some sort of permanent mechanism being established for this purpose. There are real signs that the environmental users of photogrammetry and remote sensing in Europe are determined to become more organized.

The problem is, of course, much wider than Europe- even an extended Europe- but it is essential for a clear picture of user needs to emerge in Europe- who is doing what, who is paying for what, and the like, before Europe can sensibly take part in a wider collaboration. Even in respect to developing countries, it will be helpful for Europe to be operating from a more coordinated European base.

Another very encouraging development is in the distinctly improved relations between the European Space Agency and the European Commission in Brussels. This involves

not only the EC's Framework Research Program, and its Joint Research Center at Ispra in Italy, but also the Directorate Generals for Research and for the Environment, as well as the embryonic European Environment Agency, which I am helping to create. This Agency will of course become a major customer for the products from Earth Observation programs- provided that they have been designed with its needs in mind.

This pulling together of the strands was long overdue, and I believe that it will be beneficial not only to end-users, but also to the research communities, who must often be bewildered by the number and diversity of players on the stage; and in the long run it will help the space agencies, both national and regional- all the signs are that they will find it increasingly hard to win funding support unless they can show the direct interest of the user communities and their willingness to contribute- directly or indirectly- to the cost.

When I try to integrate these ideas into a single message to leave with you, it comes out something like this: Photogrammetry and remote sensing are so important to today's society that its practitioners- in whichever field they are active- have an individual and collective responsibility to work towards the better incorporation of their techniques into the rather tattered fabric of our society. It is not enough to be able to claim complete intellectual satisfaction in one's work; there must be the parallel question: Am I really helping to see my expertise applied to the world's problems? It sounds as though I were proposing a sort of ISPRS Hippocratic oath. Well, the world is sick, and I am convinced that each of you has some expertise that can contribute to nursing it back to health.

I am sorry, Chairman, if I have deviated from the comfortable protocol of self-congratulatory messages at the start of a Congress, but I feel very strongly that this Society and its members really do have a vital role to play, especially over these next few years. This will be the time when new programs are being put together and when it will be important to have your knowledge and your experience put directly at the service of these programs, and to help guide them sensibly.

There, that's it. I think you have all deserved a drink. Thank you. Have a good Congress!

Closing Remarks by Congress Director

Lawrence W. Fritz

The Congress Director thanked all the speakers, introduced the Organizing Committee and delivered some administrative remarks. He then closed the session - "... and I welcome you now to go off and join in our photogrammetric and remote sensing olympics which start today. Thank you for coming!"