"Step down lecture": Mogens Flensted-Jensen May 3 2013.  ([1,2])

Mathematics and Research policy

- A view back on activities, I was happy to take part in.

Thank you to all of you for coming to this lecture. Thank you to Susanne for introducing me as a continuous student and member of this department since 1963, i.e. for 50 years.  

I became professor at “Landbohøjskolen” appointed by the Queen as of the 1st of June 1979. By the way the same day as University of Copenhagen celebrated its 500 years birthday with a grand party, which I considered as a farewell party for me! At that moment I did not anticipate, that exactly 33 years later I would become professor at my old department just by “infusion”.  

[4,5]

[I don’t know what to think about the tradition of old professors giving “stepping down lecturers”, but anyway, here I am. I have to take up the challenge.

Instead of telling you how bad things are today compared with “the good old days”, or speaking about all the “important contributions to science and society”, I have given. I shall just try to tell you, that I have been very happy with my work through all these years.]

I consider myself as an “applied mathematician”. Even though I hardly have done any applied mathematics. My research has been within “pure mathematics”, but a lot of my energy has been applied to general university activities: university leadership, organizing PhD-education, informatics in agriculture, research councils etc. As a mathematician at an “applied university” I have applied myself to try to develop the university and the national and even the European research policy in a good direction. Whether this was a successful endeavor, is for others to decide.

My lecture will focus on three themes:  

2. Research council work: From the national research councils to the creation of the ERC (European Research Council).
3. My journey from University of Copenhagen to “Landbohøjskolen” and the “infusion” back again.

Mathematics: Symmetric spaces

[At that time, I was puzzled by my feelings, that being a mathematician was an endeavor seemingly “non-useful” to my fellow men. Anyway I was rather good at it, so I continued as a mathematician. Maybe this is why, I had a citation from the Bible in my thesis: “Gud skabte mennesket som de burde være; men de har så mange sære ting for”. [Ecclesiastes 7:29: “Lo, this only have I found, that God hath made man upright; but they have sought out many inventions.”. I just discovered the difference between the English and the Danish translation. I was pleased to notice, that “sære ting” (“odd things”) is the same as “inventions”. Which sounds much more positive!]

([7])

Analysis has been my favorite discipline within mathematics from, as a second year student, I was chosen by late professor Børge Jessen to be an instructor for my fellow students. I still have my notes from his lectures on “Selected topics from analysis”, where I was introduced to Fourier analysis.  

([9])

My master thesis adviser was Esben Kehlet, who taught me functional analysis and operator algebras. After my graduation late professor Werner Fenchel suggested that I should apply for a scholarship to the Mittag-Leffler
Institute in Stockholm. Here I met the Icelandic mathematician Sigurdur Helgason, who throughout the whole year introduced us to Lie Groups, Riemannian Symmetric spaces and Spherical functions. This became my mathematical “fate”. Ever since my research has centered around symmetric spaces, in particular the pseudo-Riemannian or semisimple symmetric spaces. [10,11]

In the spring of 1975 Jacques Faraut and Université de Tunis invited me to spend one month in Tunis. One day on the bus coming back from the university, I suddenly realized a relation between the 2x2 matrix groups over the real and over the complex numbers (SL(2,R) and SL(2,C)) coming from their embedding into the 4x4 real pseudo-orthogonal matrix group (SO(2,2)). This led me to, what I later called “a duality between non-Riemannian and Riemannian symmetric spaces”. [12]

Let me use a few slides to explain a little of the mathematics, such that some of the mathematicians here can have a feeling for what I am talking about. [13-18]

Helgason invited me to stay one year 1976/77 at MIT in Boston. I remember one afternoon in his office, where I explained how for “SL(2,R)” the discrete spectrum could be found using this duality, a new notion of “minimal K-types” by David Vogan, and certain closed “SO(2,C)” orbits (described in general by Matsuki) on “SL(2,C)/B” (B is a Borel subgroup).

This idea led me to my main publication “Discrete series on symmetric spaces”. I submitted it to, what I considered the most prestigious mathematical journal, “Annals of Mathematics”. And the paper was accepted within 5 weeks, which I think is quite unusual. I checked recently that the number of citations of this paper is appr. 80 and they have been coming regularly also in the later years.

The main results from this paper come from a formula very similar to Harish-Chandra’s formula for the zonal spherical functions. [20-22]

These results together with earlier results on special functions together with the Dutch mathematician Tom Koornwinder about the Fourier-Jacobi transform are the main content of my doctoral thesis from 1980, where Helgason and Christian Berg were the opponents. One of my colleagues often tells me how impressed he was with an addition formula generalizing the classical addition formula for the cosine function. Christian wrote the formula on the board and it filled all the 4 blackboards. [23]

In the paper on “discrete series” there was a constant “C”, giving the boundary for the parameters for the discrete series. I conjectured that this constant was to be zero. Soon after my dissertation defense, I received a short letter from the Japanese mathematician Toshio Oshima. In which he explained essentially how to prove my conjecture. This proof was very difficult for me. It used the theory of hyperfunctions and of differential equations with regular singularities in several variables.

I asked my student, Henrik Schlichtkrull, to look at it. This led to his gold medal essay, at University of Copenhagen, and to his book “Hyperfunctions and Harmonic Analysis on Symmetric Spaces”. Later Oshima and Matsuki essentially classified the discrete spectrum. They showed that, with their proof of my conjecture, I had found almost all of the discrete series.

From this sprang a lot of activities, and invitations to lecture in many countries. [25]

Let me try to explain the highlight in the development: [26-34]

The basic harmonic analysis on the semisimple Lie Groups had already around 1970 been established by the grand master in these topics, the Indian professor Harish-Chandra from The Institute of Advanced Study in Princeton. A key step for him was the classification and construction of the discrete spectrum. Later in the 70’ties Arthur proved a Paley-Wiener Theorem for K-finite functions on G.
The spaces, we consider i.e. the semisimple symmetric spaces, form a much wider class than the Lie Groups themselves. It was natural to think, that our results would make a lead to the full basic harmonic analysis on these much more general spaces.

This line of thought was taken by several mathematicians, besides Oshima and me. At some point Oshima claimed, that he could prove the explicit Plancherel formula in general, but he never published this.

For me the peak in this direction came during the year 1995-96, where I was responsible for the program at the Mittag-Leffler institute. Many specialists in symmetric spaces were there. Among them Helgason, Oshima, Henrik Schlichtkrull and Erik van den Ban. Erik and Henrik had in early November through a couple of weeks explained to me the general “Paley-Wiener theorem for K-finite functions”, when Patrick Delorme, who was to come the following week, wrote, that he would give a lecture on the general “Plancherel formula”.

This gave rise to a very exciting week at the Mittag-Leffler Institute November 1995. The basic results for harmonic analysis on semisimple symmetric spaces were announced. It took though some years before all these results were finally published.

There are as often many new questions arising from such basic results. One way of thought is to study in more details special classes of symmetric spaces. And many papers have been published on this kind of results. But my interest has always been in finding general results valid for all semisimple symmetric spaces.

About year 2000 I came up with the idea to study cuspidal discrete series. For Harish-Chandra a key result was that all discrete series are cuspidal. This notion comes from certain unipotent subgroups N, which are used to construct essentially all representations involved in the Plancherel formula, except those from the discrete spectrum. Being cuspidal means that, all integrals over these groups N vanish for matrix coefficients of the representation.

[36-39]

The question is as well how to generalize the notion as, in analogy with Harish-Chandra, to see how to use it in the analysis. So far we have proposed a definition. We can in examples prove that, most discrete series are cuspidal, (e.g. \(G/H = \text{SO}(p,q)/\text{SO}(p,q-1)\)). We can also in these examples see that, there may be a finite number of non-cuspidal discrete series. This feature seems to be similar to results in number theory related to discrete subgroups of Lie Groups and for Lie Groups over other fields. In particular Schlichtkrull, van den Ban and Job Kuit (pt. postdoc at University of Copenhagen) is working on these questions.

A few snapshots: ..... I could mention that, a few of us had the privilege to take part in the Schock price ceremony. [41-44]

To me very often the new ideas in mathematics come from seeing things from a new perspective or seeing them with the right eyes. Therefore I used a well-known illustration from Saint-Exupéry (the snake, which has swallowed an elephant) in my thesis. [45-48]
From the national research councils to the creation of ERC

In the spring of 1997 I was asked to become a member of the Danish Research Council for Agricultural and Veterinary Sciences (“SJVF”). This opened a completely new type of experience for me. One month after I entered this council a sad thing happened, in that the chairman suddenly died. I was then elected the new chairman. This gave me six very interesting years as chairman. It was interesting not only due to the usual research council activities, but also in relation to research policy. As chairman I was member of the group of chairmen for the six research councils. This was a very interesting group to join, and it also gave me contact to Nordic and European research policy forums. In particular I participated every year in Strasbourg in the general assembly of ESF, The European Science Foundations, where the Nordic participants formed a certain subgroup. Every year at the assembly the European Latsis Price was given out to varying scientific areas. I was therefore very happy to see that last year the price was given to mathematics, and even so to ‘our own’ Uffe Haagerup.

[50]

Through the Nordic collaboration I also got an invitation to be present at the Abel Prize ceremony and banquet in 2007, where Srinivasa S. R. Varadhan received the price. This was a very interesting occasion. Mathematics has no Nobel price, so this was the closest ‘one of us’ can get. But so far I think no Danes have received the Abel price.

[51]

In that period there were many national discussions of the structure of universities and of the research councils. A kind of board of the research councils (“Forskningsforum”) was formed. At some point Jørgen Søndergaard was appointed chairman of this by the Danish government, and I was chosen to be vice chairman.

In the spring of 2001 Sweden had the presidency of the EU and in the fall of 2002 Denmark had the presidency. The most important achievement during the Danish presidency was the final agreement of the expansion of EU with 12 new members in particular from Eastern Europe. But related to research policy another quit important thing also happened:

During the Swedish presidency I was invited to an EU-Workshop with the title: “Cooperation and Collaboration – Striking the balance in R&D policy”. The discussion of a long standing idea about a possible European Research Council modeled after the National Science Foundation, NSF, in the US came up. The Swedish research minister, Thomas Østros, did not believe it possible to create such an institution. Nevertheless a group of Swedish scientist, including Dan Brandström, the director of Bank of Sweden Tercentenary Foundation (Rigsbankens Jubilæumsfond), and the research adviser to the Swedish government, professor Hans Wiiksell, from Karolinska Institutet, made a plea to me, as I was the only Danish participant, to bring this question up during the forthcoming Danish EU presidency.

Jørgen Søndergaard and I convinced the Forskningsforum to go along with the idea of hosting an EU–conference in October in Copenhagen on this issue. The Danish government and the European Commission agreed and suddenly I was in charge of organizing a conference “The European Research Area: Do we need a European Research Council?”

[52-62]

Many people assisted in the preparations. To mention a few: Vibeke Hein Olsen and David Grønbæk of the Research Agency, Knud Larsen from the ministry of Research, Peder Olesen Larsen former chair of the National Danish Research Foundation, Enric Banda secretary general of ESF.

The conference was a great success. It gathered around 200 research advisers, research administrators and scientists. It had a very broad and high level participation. Among the speakers were the EU commissioner for research, Philip Busquin, the Danish Research minister Helge Sander, the research adviser to the White House, Kathie Olsen, heads of public and private research councils and institutions from all over Europe.

Even though the theme was “to discuss” the question, there was an overwhelming conclusion, that Europe needed such a council. Since the conference politically was placed between the European scientists and the European politicians the question was, how to bring this conclusion to the forefront in the political arena in due time for it to
have a chance in the EU budget decisions for the next Framework Program (FP7) running 2007-2013. Many European scientific organizations and groups of scientific, e.g., also a large group of European Nobel Prize winners were pushing this issue, but we felt, that our conference did hold a key to open the door to the political decision makers.

But time was running out for our possibilities, since the Danish EU-presidency would stop at January 1st 2003. The idea was to establish a politically appointed expert group to discuss the matter further. But for this to have a chance we needed the accept of the EU council of ministers and also a high profile chairman. The first thing was OK, with the right interpretation of a decision already taken at the EU Council of Ministers. The last thing turned out to be a problem. Vibeke Hein Olsen worked hard on this question. A great help came from Julio Celis from the Danish Cancer Society, who was also Chairman of ELSF, The European Life Science Forum. And finally, a few days before Helge Sander stepped down as chairman of the EU council of ministers for research, he was able to establish the “ERC Expert Group” with the former secretary general of UNESCO Federico Mayor as chairman. Many “important” members were recruited for this group, such as the president of CNRS in France, Gérard Mégie; the chair of EURAB (The research advisory board to the EU-Commission), Helga Nowotny; the director general of research councils in UK, John Taylor, Chairman of Irish Times Trust and Professor of Genetics David McConnell. I was elected vice chair and the secretary was Dan Brändström, the director of Bank of Sweden Tercentenary Foundation, whose foundation also paid part of the expenses for the group.

In effect I together with Dan Brändström, his assistant Olle Edqvist and Vibeke Hein Olsen was doing the hard work for this group. The expert group had 5 meetings. But for us it meant a lot of travelling and meetings all over Europe in the period before we delivered our report (up to December 2003), but also as a follow up during 2004. During 2002-2004 I made in this connection at least 43 trips to more than 18 different cities in Europe. We met with high level representatives from research organizations like ESF, Max Planck Society, CNRS, NWO, ministry for research in Dublin etc., participated in conferences and meetings organized by the European Commission, UNESCO, ESF, Max Planck, ELSF, EMBO etc. etc.

The European Commission had an observer, Peter Kind, in the group. In the beginning he was “kind”, but reluctant. Clearly the Commission did not want or did not believe in an ERC. There came a sudden change in our September/April meeting. There was a discussion of the size of budget needed for the ERC. Someone suggested, that we should ask for 500 million Euro’s a year. But the whole group reacted, that if the ambition was so low, we could just as well stop the work immediately. After a call to the Commission Peter Kind surprisingly proposed, that we should aim at least at 2 billion Euro’s a year. He also proposed that, the Commission could set up a meeting for representatives from all EU countries on the matter in October. From there on and we had the feeling that the director for research in the Commission supported the idea or at least he had realized that, if the ERC came, it should be a serious thing. Maybe he also understood that, in order to get more money for research in the EU budget, a really new idea was needed.

We had many interesting and also rather funny experiences during this period. The ESF strongly supported the ERC, but had a very difficult time realizing, that the ERC could not be run by the ESF themselves. The EuroHorc’s (a club for the heads of national research councils in Europe) wanted the ERC to be built on top of their member organizations, which was of cause impossible.

The Parliament in Great Britain had a committee to discuss the European Framework Program (FP6 and the coming FP7). They should also discuss the pros and cons of an ERC. One conclusion was that, more funding of basic research in Europe was really needed. And even though such a council might not be the best way to go, Great Britain should definitively be in the front seat of the discussions, in order not to be left behind, if the ERC came about.

Everybody was asking for good reasons for the ERC. They wanted proof, that the idea was really beneficial also economically for the countries in EU. In order to meet this demand The Commission set up a High Level Expert Group to discuss this issue. I was also a member of that group.

I remember a dialogue with Pim Fenger of the Research ministry in The Netherlands. He said something like: “This question about, whether the ERC will be beneficial to society, is of cause important, but it is really a question of belief. It cannot be answered completely objectively. But suddenly, if we are lucky, this question will disappear, and everybody will ask how should the ERC be organized, and how can we ourselves benefit from it”. He was right!
I was in May 2003 with Mayor to a meeting in Brussels with Commissioner for research Philip Busquin. Afterwards I had a discussion with Robert Ian Smith, who later, in the period 2003-2007, became responsible for developing the European Research Council (ERC) within the DG Research. His comments then were that, he really believed in the ERC, but proposing it in the political world was like throwing a stone through the window to the politicians. If we were very lucky they would pick it up. But most likely they would not.

[There were for example three really essential problems for us in the expert group to face:

1) The ERC should rest its support solely on scientific merits. Would this be a problem for “the weaker parts” of Europe, would they be able to benefit from it? Also would relevant research in ‘grand challenges’ have a chance?
2) Oversubscription: Would there be far too many applications in order to handle them properly?
3) Subsidiality: According to the EU treaty, EU activities, such as an ERC, would only be legal if it could add values above what, the member states could achieve by themselves individually.

With respect to the first two problems the difficulty for the expert group was to stay firm on the autonomy of the ERC, and on that these kinds of problems should not be solved by the ERC adding other conditions than research excellence to the funding rules.

With respect to the third problem, this really raised a possible obstruction, which might prohibit any legal structure behind an ERC. This problem was solved to complete satisfaction by the Director General of DG Research, Achilles Mitsos. Funding from the ERC should go to investigator-driven research of the highest quality selected through European competition. He concluded that, such a European wide competition in it itself could not be established by the member states individually.]

The political turning point for the ERC came, I think, under the Irish EU-presidency in February of 2004. Mitsos lectured on the matter mentioned above and the British minister for Science and Innovation (1998- 2006) David Sainsbury gave the British support for the creation of an ERC. In fact I was introduced to him on the plane to Dublin, and he told me, that his speech writers had given him a speech, which was negative towards the ERC, but after reading the report from our expert group he had changed his mind. But there was no time to rewrite the speech. Thus his speech was very interesting, in that he listed all the problematic things related to ERC, and then concluded, that his country would support the creation of it!

In the end ERC was created and began its functions from the beginning of FP7, in 2007, which was in itself surprising, since usually it take a long time to implement decisions in the EU. It has been a great success with a budget growing up to about 2 billion Euros a year. It seems to have created a new general understanding of the need for upholding the highest international quality level within research in Europe. Last year I participated in the 5 years celebration in Brussels. Our present minister for research Morten Østergaard gave an excellent speech supporting the continuation and strengthening of the ERC.

I am very happy to learn, that our department has by now had 3-4 grants from the ERC.

An interesting outcome for me personally was that, I was asked to become member of the new Academic Research Council in Singapore (ARC). This council is composed of presidents of several US universities (e.g. Boston University and California Technological University) and with people from MIT, Max Planck etc. I was a member there for 7 years. One can say many things about Singapore, but it really wants to promote its research universities. For example the ARC has decided on 5 mayor grants to Singapore universities each of the size of 150 million Singapore dollars (equivalent to 600 mio. DKR).

Another outcome was that, I was invited to take part in the Nobel Price ceremony and the Nobel Party in 2009.
From University of Copenhagen to “Landbohøjskolen” (KVL) and the “infusion” back

After my return from MIT 1977 I was asked to take responsibility for a renewal of the elementary course “Matematik A” an introduction to mathematics for non-mathematics students. Then in the late 70’ies professor of statistics, Mats Rudemo, from KVL gave a speech in the department about the professor position in mathematics at KVL vacant after the death of Poul Neerup. I thought that, maybe my experience with “Matematik A” would help me. Also I had as a young fellow dreamed of becoming a forest manager, educated at KVL, so maybe a professorship in mathematics there would fulfill a little of that old dream! [65,66]

Anyway, I applied and got the position. At KVL I had a new colleague in mathematics, Poul Einer Hansen. He was, and is, something special. He was a renowned teacher. Much of the extremely positive attitude at KVL towards mathematics was due to his teaching, and my preparation through teaching “Matematik A” was not needed, because he really wanted himself to do all the basic teaching. I was left with the (for KVL) advanced course in Linear Programming (LP), which I enjoyed. But in fact I did not remember having ever heard of that topic during my mathematics studies. When looking into it I realized that, the simplex algorithm for solving LP-problems was one of the most used mathematical results, at least within economics.

I was very fond of having Poul Einer as a colleague. Instead of asking him to give me more of the teaching, I became involved with the governing bodies of KVL (Faggråd, Konsistorium, Ph.D. committee etc). This was the period, where the discussions on research, research education, university governance was very much on the agenda, and KVL was undergoing a drastic change becoming a much more research intensive university. I was part of the process of creating a research committee, of which I for a long time was vice chairman, under the Konsistorium (Senate).

A long period I was also chairman of the KVL PhD Committee, which designed the modern PhD-program for KVL. My main emphasis was on academic quality and on fairness towards the PhD-students. I worked quite hard to have some PhD-students engaged in the PhD Committee and for them to create networks among the PhD students. My thinking was that this would improve the overall quality of the PhD program. This last agenda was not very successful. It seems that PhD students associate themselves much more to the academic staff than to their fellow students. Also they only have 3 years, and don’t like to lose time on anything else than research. But I still think that the better 10-15 percent, should have capacity to be engaged in research and education policy of their department and faculty. This would prepare them for future leadership duties at the university and at the same time secure a good feedback from PhD students to the university leadership. [69]

Everybody expected a mathematician to know IT and computer science, so I also became deeply involved in IT related issues. For a period I was heading the computer center of KVL. Later Bent Schmidt-Nielsen, our rector, asked me to work with promoting IT in agriculture. This took a lot of my time, mostly through the research network [67]

Danish Informatics Network in the Agricultural Sciences

Which was connecting university departments and government research institute’s. Dina was in one way or the other responsible for spending DKR 20-50 mio. on Ph.D. education and research related to the use of IT in agriculture in the period 1992-2001. I think it was quite a success in relation to IT-applications in agriculture. But of cause the whole IT-development was so fast, that it is difficult to day to say, what was the reason for what. In 1993 I was asked, together with Mats Rudemo, to give the academic lecture at KVL’s birthday March 8. For that occasion I had a small illustration made up on “modeling with IT”. [68,72-74]

A few words about my colleagues: [75-77]

Helping me with this was my colleague Poul Einer Hansen. He always read through any of my writings, and always gave it back to me full of red corrections! By the way I think he may be the best known mathematician in Denmark.
This stems not so much for his mathematics or his teaching as from his collaboration with the renowned Roal Als, the political cartoonist in Politiken, (as his text-writer, who call himself his “nigger”.)

Once for Christmas he gave me his new production: a two volume “The count of Monte Cristo” with his translation from French and with illustrations by Roal Als. Reading it I fell over a paragraph, where the count visits a rich lady, and is told of three professors, also visiting. I did not believe that, his translation was correct since, one of the descriptions sounded like a funny caricature of me!

Our professor of statistics, Mats Rudemo, was the one who convinced me to apply for the professorship at KIVL, and it was also him who convinced me, that I should accept to become chairman of SJVF. He made way at KVL for statistics as an important ingredient in biology. Through the network Dina, the computer scientist Peter Sestoft came to KVL. Later he became professor and now he in professor at ITU, and by the way adjunct professor at IMF.

I should mention that, we were very happy to have Henrik Schlichtrull as adjunkt and lektor at KVL from 1986 to 1996. He also is a brilliant teacher, so he also “pushed me further away” from teaching! Later on when I became chairman of SJVF, we got money to hire first Thomas Vils Pedersen and then Henrik L. Pedersen. They are also excellent teachers, so when I returned during 2005 from my research council and ERC duties, I was not met with a strong demand for teaching again. Instead I was in November 2006 called to a position as acting pro-rector for education and member of “direktionen” (the governing body) for KVL.

This position lasted exactly one and a half month, until KVL was glued together with University of Copenhagen, as the Faculty of Life Sciences, (called LIFE). After that I was acting vice-dean at the faculty an member of the faculty management. It was very interesting to take part in the fusion process. As a member of KUUR (KU-education council, Københavns Universitets Uddannelses Råd), I became involved in the planning of the “Internal market for education at KU”.

I was also asked to establish KUFUR, the Academic Board for Ph.D. Education at University of Copenhagen, and I was its chairman until 2009. From 2009 to 2012 I was chairman of AMKU, the Council for Work Environment for KU.

I would like to mention a few more things: 1997-98 I was heading a national committee evaluating the higher university educations in mathematics, physics and chemistry in Denmark. The overall conclusion was rather positive, but there should be much more emphasis on a variety of teaching methods, on the student environment and on pedagogical development. I was not too popular among all of my math-colleagues, in particular those from Aarhus, after that! But the fact is that, now all the mayor universities in Denmark have established units to promote teaching quality.

From 1992 I have been a member of The Royal Danish Academy of Sciences and Letters. From 2003 I became part of the group organizing every year a research policy meeting, where the Danish minister for research usually was the main speaker. In one of the white papers we gave out in this connection, we had some comments on the relation between university research and sector research. Since I came from an “applied university”, I had to stand up for our opinions on this issue. At that time many of the sector research institutes were being “fused” in to the universities. And there were a lot of discussion about quality of research, independence and freedom of speech for sector researchers in this connection.

The union of Danish universities, “Universities Denmark”, reacted by establishing a working group on “Research based public-sector service” with me as chairman. In our report a key message was that measurement of research quality is the same for all kinds of research, whether it is “basic” or “relevance-driven”; and that public-sector service to a large extend could be thought of as being parallel to university teaching. But let me say, that I still think that, many of my colleagues within ‘pure’ research has a strong misconception of the value of high quality research based public-sector services.

From January 1st 2010 I have been working part time, and I retired completely as of October 1st 2012. I am happy to have a formal position as a professor Emeritus at the department, which will allow me to do some research and travelling again. Now I am placed at HCØ, where I 50 years ago started my studies in 1963 and had my employment from 1968 to 1979.
From 1979 to 2012 I have been through many fusions. (1975: Institut for matematik og statistik; 1991: Institut for Matematik og Fysik; 2004: Institut for Grundvidenskab (including chemistry); 2009: Institut for Grundvidenskab og Miljø). They have all gone well, so I was not very puzzled when, the newest fusion came op. Even though I was sad to see, that our very well-functioning department led by Susanne Sørensen ended up by being split between 9 departments!

My neighbor said to me, that a retirement lecture should end by pointing to the future. So let me make a few statements in that spirit:

- I hope that the question about cuspidality for semisimple symmetric spaces $G/H$ can be solved.
- I hope that the ERC shall continuously develop as the place for “the Olympics” in European research. And that the pioneering spirit of the Scientific Committee for ERC will be preserved.
- The research based public-sector service is now part of the university along with research based teaching. I hope these two activities will grow in quality and will develop in mutual respect.
- Related to the “infusion” of the mathematics and statistics group from KVL to HCØ my hope is that, we can preserve and develop the strong KVL-spirit of being at the university not only for our own research, but also in order to assist students and researcher’s from other fields (in particular in applied biological fields) to use mathematics and statistics in an appropriate way.

Finally I want to thank my many colleagues and collaborators within and outside of mathematics and in particular I want to thank my wife, Inger, and our children, Mads and Mikala for their support and bearing with me during the years.

Thank you very much for listening to me and you are all most welcome to the reception on the 4th floor of the Math-building.

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