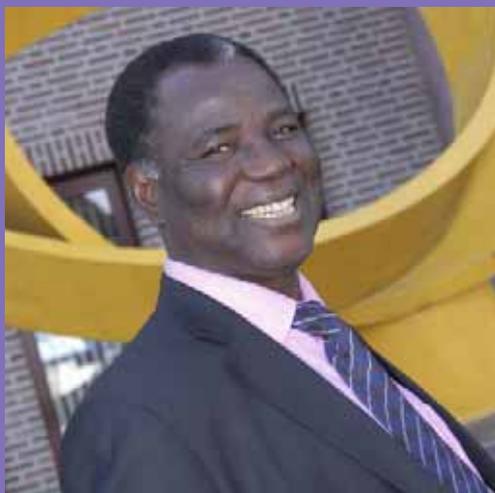


# ITC News



- 59th Dies Natalis
- Rector on farewell trip Asia
- ITC extends agreement UNU
- ITC's first PhD student ever



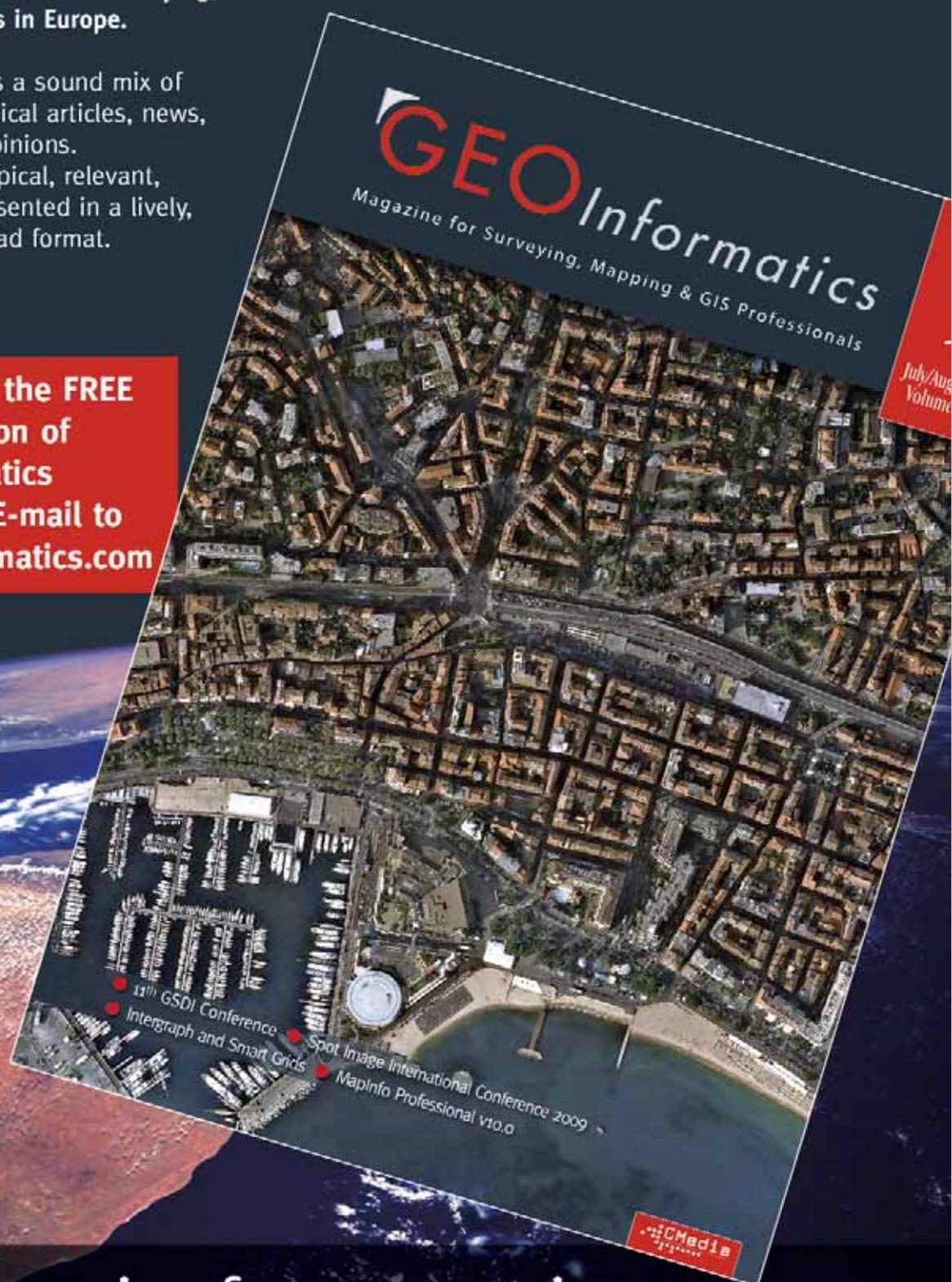
# GEOInformatics

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2009 number 4

## introduction

Presenting the fourth issue of ITC News 2009! Astride the turn of the year, a fourth quarter issue often conjures up mixed emotions, and this one is no exception. As amazing displays of fireworks lit up the midnight sky on 31 December 2009, heralding the arrival of the New Year, ITC the institute became ITC the sixth faculty of the University of Twente. Consequently, the 59th Dies Natalis celebrated on 17 December was a very special occasion indeed. Change was the order of the day, with not only new status for ITC but also a new hand at the wheel. After nine years in the driving seat, Professor Martien Molenaar was stepping down as rector, and it was Professor Tom Veldkamp who picked up the gauntlet – or rather the mace. And as if that wasn't enough, the scheduled programme was interrupted by a unexpected "firecracker". But you can read all about that on page 2.

ITC's mission will remain unaffected, with capacity building for organisations in less developed countries and countries in transition continuing to be the primary focus. Another interview, a different story (page 30). Many alumni and students will be interested to read about the twists and turns in the career of Dr Joseph Akinyede, ITC's very first PhD student. Perhaps these experiences will chime in with their own experiences, perhaps they will suggest the shape of things to come.

Despite the far-reaching organisational adjustments mentioned above, many articles reassuringly demonstrate that it's still business usual – with alumni gatherings in Uganda (page 28) and Chile (page 29), award harvested in various fields of endeavour (page 19, 26 and 31) refresher courses conducted in Uganda (page 15) and Rwanda (page 16), and agreements signed with the United Nations University (page 21) and WaterNet (page 23). In fact "business" is thriving – which indicates a bright and healthy future for the new university faculty.

ITC can look back on an illustrious past, it's true, but resting on laurels has never been a temptation. This integration with UT will bring new challenges, exciting opportunities, and no doubt plenty of surprises along the way. So a new chapter of history is waiting to be written – with a goodly amount of material for ITC News in the process!

Virtually yours, *Janneke Kalf* *Jorien Terlouw*  
Managing Editor Editor

## colofon

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# 59th Dies Natalis

Janice Collins

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***Fifty-nine years old:  
a respectable age  
for any institute  
but in the life of ITC  
an anniversary of  
immense significance.***

If you are a faithful reader of *ITC News*, you will have followed some of the twists and turns over recent years that led to the milestone change in ITC's status that was formalised on Thursday, 17 December 2009. During the ceremony held to mark the 59th Dies Natalis of the Institute, the Deed of Conveyance was signed by Professor Martien Molenaar, rector of ITC, and Dr Anne Flierman, chairman of the Executive Board of the University of Twente (UT), whereby at 0.00 hrs on 1 January 2010 ITC would become the sixth faculty of the University.

And what better venue for such a momentous occasion than the Grote Kerk in Enschede's old market square – only three months ago the setting of the Opening of the Academic Year 2009-2010. So a welcome opportunity to revisit the splendid interior and enjoy the inspirational organ music as the academic cortege filed by.

Taking the floor, Professor Alfred Stein, the deputy rector and master of ceremony on this occasion, extended a warm welcome to Professor Martien Molenaar and his wife



Professor Alfred Stein, the deputy rector and master of ceremony

Julia; Drs Sjaak Beerens and his wife Ella; Professor Tom Veldkamp and his wife Marga; Professor Orhan Altan, chairman of the ISPRS; Mr Peter den Oudsten, mayor of Enschede; members of the ITC Supervisory Board; members of the UT Executive Board; Dr Flierman, Professor Brinksma and Ir Van Ast; members of the UT Supervisory Board; colleagues from the Netherlands and abroad (as far as weather had permitted); members of the Student Association Board and the ITC PhD community; ITC staff and students; and family and friends. "Today we convene for a double event. We will witness the signing of the Deed of Conveyance that transforms ITC into a faculty of the UT (actually this is a pro forma signing only and the official signing will be carried out on 21 December in the presence of a notary), as well as the transfer of rectorship, with Professor Molenaar as the retiring rector and Professor Veldkamp as the incoming dean/rector of the new university faculty."

It was the pleasant duty of Professor Stein to introduce several speakers to the audience that afternoon. First he invited Professor Molenaar, rector of ITC since 2001, to deliver his farewell address entitled *Step down, step forward*. Then, in a departure from the programme, which took both the audience and in particular Professor Molenaar by surprise, Mayor Peter den Oudsten was invited to say a few words. This unexpected addition was followed by the scheduled signing of the Deed of Conveyance, a task performed jointly by Professor Molenaar, representing ITC, and Dr Flierman, representing the UT. Then, with the ink barely dry on the document, it was the turn of Dr Flierman to address those present.

After these momentous events, it was time for the audience to catch their breath. This they were able to do during a musical interlude provided by the Valerius Ensemble, with Carola Ligt on flute, Robert Windak on

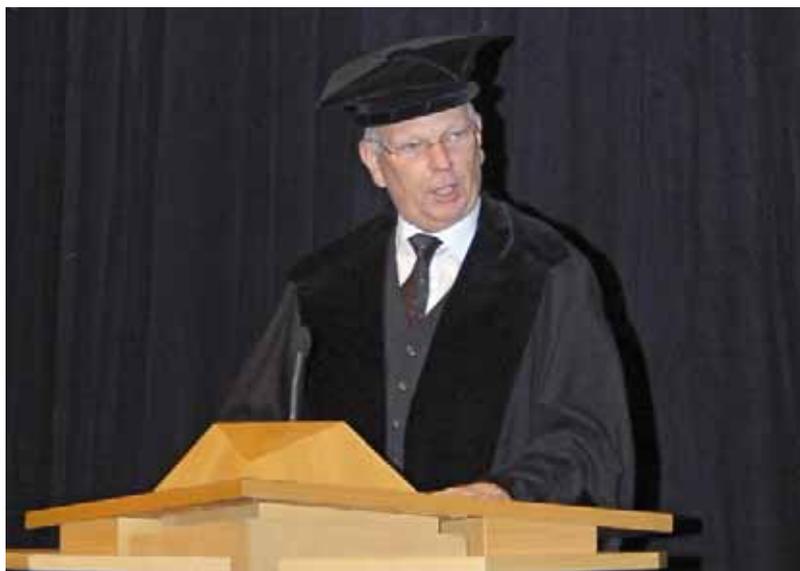
violin, Caro Wiering on viola and René Geesing on cello. Their rendition of Fauré's Pavane and Mozart's Flute Quartet in D KV 285 closed to enthusiastic applause, illustrating not only the sincere appreciation of the audience but also the restorative effect of music.

The second part of the programme opened with the transfer of rectorship, with Professor Molenaar relinquishing "the authority and dignity related to this office" in favour of Professor Tom Veldkamp, who promised to acquit himself of the duties of office to the very best of his ability. There was a rustle of interest and expectation in the hall as the audience settled down to listen to the acceptance speech of the new rector, now charged with the task of guiding ITC within the UT environment.

**Professor Martien Molenaar,  
Retiring Rector ITC**

*Step down, step forward*

Over his nine years as rector of ITC, Professor Molenaar had delivered many speeches and lectures and consequently much had already been said. "So what I now have to add will only be brief – a short sketch of where we came from, where we are going to, and why we are going there. In fact, a last word before I step down at the moment that ITC takes an important step forward."



Professor Molenaar delivered his farewell address entitled *Step down, step forward*

"Sixty years ago, map-making from aerial photography was in full development – a new technology that gave cartography new momentum. Unmapped areas could be mapped much faster than before and it became easier to keep maps up to date. Photogrammetry, a new profession, was born. And Willem Schermerhorn understood its importance, especially for those countries that were freeing themselves from their colonial ties at that time. However, aerial photography was not only important for topographic mapping. During the second world war, the interpretation of such photography proved to be an important tool for reconnaissance. These methods were later developed for urban planning, vegetation mapping, soil survey and earth science applications."

"The International Training Centre for Aerial Survey (ITC)," continued Professor Molenaar, "was founded to train professionals (map-makers from different academic disciplines) in these new techniques. From the early '70s onwards, the traditional photo-interpretation disciplines were injected with new momentum through the advent of new techniques and new sensors for earth observation. The spectral and spatial resolutions of these new sensors improved significantly over these decades. At the same time, the traditional photogrammetric mapping processes based on aerial photography and the use of optical-mechanical instruments became increasingly automated, and with the advent of digital imagery this process and its end products became fully digitised."

As Professor Molenaar went on to explain, we are now becoming accustomed to new media that allow three-dimensional representations of our living environment. "No longer are we only interested in what is where, we are also interested in what happens where. This means that, instead of mapping the state of the Earth's surface, we now monitor processes and endeavour to manage them. And these processes act at different levels, ranging from local to regional, to national, to continental and even to global scales. The processes at the different levels are mutually dependent and interact. Therefore, to facilitate analysis, moni-



toring and management, the information at these levels should be mutually consistent – a great challenge for our disciplines. Indeed, the modern systems for earth observation help us to see what is going on, but you can only really see if you understand what you see. So earth observation requires a profound understanding of the context in which the observations have to be interpreted, and this implies a profound understanding of the disciplines studying the different types of geo-processes – for example, hydrology, earth sciences, wildlife conservation, agriculture or urban land use development, demographic processes or the dynamics of the Earth's gravity field. But the new methods for observation provided by modern technology force the application domains to redefine the observable characteristics of their processes, which may lead to a new understanding. This often leads to new theories or even paradigm shifts in these domains. And perhaps even more important, public awareness of issues such as urbanisation, climate change, sea-level rise, changes in land cover and land use has been created only because these techniques have made them visible – a visibility that often leads to political action.”

The outgoing rector explained that the new observation systems produced large data volumes. “These have to be stored, processed and analysed. And that is where geo-information science plays a role. No longer is mapping the issue, but geo-information handling. The technology again plays an important role, but these data are analysed to produce information about the geo-processes. So therefore again a proper understanding of the physics and the technical and mathematical principles of data acquisition and processing is essential for geo-information science.” Turning to the governance aspects of managing geo-processes, Professor Molenaar said that a deep understanding was highly important to ensure that relevant information was provided for decision making – and provided in the right form, at the right place, at the right time. He added that the present information flows were large, rapid, complex and expensive, and consequently governance of these flows was an issue of growing importance. That was why the tradi-

tional surveying and mapping disciplines developed over the past 60 years had developed into the much wider domain of geo-information science and earth observation.

Among the important aspects of this relatively young academic domain, Professor Molenaar listed:

- the geospatial context of the observed phenomena and processes
- the physics and technology of the information and observation systems
- the governance aspects of the use and provision of this geo-information.

“The developments in these domains are so fast that organisations have to adapt continuously to keep their mandates, working procedures, services and products up to date, as well as relevant to the changing requirements of their ever-changing environment. This means that lifelong learning is essential for these professionals throughout their career – and this is also true for whole organisations. The original idea was that ITC should train map-makers from developing countries and that after some 25 years sufficient capacity would be available to do the job. This idea has fundamentally changed over the past six decades. We still educate mid-career professionals but the setting is lifelong learning rather than one-time training, and academic education rather than professional training. Most students at ITC have a university degree and they have been working for six or seven years. They come to ITC for additional education in geo-information science and earth observation to complement their earlier education, and then return to their organisations to introduce newly learned methods and working procedures. Furthermore, increasingly they are coming for research training – to learn a fundamental research approach to tackling the complex problems in their home countries. And this means that the mission of ITC is still capacity development.”

Bringing his story full circle, Professor Molenaar said that Willem Schermerhorn had “hoped that universities would recognise the domain of ITC as an academic domain. He also hoped that universities would consider capacity development as one of their tasks and that ITC could be integrated into the university system. Although he never

saw his dream come true, the dream continued. First the universities obstructed this integration; later in the 1980s and early 1990s ITC and its sister institutes did not see this as an appropriate development. But now, finally, the time appears to be ripe for a definite step. I have sketched how the professional domain of ITC has developed into a true academic domain, with many links to other disciplines, and how research has become increasingly important. We have also seen our partnerships in our target countries shifting from professional organisations to universities and research institutions. So now that the domain of ITC has developed into a full-grown academic domain – and with the rapid internationalisation of higher education worldwide – it is indeed the right time for the integration of ITC into the university system. At midnight on New Year's Eve, ITC will join the University of Twente as its sixth faculty, a faculty *sui generis*, indicating that capacity development has been accepted as one of the tasks of the University. After almost 60 years, the dream of Willem Schermerhorn will finally be fulfilled."

And then one last thing. Referring to the present debate about the effectiveness of development, Professor Molenaar said, "Since my student days in the 1960s, I have had a strong belief in solidarity between the strong and the weak, and that counts for both people and countries. I think indeed that after 60 years the time is ripe for reconsidering the assumptions on which the idea of development cooperation has been based. The initiative should lie much more with the recipient countries, but then they should be able to set their own priorities and formulate and implement their own strategies for development. To do so, they must have access to good education, and capacity development is an effective instrument in this context."

For an interview with Professor Martien Molenaar entitled "Go with the Flow towards Your Targets" See [www.gim-international.com/issues](http://www.gim-international.com/issues) GIM International issue 1, vol. 24, January 2010 published by Geomares Publishing

Now entering the home straight, Professor Molenaar reflected over the past nine years from a more personal perspective: "It was hard work, it was exciting and I enjoyed every minute of it. It was a privilege and a real pleasure to serve the Institute in this position – and I can say that because ITC staff and students form a very special community. I thank you all for your enthusiasm, motivation, and readiness to take initiatives and make them work."

So the time had come to step down. But it was also time for ITC to take a step forward, and so Professor Molenaar closed by wishing Professor Veldkamp, Ms Erna Leurink, managing director of the new faculty, and the ITC community as a whole every success in the future.

**Mr Peter den Oudsten, Mayor of Enschede**  
At the invitation of the master of ceremony, somewhat unexpectedly Mr Peter den Oudsten now took the stand. "Ladies and gentlemen, it is not an annual activity of the mayor of Enschede to address the audience at the ITC Dies. It is only on rare and extraordinary occasions that I will ask for the floor – and today is one such occasion. And because I am going to perform a Dutch ceremony, I hope you will forgive me for proceeding in Dutch."

The mayor said that the retirement of Professor Molenaar as rector of ITC put him in mind of the historic moon landing: a seemingly small step down but a giant personal leap into the future. Summarising



Mr Den Oudsten presented Professor Molenaar with the medal of the Order of Orange-Nassau

Professor Molenaar's long and illustrious career, he said that he was nationally and internationally recognised as an expert in the field of geo-information sciences and had played an important role in the breakthrough of geographical information systems in cadastre, town planning and spatial planning, both in the Netherlands and in developing countries. At the helm of ITC, he had contributed to the education, research and international positioning of the Institute, thereby consolidating its international reputation. He had also furthered cooperation with Dutch universities and, with an eye to developing knowledge in the customer countries, had pursued the sometimes thorny path of integration with the UT.

All these efforts had not passed unnoticed, and today Mr Den Oudsten, on behalf of Her Majesty Queen Beatrix of the Netherlands, had the privilege to present Professor Molenaar with the medal of the Order of Orange-Nassau. Obviously moved by both the award and the enthusiastic applause, Professor Molenaar thanked Her Majesty for honouring him with this distinction, as well as those people behind the scenes who had supported his nomination. He emphasised that this honour symbolised not only personal recognition but also recognition of the entire community of ITC.

#### Signing of Deed of Conveyance

It was now time to proceed to the ceremonial signing of the Deed of Conveyance, the text of which is as follows:

*We hereby declare*

- 1 That we have completed our negotiations on the integration of ITC in the University of Twente as the Faculty of Geo-Information Science and Earth Observation.*
- 2 That we both fully agree on the conditions under which this integration will be realised.*
- 3 That these conditions have been formulated in the Acte van Overdracht van Activiteiten, including attachments.*
- 4 That the Minister of Education, Culture & Science and all relevant parties within ITC and the UT agree with the integration.*
- 5 That we will sign this agreement and its attachments on the 21 December 2009 in the presence of a notary.*
- 6 That the transition of staff, activities and assets has been carefully prepared.*
- 7 That the integration will be a fact on 1 January 2010 at 00.00 hrs.*

As Dr Flierman and Professor Molenaar set their signatures to the declaration that afternoon, those present in the Grote Kerk were witnesses to history in the making.

**Dr Anne Flierman,  
Chairman of UT Executive Board**

It now fell to Dr Flierman to say a few words on behalf of the UT Executive Board and he opened by congratulating Professor Molenaar and his family on the great honour that had just been bestowed on him – "a distinction well deserved for excellent service to ITC over a number of years, and certainly over the last few years in the par-



Ceremonial signing of the Deed of Conveyance



ticipative process to bring about this integration. As I see it, the process began eight years ago when the University became penholder for ITC, a rather strange form of relationship that gave the University some authority and responsibility regarding ITC while simultaneously ensuring that the Institute's independence remained largely intact". Tracing the strengthening of the relationship through the Declaration of Intent in 2006 and a formal agreement in 2008, Dr Flierman said that the process had sometimes been likened to the preparations for a wedding – with today as the wedding day. "And now let me say why this University and ITC were made for each other, and particularly why we from the UT perspective are so happy to celebrate this occasion."

"First of all, ITC will make an important contribution to the critical mass of the University in terms of both budget and student numbers. Together ITC and UT have over 9,000 Bachelor/Master students and, if we include our PhD candidates as students, the total number of students will be only slightly less than 10,000. The integration of ITC into our University offers the perspective of further growth and, more importantly, ITC's profile fits perfectly with that of UT – a modern university of technology where, by combining technology and social sciences, we work with ways of applying cutting-edge technology for the benefit of society and seek to contribute to solving the great issues of our times, such as sustainability, climate, health and safety, and security. ITC's expertise is relevant not only to the developing world but also to the developed world. It opens the way to expanding our joint activities, both in education, where we can look at new, initially publically funded, Master programmes in geo-information and earth observation, and in research, for example in the fields of water management and information & communication technology."

Referring to a recent meeting of the UT management team, Dr Flierman said that it had once again been emphasised that for UT, as for any modern university, internationalisation was a *conditio sine qua non*. "A constant inflow of Master degree students and PhD candidates will be essential for our University, not only to compensate

for those students who on completing a Bachelor degree leave for the Randstad but also to create a truly international atmosphere. With its excellent worldwide reputation, ITC can help us to develop new links, promoting ITC as a university faculty, the university as a whole, and indeed Twente. By the nature of its activities, ITC has enormous experience in working with international students here in Enschede, experience that will definitely help us to create an international climate around the campus. Furthermore, it will bring an important new network to the University, and we can learn something from ITC in that sense. Another interesting element in ITC's activities is that it not only attracts students to Enschede, it also participates in education programmes abroad. This international experience will benefit the whole university, especially when we consider our strategic focus on technology and its application. 'Colourful City' has been the slogan of Enschede for quite some time, but with ITC as our sixth faculty colour will now truly arrive at our University as well."

Drawing to a close, Dr Flierman reaffirmed his belief that both ITC and UT would benefit enormously from this integration. "In a unified new organisation, they will be able to act more strongly and have a greater impact at both national and international level. Combined education and research, existing and new, will open up hitherto unexplored pathways for the development and dissemination of knowledge and skills to the benefit of many nations around the world where graduates of our University in its new form will go to live and work."

#### Transfer of Rectorship

For almost 60 years, the rector has been the leader of the Institute, his authority being symbolised by the mace. The ITC mace is a somewhat special one. It was carved in Nigeria by Mr Hassan, a descendant of Oduduwa, the founder of the Yoruba race who established Ile-Ife as the capital of the Yoruba Empire. Its main characteristic is the curl at the top, representing the logo of the Institute. The mace was presented to ITC in 2003 by Dr Jide Kufoniyi, ITC alumnus and at that time executive director of RECTAS in Nigeria.

In his capacity of master of ceremony, Professor Stein now invited Professor Molenaar, Professor Jaap Besemer (chairman of the ITC Supervisory Board), Dr Flierman and Professor Veldkamp to come forward.

"At midnight on 31 December 2009, my terms as rector of ITC come to an end," said Professor Molenaar, handing the mace to Professor Besemer. "With the integration of ITC into the University of Twente, I will have completed my assignment." Accepting the mace as a token of Professor Molenaar's resignation, Professor Besemer then passed it to Dr Flierman, and in so doing transferred to him the authority to install the new rector of ITC, who would likewise be the dean of the new university faculty.

Dr Flierman then welcomed ITC as a new faculty in the University and handed the mace to Professor Veldkamp, thus installing him as dean of the new faculty and bestowing on him the title of rector of ITC.



Dr Flierman handed the mace to Professor Veldkamp

**Professor Tom Veldkamp,  
New Dean/Rector ITC**

In opening, Professor Veldkamp said, "It is an honour and a privilege to become the sixth rector of ITC and dean of the new faculty, and it is with great pleasure that I accept the tasks and responsibilities that go with this position. With my background in tropical soil science, I fit well within the disciplinary orientation of past rectors. As such, a tradition continues; at the same time,

with the integration of ITC into UT as the sixth faculty, a tradition comes to an end. But ITC will be no ordinary faculty. It aims at capacity building and institutional development of professional and academic organisations and individuals, specifically in countries that are less developed in terms of economy and technology. With this main mission, ITC does not have only the traditional academic focus on the advance of pure science and research. No, its aims are to actually use the education and scientific advancements to contribute to relevant concrete developments to strengthen these developing countries. And I think this aim fits in very well with the overall aims of UT."

Professor Veldkamp went on to say that 60 years of capacity building efforts had contributed to higher levels of education and knowledge in many developing countries. In fact, in the last week he had been in Kenya, in an area where he had been working since 1985, and the growth in both education and scientific level at the Kenyan institutes during recent decades was clearly evident. "For ITC to be and remain a relevant partner for such institutions, it has to provide state-of-the-art courses and offer higher-education programmes. As such, the move from independent institute to university faculty is a logical step in this evolution."

Although this did not imply that ITC would concentrate only on MSc- and PhD-level programmes, Professor Veldkamp expected that the main body of activities would continue to shift in this direction. Within this context, "research is a necessary activity to develop the scientific level and prestige of the new ITC faculty. High-level research programmes are a requirement for a successful PhD programme and, as such, can be viewed as our own capacity building programme." Turning now to the contents issue, the incoming rector said that the ITC domain of geo-information and earth observation "is one that could and should be strengthened within academia both in the Netherlands and globally. ITC is already renowned in many developing countries but is less so outside those countries. ITC should work on achieving a more global recognition of its scientific niche, and collaboration with UT will help us to achieve this goal."



"It is an honour and a privilege to become the sixth rector of ITC and dean of the new faculty"

Originating from Wageningen, Professor Veldkamp had used the past months to become better acquainted with ITC and, based on his preliminary analysis, he considered ITC to have three main strengths or pillars:

- it has a longstanding high-level tradition and experience in multicultural training and teaching in developing countries
- it is one of the largest knowledge institutes in geo-information and earth observation in the world
- it has excellent integrated facilities to support teachers, researchers and students in their respective tasks.

"We as the faculty ITC should strive to reinforce these three pillars and build our future on them. Furthermore, we should continue to improve ourselves, not because we have to but because we want to. In my view, ITC's mission is the only reason why the faculty has the *sui generis* status. It should never be an argument or an excuse for lesser quality in education or research."

Reflecting on the supportive and effective roles played by many at ITC and UT in reaching this point, Professor Veldkamp said that "ITC should not worry about institutional change. This happens and it will always happen. But the aim is to guide the organisation to a more professional and more academic environment. ITC is moving into the University as a new faculty, and we hope that the final integration in the coming years will be as smooth as the process over the last three years. I'm looking forward to our common future. In the first half of 2010, ITC as a faculty will develop a new strategic plan in which we will specify our goals and ambitions for the next years. And they will undoubtedly fit very well within the ambitions of UT."

Approaching the end of his speech, the incoming rector's final words were directed at the students. "They often originate from developing countries, investing their time and efforts in advancing themselves and their nations. Their efforts also help ITC to advance, and we could consider this as an example of co-evolution, where ITC and the students try to bring out the best in each other. But society has changed; demands and attitudes have changed. At ITC, we always have to walk a thin line between, on the one hand, encouraging and supporting the students as much as possible and, on the other, strictly maintaining quality and service provision. I hope we can maintain our high quality standards without losing the family atmosphere so characteristic of ITC. Together we have the capacity, the means and the will to create a bright future for the faculty of ITC."

#### Conclusion

Taking the floor for one last time, Professor Stein thanked Professor Veldkamp for his stimulating words on the eve of an exciting new period in the history of ITC. It had been a busy afternoon for the master of ceremony but, after weaving the disparate elements of the varied programme seamlessly together, it now only remained for him to invite all those present to attend the reception in the annex of the ITC restaurant, where there would be the opportunity to shake hands with the outgoing rector and incoming dean/rector.

# Rector on Farewell Trip to Asia

Marjan Kreijns

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***Since its establishment, 60 years ago, ITC has always been very active in Asia.***

***It is the continent from which most ITC alumni come, and countries such as Indonesia, Thailand and India rank at the top of the list in terms of numbers of ITC alumni.***

***Numerous projects have been implemented in this part of the world as well.***

Thirty years ago, China opened its doors to ITC, initiating cooperation in the field of education, research and projects. Since then, this relationship has flourished and now there are many contacts at many different levels.

In Vietnam too, ITC played an important role in the GIS and remote sensing sector after its "renovation" policy (*Doi Moi*). This renovation policy, announced in 1986 and comprising a shift from a centrally planned economy towards a more open market economy, focused on replacing cooperative-based agricultural production with household-based production. Land reform was an important component of the *Doi Moi* policy and ITC has been assisting the Vietnamese General Department of Land Administration in their capacity building needs. The cooperation with Vietnam is still growing every year and expanding to many different sectors (e.g. disaster risk management, forestry, climate change, mineral resources).

Nowadays Asia is advancing and has experienced a tenfold increase in the number of university students over the last 25 years – with more and more universities in the top rankings (e.g. Shanghai Ranking). The high quality of education and research has made Asian organisations important partners of ITC.

To further stimulate and build on the network, ITC embarked on a strategy to set up regional representative offices in Asia. Since 2000, the office in Beijing has represented ITC in China and Mongolia. The office in Bangkok is responsible for the activities in Southeast Asia. These regional offices have led to a large network of partners and clients, and an increase in the number of (PhD) students and projects and in research

and education cooperation in Asia.

In view of ITC's strong relationship with Asia, Professor Martien Molenaar scheduled a farewell trip as rector of ITC to personally bid farewell to important partner organisations, clients and alumni in Asia.

His last trip to Asia as rector of ITC started in Thailand. In Bangkok, Professor Molenaar was one of the key speakers during the roundtable workshop at the Asian Institute of Technology (AIT) that celebrated AIT's 50th anniversary. Moderated by Mr Jean-Pierre Verbiest, country director Thailand Resident Mission, Asian Development Bank, and chair AIT Board of Trustees, the workshop was attended by representatives from ADB-Manila, UNESCO, UNDP, the Thai government, embassies, companies and partner institutes, as well as AIT alumni. In the course of delivering his contribution entitled *Changing role of higher education in development cooperation*, Professor Molenaar remarked that development cooperation was no longer a North-South activity, because the world had changed. No longer was it an issue of countries being rich or poor, but an issue of regions being rich or poor. Development cooperation needed to consider helping poor areas to participate in global delivery chains and networks.

Professor Molenaar said that the business model was changing because the ICT architecture of organisations was altering rapidly. More and more tasks were being outsourced by governments and hence capacity building had to consider the private sector as well. "The time horizon for investments has changed, and some professions are now changing or even disappearing," said Professor Molenaar. He added that learning was no longer a one-time affair but a life-

long process. Referring to joint education programmes, he said that the delivery modes for education were also changing – from an institute-oriented approach to a programme-oriented approach, with e-delivery though educational networks also throwing up new challenges.

The celebration at AIT was followed by a visit to the office of the Commission on Higher Education (CHE) of the Thai Ministry of Education. CHE is seeking closer collaboration with universities and research institutes abroad. Last year, a CHE delegation visited ITC in Enschede and was impressed by its knowledge and quality in the field of GIS and remote sensing. As a result, a consortium of five Thai research universities was formed to embark on education and research cooperation with ITC in this field. Dr Chris Mannaerts of ITC's Department of Water Resources accompanied Professor Molenaar on the visit to discuss cooperation in his sector, and also visited Chulalongkorn University and Chiangmai University to further investigate possibilities for joint research. As a follow-up, ITC staff made visits to the other universities in the consortium.

Dr Dhruva Shretha organised a workshop at Naresuan University in Phitsanulok on erosion and sustainable agriculture and Professor Vosselman gave a guest lecture to a large audience and a master class for a limited group of PhD students at Chulalongkorn University concerning the field of laser scanning. These visits confirmed the great interest on both sides in collaborative research activities, and it was agreed that CHE and ITC would work out modalities to implement the ambitious joint research programme in 2010.

A farewell dinner for Professor Molenaar was organised at the residence of ITC representative Ms Marjan Kreijns. During his speech, the departing rector explained the changing situation at ITC but stressed that the link with partners and alumni in Thailand would remain the same.

The highlight of the visit to Thailand was an audience with HRH Princess Maha Chakri Sirindhorn at the Chitralada Palace. Hidden away in the heart of bustling Bangkok is a very unusual place, a huge open area with a dairy farm, rice paddies, a forest with large



Visit to the office of the Commission on Higher Education: Deputy Secretary-General Dr Chantavit Sujatanond

An audience with HRH Princess Maha Chakri Sirindhorn



Participants workshop AIT: The Next 50 Years

native trees, and a group of small factories. Surrounded by high walls and guarded by soldiers and police, Chitralada is part of the main compound of His Majesty King Bhumibol Adulyadej, who is the longest reigning monarch in the world. But inside, Chitralada is nothing like people's usual idea of a royal property. It looks more like an experimental farm, one that you'd expect to see in a rural area rather than in the heart of a city inhabited by at least 10 million people.

The king's daughter, HRH Princess Maha Chakri Sirindhorn, is very actively involved in the activities at Chitralada's agricultural research farm, which are primarily aimed at boosting the income and knowledge of Thai farmers and the Thai people in general. She received our delegation – comprising Professor Molenaar, Dr Mannaerts and Marjan Kreijns, accompanied by staff from the Netherlands embassy – at her palace at Chitralada.

In 1989, the princess paid a special study visit to ITC in Enschede, and in 1996 she officially opened the ITC building at Hengelosestraat. In a warm and open conversation on many issues of common interest, she reminisced about her visits to ITC and, on receiving an invitation from Professor Molenaar to visit the Netherlands, she expressed her interest in visiting ITC again in 2010.

We considered it a great honour that the princess took so much time to receive our delegation and to renew the relationship with our Institute. The delegation was extremely impressed by the guided tour around the Chitralada compound. That same evening, our visit was broadcast on the eight o'clock Royal News on national Thai television.

From Thailand, the delegation travelled to Vietnam. In Hanoi, the ADB-funded GITHRA project was officially opened at the Water Resources University (WRU; see page 21).

In addition to the relationship with the WRU, Professor Molenaar signed Memoranda of Understanding with two other Vietnamese universities to provide a frame-

work for an academic partnership in education and research. The partnerships with the Hanoi University of Science (HUS) and the Hanoi University of Mining and Geology (HUMG) will enhance the academic skills and research activities in both universities and will assist in coordinating the exchange of staff and academic materials and in organising joint courses and research activities. With the assistance of the Netherlands and the Vietnamese government, these partnerships will be further developed into full joint programmes in 2010. Professor Molenaar visited the Netherlands embassy in Hanoi and expressed his gratitude to the Dutch ambassador in Vietnam, Mr Joop Scheffers, for the continuous support for our activities in Vietnam.

The programme in Vietnam is flourishing. At the moment of writing, a new project has just been awarded by the Dutch government to ITC in the field of land administration, to be carried out in cooperation with HUS; a refresher course with HUMG has been approved; and a World Bank project on natural disaster risk management, in partnership with WRU, is in the final stages of negotiation. The relationship with these three strong academic partners in Vietnam is most valuable and will accordingly lead to more cooperation and externally funded projects.

After some very hectic days in Thailand and Vietnam, full of interesting meetings, workshops and delicious lunches and dinners, Professor Molenaar continued his farewell trip to China – another highly valued partner country of ITC. His visit to China was prepared by the ITC office in China and Mr Chang Zheng accompanied the rector during his visit.

Within the network in China, ITC has particularly strong relationships with governmental organisations, such as the Ministry of Land and Resources, the State Bureau of Surveying and Mapping (SBSM) and the China Meteorological Administration. It also has many links with the academic society in China, notably with the Chinese Academy of Science, Wuhan University, Tsinghua University and Chang'an University.

As time was limited in China, Professor Molenaar paid visits to SBSM and Wuhan University. ITC's involvement in China started with cooperation with the National Bureau of Surveying and Mapping (NBSM, the former SBSM). ITC assisted NBSM in establishing a centre for urban planning and management at the Wuhan University of Surveying and Mapping. This centre is now the School of Urban Design (SUD) at Wuhan University. Last year, during IRSPS 2008 in Beijing, ITC and SBSM celebrated 30 years of successful cooperation.

In the recently opened new SBSM headquarters, Professor Molenaar met Mr Xu Deming (director-general of SBSM). ITC's rector also gave a keynote speech entitled



Meeting with the rector of HUS



Visit to the HUMG museum



Students at work in Vietnam



Dinner with WRU rector and staff



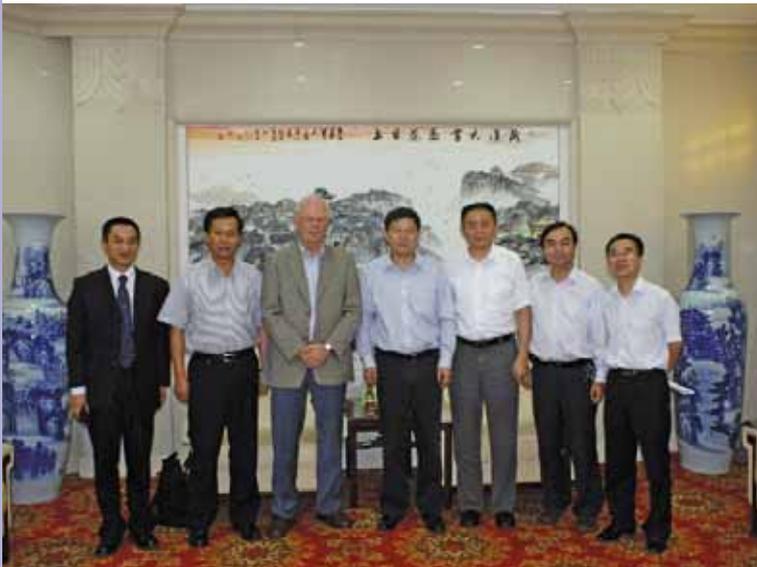
Dinner with WRU rector and staff

“Good governance requires good geo-information” at the conference Geo-spatial Solutions for Emergency Management, which was organised on the occasion of the 50th anniversary of the founding of the Chinese Academy of Surveying and Mapping (CASM, the affiliate organisation of SBSM). Professor Alfred Stein and Professor John van Genderen of ITC, who are both honorary professors at CASM, also participated in the conference.

At Wuhan University, Professor Molenaar was welcomed by Professor Li Qingquan (vice-president), Professor Liu Yaolin (dean of the School of Resource and Environment Science) and Professor Zhan Qingming (vice-dean of SUD). During some interesting discussions, both sides agreed that the cooperation between ITC and Wuhan University should also look ahead, beyond the education cooperation in the past, and both sides

will also take steps to apply for joint projects. For example, there are several national projects in China, such as project 973 (the National Basic Research Programme), Project 863 (the National High-Tech R&D programme) and the National Natural Science Fund.

During the visit, all ITC partners were informed about ITC's coming integration with the University of Twente on 1 January 2010. Professor Molenaar confirmed to the partners that ITC's cooperation in Asia will be maintained, and that the integration is likely to bring some new opportunities because it will lead to an even bigger platform for future cooperation.



Meeting at Wuhan University



CASM conference, Beijing

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# education news

## Refresher Course on SDI and E-Governance in Kampala, Uganda

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Makerere University in Kampala, Uganda, hosted the refresher course Designing and Utilising Spatial Data Infrastructures for Effective E-Governance in Eastern and Southern Africa from 12 to 23 October 2009. The course preceded the AfricaGIS 2009 conference. Nineteen participants from seven Eastern and Southern African countries participated.

The course content focused primarily on the governance aspects of information infrastructures and SDI, and on the linkage of more technically oriented views (design) with more socio-organisational and politically oriented views (cultivation) on SDI development. Part of this linkage formed the question of whether to approach SDI organisation from a top-down approach or from a bottom-up approach. Other essential issues dealt with included socio-technical networks, inter-organisational data sharing, cooperation and coordination, and government-citizen interaction.

The Ugandan SDI context became apparent through visits to three organisations in Kampala: one private



Group picture of course participants

organisation, GIC, and two from the public sector, NEMA and UBOS. Each organisation was working with spatial data, and was directly or indirectly contributing to the Ugandan SDI. In addition, Bernard Muhwezi of the Ugandan Bureau of Statistics, who is active in forming a platform for SDI development, gave a presentation.

All participants had the opportunity to present and discuss their own experiences during this refresher course. Throughout the deliberations, it became clear that many seeds of SDI and e-governance have already been sown in Southern and Eastern Africa – although interlinking

individual initiatives remains an important need. For that reason, at the end of the course the participants formed three open research and educational platforms to continue their common interests in the SDI and e-governance topic within the Eastern and Southern African context.



Visit to Ugandan organisations



Participants discussing SDI



## Refresher Course: Use of Low-Cost Earth Observation Data in Environmental and Climate Monitoring Applications

### Extending the African Union-AMESD Initiative

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This refresher course was conducted at the Geographic Information Systems and Remote Sensing Research and Training Centre (CGIS-NUR), Butare, Rwanda, from 5 to 16 October 2009. CGIS-NUR serves as a national and regional training and research outreach centre of excellence in the field of geographical information systems and remote sensing. Its aim is to promote a spatially literate society by serving as a recognised multidisciplinary training and research centre in GIS and remote sensing technologies and applications, and addressing issues of local, national and regional importance, such as societal and economic transformation and sustainable development.

From the large number of applications for the refresher course (over 170), 28 participants were finally selected. In addition to the NUFFIC sponsorship, funds from the ITC Capacity Building Fund could be utilised. The selected African participants came from Chad (1), Ethiopia (5), Ghana (1), Kenya (4), Sudan (1), Tanzania (1), Uganda (3), Zambia (3), Zimbabwe (1) and Rwanda (8) – mainly from CGIS and various NUR faculties.

The course was designed for mid-career professionals who are active in the field of land and water resources management, governmental staff dealing with meteorology-, environment- and water-related affairs, and lecturers and researchers of relevant departments at African academic institutions.

The course objectives were to:

- provide an update of recent developments supporting environmental and water resources analysis and management and meteorological and climatological monitoring in the African region, and more specifically an update of the contributions of GEONETCast and AMESD
- build on the existing capacity to use remote sensing and GIS in relation to environmental and water resources management issues and linkage to *in situ* observations
- build capacity in meteorology-, environment- and water resource-related data extraction, data preparation and data exchange using Geo(-IT) tools, such as the GEONETCast toolbox developed as a plug-in under ILWIS 3.6 Open, scripting and batch routines for

multi-temporal image processing, and web mapping services for the presentation of results

- apply images and products provided through the GEONETCast environmental data dissemination system, utilising the ground receiving system established at CGIS-NUR in 2006, and develop an own application related to environmental and water resources monitoring.

The course started with an overview of the various international initiatives that are currently being implemented or proposed for the near future in Sub-Saharan Africa. Further information was then provided on GEONETCast, the system infrastructure (including an on-site demonstration), and the images and data products dissemi-



The participants after the opening session (under the GEONETCast receiving antenna)

Inset shows the opening by the CGIS director and the NUR vice-rector of the new lecture room equipped with 30 computers and connected to the local area network

nated, and subsequently the capabilities of the GEONETCast toolbox developed under ILWIS 3.6 Open were shown. These lectures were followed by various practical assignments where the participants became further acquainted with the various sources of near real-time information provided. On the Saturday, there was an excursion to Nyungwe National Park and the Rwanda-Congo border at the southernmost part of Lake Kivu. During this excursion, a visit was also paid to a climatological tower with various measurement devices, and the data recorded by the logger was transferred to a laptop for further assessment of the *in situ* data later on.

During the first two days of the second week, a guided set of exercises was followed, using images recorded by the SEVIRI instrument onboard Meteosat 9. The purpose was to understand the characteristics of measurements covering different ranges of the electromagnetic spectrum, to access the archive and import single event or time series of data, and to

apply different, or a combination of, spectral channels for applications related to the environment, meteorology, water resources, disasters and climatology. During the remainder of the course, participants had to develop their own applications using the various images and data products received by the CGIS-NUR GEONETCast ground receiving station. Over 15 different applications were finally presented, covering a wide range of subjects concerning the environment, water resources and climatology. Through developing applications, the participants demonstrated the ability to use the data, perform the analysis, and present the results in the forms of maps, time series animations, and even as a web mapping service for informed (and timely) decision making.

At the conclusion of the course, certificates of attendance were presented by Minister S. Kamanzi from the Rwandan Ministry of Natural Resources, with closing remarks from Ms Bernot Ullerö of the NUFFIC Capacity Building and Scholarships

Directorate, the Netherlands. Participants expressed their satisfaction regarding what had been achieved during this refresher course, and a number of participants will try to set up their own GEONETCast ground receiving facilities for work purposes in the future.



Reading the logger of the climatological tower installed at the Nyungwe National Park headquarters



Minister S. Kamanzi, Rwandan Minister of Natural Resources, together with the course participants during the closing ceremony



## Short Course on Land Policy and Land Administration at Hanoi University of Science

Paul van der Molen

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From 26 to 30 October 2009, the short course Land Policy and Land Administration in a Changing World: Theoretical and Practical Aspects took place in the main building of Hanoi University of Science (HUS).

The course was delivered by Professor Paul van der Molen, who holds the Chair of Cadastre and Land Administration at ITC. The course was part of intended broader cooperation between HUS and ITC in this domain. From the HUS side, Dr Tran Anh Tuan and Dr Tran Quoc Binh of

the Faculty of Geography were responsible for the organisation of the course. Some 26 experts from various Vietnamese government and academic institutes participated.

During the opening ceremony, the rector of HUS, Professor Bui Guy

Cam, emphasised his support for the cooperation. During the closing ceremony, the happy duty of presenting the certificates to the students fell to the vice-rector of HUS, Professor Nguyen Van Noi. Former vice minister, Professor Dang Hung Vo, who is now a professor at HUS, attended some of the course sessions in order to demonstrate his support. Finally, the course participants themselves showed their satisfaction by awarding it an average mark of 8.6.



Course banner

**For more information about the School of Land Administration Studies:**  
[www.itc.nl/unu-las](http://www.itc.nl/unu-las)



The course was conducted by Professor Paul van der Molen



Mr Do Duc Doi, deputy director-general Department of Lands, explaining the current situation in Vietnam to the course participants



Course participants

## Refresher Courses 2010

Refresher courses, which are certificate of attendance courses (mostly of two-week duration) organised for alumni in their home countries or regions, are meant to increase the impact and prolong the effect of earlier training.

Refresher courses are funded mainly by the Netherlands Fellowship Programme (NFP). In principle, the target group of these courses consists of alumni who have completed any NFP-funded training or education at least two years before the planned starting date of the relevant refresher course. Colleagues and supervisors of alumni are also allowed to participate in (part of) a refresher course.

In 2010 ITC will co-organise seven refresher courses:

- Participatory Approaches to Slum Upgrading and Management (Kenya)
- Modern Techniques for Environmental and Sustainable Development of Earth Resources (Ethiopia)
- GEONETCast-Toolbox for natural and water Resource Management (Ethiopia)
- Preparing for Adaptations to Climate Change in West Africa (Burkina Faso)
- Strengthening Local Land Governance; Multi-stakeholder Approaches (Tanzania)
- The Application of GIS and Remote Sensing to Geologic Mapping and Mineral Resources Exploration (Tanzania)
- Modern Geo-Engineering Technology to Advance Environmental Management (Vietnam)

More information will be available soon at [www.itc.nl/Pub/Study/CourseFinder](http://www.itc.nl/Pub/Study/CourseFinder)

# research news

## ITC PhD Student Ms Van Wins EAGER Award

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In cooperation with the government of Vietnam and the Department of Geology and Mineral Resources of Vietnam, the Coordinating Committee on Geoscience Programmes in East and Southeast Asia (CCOP) organised the 46th CCOP Annual Session and the 54th CCOP Steering Committee Meeting from 18 to 23 and from 24 to 25 October 2009, respectively, in Vungtau City, Vietnam.

During the CCOP session, the EAGER awards for research were presented, one going to ITC PhD student Ms Nguyen Thi Hai Van for her research entitled "Multi-hazards risk assessment for an urbanised mountainous area in Vietnam: implications for urban planning and design".

Ms Van's research had already attracted the notice of the government and academics in Vietnam and now it is also claiming the attention of scientists in Asia. Her supervisors, Professor Victor Jetten and Dr Dinand

Alkema of ITC and Professor Tran Tan Van of the Vietnam Institute of Geosciences and Mineral Resources (VIGMR), can be very proud of her. The award is an enormous incentive to continue this interesting and much needed research and assist Vietnam in its climate change adaptation strategy.



Dr Joseph L.J. de Sonnevile, vice-chairman of the CCOP Advisory Group and director of international affairs at the Dutch Institute Deltares, presented the award certificate to Ms Van

## PhD Student Selected for Alexander Goetz Instrument Programme 2010

Communication Department

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Last week ASD Inc. announced the recipients for the Alexander Goetz Instrument Support Programme 2010. The annual programme encourages novel, unconventional and/or fundamental research. The Goetz Programme is co-sponsored by ASD Inc. and the Geoscience and Remote Sensing Society, a member

organisation of the Institute of Electrical and Electronic Engineers.

Four very worthy project proposals were chosen from those submitted. One of the programme recipients is ITC PhD student Sabrina Carvalho (see photo on page 20).

Sabrina and the other recipients constitute a great representation of the diverse cross section of disciplines utilising reflectance spectroscopy in the field.



Sabrina Carvalho, PhD Student

Title:  
Linking invasive plants' seasonal spectroscopy variation to their chemistry and soil biotic resistance factors

Research team:  
Professor Andrew Skidmore, Dr Wim van der Putten, Dr Martin Schlerf, Dr Mirka Macel

Faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente; Department of Terrestrial Ecology, Netherlands Ecology Institute (NIOO-KNAW)

PhD student Sabrina Carvalho recipient for the Alexander Goetz Instrument Support Programme 2010

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# partnership news

## ITC Extends Current Agreement with United Nations University until 2014

Communication Department

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On 13 November 2009, the United Nations University (UNU), represented by its rector Professor Conrad Osterwalder, and ITC, represented by its rector Professor Martien Molenaar, extended the current agreement appointing ITC as an associated institution until 2014. The agreement was extended because of the progress achieved between UNU and ITC in successfully implementing the capacity building programmes in the fields of disaster geo-information management and land administration that were mentioned in the initial agreement. ITC and UNU want to develop this relationship further, for the mutual benefit of both organisations.

With the extension of this agreement, joint programme activities will be developed on disaster management and land administration which are designed to serve institutions with tasks in disaster reduction and land administration, with emphasis on sustainable development.



As an associated institution of the UNU, ITC contributes to the UNU mission, which is "to contribute, through research and capacity building, to efforts to resolve the pressing global problems that are the concern of the United Nations, its Peoples and Member States".  
[www.itc.nl/Pub/organisation/United\\_Nations\\_University.html](http://www.itc.nl/Pub/organisation/United_Nations_University.html)

## Geo-Information Technology for Hazard Risk Assessment (GITHRA) in Vietnam

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In September 2009, after a long and complicated tendering procedure, ITC was awarded the contract for the GITHRA project by the Asian Development Bank. The GITHRA project was officially opened in Hanoi at the Water Resources University in September 2009.

The project develops capacity in the use of GIS and remote sensing for multi-hazard risk assessment of staff at the Ministry of Agriculture and Rural Development (MARD), especially at its disaster management centre and at the Water Resources University (WRU). After the WRU

vice-rector had opened the meeting, speeches followed by ITC's rector and representatives of the Vietnamese government (MARD), the Asian

Development Bank (ADB), the Korean government and the Dutch embassy. Then the GITHRA team leader, Dr Dinand Alkema, briefly



The official GITHRA opening ceremony



Ms Van in discussion with a local officer of the Disaster Management Centre

introduced the project. All stakeholders were present during the kick-off meeting, when the project objectives were fine-tuned according to their requirements.

The GITHRA project aims to build capacity in the application of modern (Geo-ITC) disaster mitigation tools targeted at reducing disaster vulnerability in Vietnam. It will do so by developing a cadre of professionals with competence in applying these tools in multi-hazard risk assessment. Staff of Vietnamese government organisations (MARD) and faculty staff of the WRU will be given an overview of the theoretical background, as well as practical training and hands-on experience in spatial data gathering, management, analysis and presentation. Through the GITHRA

project, not only will these professionals be better able to use hazard risk assessment tools in their own work, they will also become part of a knowledge network. Although GITHRA will train people by using a pilot study area in Yen Bai, the methodology is such that it can be applied to other areas and other scales, so that the organisations can apply the methodology to their specific situations.

According to Dr Hoang Minh Hien, deputy director of the Disaster Management Centre of MARD, there is a severe lack of staff with the required Geo-IT skills at all government levels (central, province, district and commune). It is therefore foreseen that the WRU will acquire all the training materials (translated into Vietnamese) in order to offer similar courses in the future to their own students and to central and provincial government staff, in close collaboration with ITC.

The project consists of three phases:

- the identification phase (includes institutional analysis and training needs assessment, plus staff selection for the training)
- the design and preparation phase (course structure designed, course materials developed, and a pilot study conducted)
- the implementation phase (actual training of selected staff, workshops and field visits).

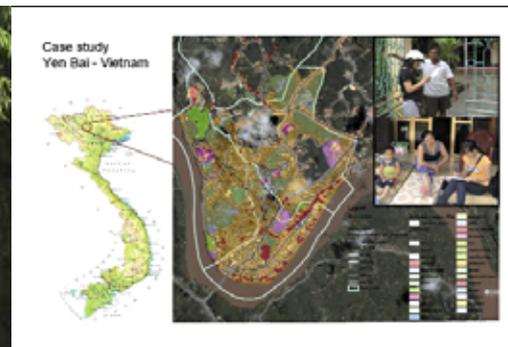
At this moment, phase 1 has just finished and we have entered phase 2. In December, a second workshop was organised in Hanoi so that all the organisations concerned could discuss the design and timing of the training programme and select course candidates. In the meantime, considerable work has already been done in the case study area. The development of the case study is being supervised by Ms Thi Hai Van Nguyen, a PhD student at ITC, with the support of three MSc students who did their MSc theses within the framework of her study and contributed to the case study development. The Yen Bai case study will focus on floods and landslides, since these are the main hazards to which Yen Bai is exposed. Ezra Pedzisai (Zimbabwe) is studying the trigger mechanisms for flash floods, Niranga Alahacoon (Sri Lanka) is looking at the propagation characteristics of the floods in the complex urban topography, and Thi Thu Trang Nguyen (Vietnam) is using participatory mapping and a household survey to reconstruct the 2008 flood event. It is envisaged that the actual training (phase 3) in the GITHRA project will take place in the period April–November 2010, with a gap during the typhoon season, when the staff of the Disaster Management Centre are otherwise occupied.



Interview with locals affected by the 2008 flash flood event



The three ITC MSc students in the field



Preliminary results of the household survey

## ITC Signs MoU with WaterNet

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At the ITC alumni gathering in Kampala, Uganda, held on Tuesday, 27 October, on the occasion of the AfricaGIS 2009 conference, a Memorandum of Understanding was signed between ITC and WaterNet concerning collaboration on the introduction of subjects related to earth observation and geo-information into the curriculum of its Master programme in integrated water resources management (IWRM). The MoU was signed by ITC's rector Professor Martien Molenaar and Dr Wilson Rufaro Nyemba, chair of the Board of Trustees. Mr David Love, manager of the WaterNet secretariat, was also present at the ceremony.

### What is WaterNet?

WaterNet is a regional network of university departments and research and training institutes specialising in water. By harnessing the complementary strengths of member institutions in the region and elsewhere, the network aims to build regional, institutional and human capacity in IWRM through training, education, research and outreach. WaterNet member institutions have expertise in

various aspects of water resources management and are based in Southern and East Africa.

### Focus of the Collaboration

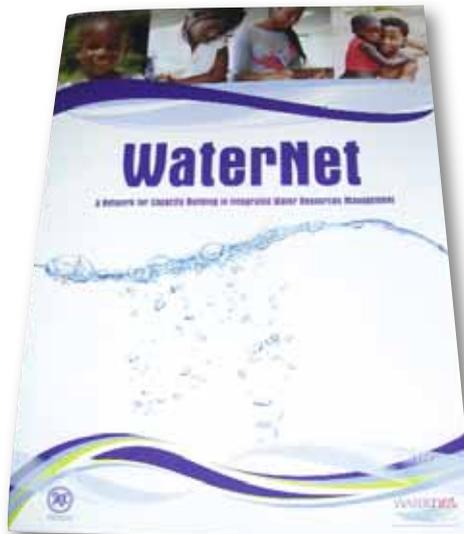
Both WaterNet and ITC will actively support the design of a seventh specialisation for the WaterNet Master degree programme in IWRM, which will focus on earth observation and GIS in IWRM. A joint development team will be formed, tasked with preparing the format and a detailed curriculum for the new specialisation. WaterNet members from the development team will be invited to ITC

to discuss curriculum development. Staff from WaterNet-related universities might be invited to participate in specific modules. The team will write a detailed proposal covering the specialisation objectives, the curriculum, the teaching staff involved, the role of ITC in teaching and support, and the financial aspects.

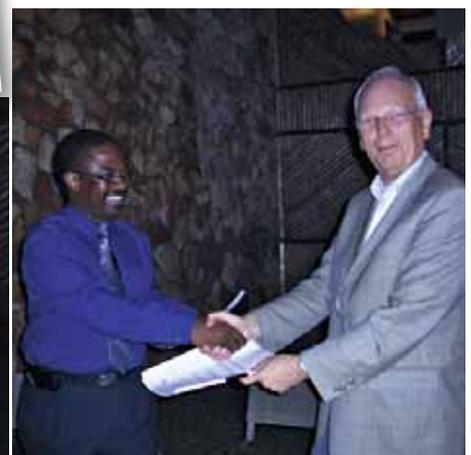
The development of joint research and backstopping activities, and the submission of joint proposals to obtain funding are also considered in the MoU.

### Next Steps

ITC will attend the WaterNet curriculum development workshop in Johannesburg from 27 to 29 January 2010, when the final plans for introducing the earth observation specialisation will be discussed and the work plan for 2010 finalised. Furthermore, ITC is considering becoming a supporting member of WaterNet, which would add more value to its role in WaterNet as such.



The MoU was signed by professor Martien Molenaar (ITC) and Dr. Wilson Rufaro Nyemba (chair Board of Trustees WaterNet)



## University Network for Capacity Building in Spatial Information Technology in Asia for Disaster Risk Management (CASITA)

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Our increasingly complex society is exposed to a changing climate, environmental changes, globalisation, urbanisation and the depletion of natural resources. Combined with continued economic development, these changes will lead to adjustments in land use in areas exposed to hazards such as flooding, mass movements, droughts, cyclones and earthquakes. As our exposure and vulnerability to hazards increase, we may expect more frequent and more severe disasters, a trend that most disaster statistics support. To prevent and mitigate disasters, adequate, reliable and up-to-date spatial information and forecasts must be available to disaster managers and decision makers.

Universities should be at the forefront of research to provide these data, using state-of-the-art data collection tools to analyse the data and interpret the results. They also bear the responsibility for training the new generation of disaster managers and decision makers who can use this information to reduce disaster risk and increase the sustainability of our current way of living.

Increasing disaster risk is of global concern, but in Asia the situation is pressing. Asia is being hit by a disproportionately large share of the major disasters in the world, so it is important to combine the academic strengths in the region with a view to working together and profiting from one another's knowledge and experiences.

ITC, ADPC and AIT have been active in capacity building in developing countries for several years now. Together they have conducted nu-

merous courses and collaborated in several capacity building projects. During one of these projects (CASITA), a network of universities and training institutes was established to stimulate collaboration in the development and exchange of training materials for education in disaster risk management. After a period of limited activity, it was decided to revive the network. A workshop on the establishment and sustenance of a network for education and research in disaster risk management in Southeast Asia was organised in Bangkok from 18 to 20 December 2009. During this workshop, 25 participants from 13 countries evaluated the current state of training and research in disaster risk management in Southeast Asia and discussed training and research needs and challenges in the region. The aim of the workshop was to discuss the benefits of such a network and how it should be organised and maintained. The CASITA network will bring together the resources and expertise of its members in order to stimulate high-level academic research and education and promote collaboration and understanding between the many disciplines involved in disaster risk management, such as environmental sciences, earth sciences, social sciences, economics and engineering.

The overall goal of the network is to contribute to the Hyogo Framework for Action by stimulating the development and sharing of knowledge and expertise through research and training in the field of spatial information for risk assessment and disaster risk management. We believe that high-level academic education and research are of the utmost importance for new generations of re-

searchers and experts in order to meet the future regional and global environmental challenges. CASITA will promote international collaboration and support its members in developing curricula and research agendas.

The objectives of the CASITA network are to:

- create a network of connected researchers and academic staff to promote international collaboration and the exchange of resources
- stimulate the development of international multidisciplinary research activities and offer assistance in preparing research proposals
- strengthen links between the CASITA members and practitioners, policy makers and the private sector in order to better focus the training and research activities with respect to societal needs in the Southeast Asian region
- improve communication not only between the member institutes but also with third parties in order to increase awareness of the importance of spatial information for disaster management
- stimulate international education in the field of spatial information for disaster risk management
- strengthen the capacity of its members through collaboration and the exchange of knowledge, expertise and materials
- increase awareness of the role that universities play in training experts in disaster management.

CASITA will achieve its objectives by supporting and promoting educational activities and joint research and by acquiring external funding. Education activities comprise the development and execution of short

courses, distance education courses and joint education programmes, and the exchange of course materials and staff. The network will create a repository of training materials to be shared among the network members. Furthermore, it will help its members to develop a general framework for these training courses in order to harmonise methodologies and terminology. To help its members focus their curricula, CASITA will also assist in identifying training needs and market demands with respect to spatial information for disaster risk management. As far as research is concerned, CASITA will bring together the expertise of its members in order to improve existing research activities and initiate new international research efforts. CASITA will organise dedicated sessions at relevant international symposia to disseminate its research results, as well as workshops to address research-related issues. It will also stimulate shared PhD positions or secondments of PhD students to other member institutes for co-guidance purposes. CASITA will act as an advocate, highlighting the importance of spatial information in disaster risk management. In this role, it will actively approach (international) donors to request support for its activities, and will also stimulate and support its members in working out proposals and submitting these to donors for funding.

CASITA is an open network of academic institutes active in the field of spatial information for disaster management. Membership is open to any academic research/training institute that is active in this knowledge field and that is willing to actively contribute to the network. There is a one-time registration fee of US\$500. The member institute has to appoint a representative to the coordination committee.

The CASITA steering committee consists of the following organisations:

- the Asian Disaster Preparedness Center (ADPC) in Bangkok, Thailand
- the Asian Institute of Technology (AIT) in Bangkok, Thailand
- the United Nations University–Institute for Sustainability and Peace (UNU-ISP) in Tokyo, Japan
- the International Institute of Geo-Information Science and Earth Observation (ITC) in Enschede, the Netherlands, and in particular the United Nations University–ITC School for Disaster Geo-Information Management (UNU-ITC DGIM)
- the International Centre for Integrated Mountain Development (ICIMOD).

Each member is represented in the coordination committee. All communication to its members is directed through the coordination committee. At present CASITA has members from Sri Lanka, India, Pakistan, Bangladesh, Nepal, Thailand, Indonesia, Vietnam, China, Taiwan and Japan. The current chairman of the coordination committee is Dr J. Gunatilake from the University of Peradenya, Post-Graduate Institute of Science, Sri Lanka. CASITA is also open to advisory members (NGOs, private parties, international organisations) who can advise, guide or support the implementation of network activities. The CASITA secretariat is located at ADPC in Bangkok, Thailand.

Information on the CASITA network and its activities can be found at:

[www.adpc.net/casita/University\\_Network.html](http://www.adpc.net/casita/University_Network.html)

[http://groups.yahoo.com/group/casita\\_group/members](http://groups.yahoo.com/group/casita_group/members)



25 Participants from 13 countries evaluated the current state of training and research in disaster risk management in Southeast Asia

# announcements

## ITC Students Take Second Place in Cordaid Urban Challenge

Communication Department

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Last year, a team of four ITC students – Emmanuel Kofi Gavu, Samuel Boamah Danquah and James Njiraini Gachanja of Urban Planning and Management and Margaret Wambui Kamau of Natural Resources Management – participated in an urban challenge organised by Cordaid, an international development NGO in the Netherlands. They were ranked second out of eight teams. The teams were challenged to come up with innovative practical ideas for managing solid waste in Philippi, South Africa.

The participants were tasked with designing a project proposal that would promote the sustainable management of solid waste. The aim was to reduce waste to landfill and decrease local pollution of the urban environment, while at the same time creating employment opportunities and stimulating local economic development to further support the community of this informal urban settlement. The teams were required to choose one of the following themes: improved transportation sys-

tem, organic recycling, value-adding stage 1, value-adding stage 2 or awareness campaign.

### Competition Details

Participants were put into teams that worked online via the Cordaid Urban Challenge website. The teams consisted of Bachelor and Master students from institutes of higher learning in the Netherlands and South Africa. During their research, the teams had the opportunity to correspond with their local project coordinator in South Africa concerning their themes. The winning team was sent to Philippi to work on implementing its project proposal with the assistance of the Cordaid Urban Matters project coordinator.

The ITC team chose the theme of organic recycling for the following reasons:

- Over 50% of solid waste generated by households in Philippi is composed of organic components, so the main project input was readily available.
- Organic recycling addresses the whole cycle, from waste genera-

tion to composting to the effective use of waste in urban agricultural production. It leads to a reduction in the amount of waste that reaches landfill sites and contributes to increased food production and income generation.



Jury: "Most professional proposal of a clearly experienced team"



Team 1 ITC UN University



Team explaining their idea



Second Place in Cordaid Urban Challenge

- The project proposal applied a logical framework approach to linking inputs, activities and outputs in order to achieve its purpose and ultimate goal. To ensure project sustainability, the team proposed a participatory approach that involved and coordinated all key stakeholders.
- For efficiency purposes, it was proposed to integrate the "Think Twice" public awareness programme and the urban agriculture initiatives already in existence in Philippi.

The team presented the jury with a poster summarising the proposed project.



Concept presented to jury:  
Waste Management Cycle

#### Jury Feedback

At the end of the assessment, the jury considered the proposal written by the ITC team to be the most professional proposal. It felt that this was clearly an experienced team and wished that the proposal could be implemented together with that of the winning team. If it becomes necessary to adopt some parts of the ITC team's proposal, the participants will be contacted for their approval. This confirms the professionalism exhibited by the ITC students in using remote sensing and GIS techniques in their proposal.

#### Contacts:

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advertisement

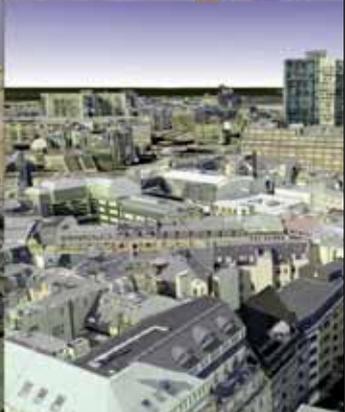


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# life after itc

## ITC Alumni Reception during AfricaGIS in Kampala, Uganda

Saskia Tempelman

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The AfricaGIS conference was held from 26 to 30 October 2009 in Kampala, Uganda, and attracted a total of 481 delegates from five continents and 40 exhibitors from Africa, Europe, America, the Middle East and Asia. The conference featured a total of 126 papers and 48 poster presentations demonstrating the value addition of geo-information to Africa's sustainable development.

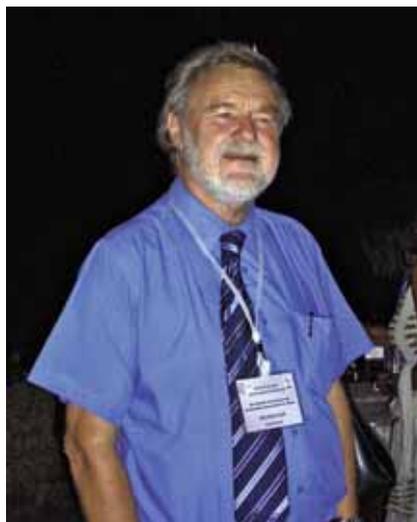
On Tuesday evening, 27 October 2009, an alumni reception was held at Cassia Lodge in Kampala. ITC alumnus Yazidhi Bamutaze, who was responsible for the excellent planning and logistics, arranged not only the venue but also the transportation from the conference.

The evening was well attended. At least 80 alumni made the trip to Cassia Lodge, a beautiful spot overlooking the city of Kampala and Lake Victoria, and drinks and dinner were served outside on the lawn. Professor Molenaar welcomed everyone and was glad to see so many alumni attending the reception, even some

who were not involved in the AfricaGIS conference.

On the same occasion, a Memorandum of Understanding between ITC and WaterNet was signed by Professor Molenaar (ITC) and Mr Wilson Rufaro Nyemba (chair Board of Trustees WaterNet), with Mr David Love, manager of the WaterNet secretariat, also present. Earth observa-

tion (EO) and GIS are integral parts of IWRM-related studies, research and plans; hence the objective of the co-operation is to strengthen the EO- and GIS-related curriculum in the WaterNet educational system. ITC and WaterNet will work together to develop EO- and GIS-related curricula, case studies, MSc and PhD research, and joint projects.



Rolf Becker (ITC alumnus 1962) also joined the gathering



Alumnus and ITC staff member Bert Boer enjoying a drink during the reception



An alumni reception was held at Cassia Lodge, Kampala, Uganda

## International Cartographic Conference and Alumni Meet in Chile

John Horn

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During the course of the 24th International Cartographic Conference (ICC) held from 15 to 21 November 2009, which attracted over 1,000 delegates, ITC was delighted to host a lunch gathering for a number of ITC alumni who were attending.

An important biennial event (see <http://cartography.tuwien.ac.at/ica/>), the ICC was hosted on this occasion by the Chilean Military Geographic Institute at the Escuela Militar in Santiago. Colonel Juan Vidal Garcia Huidobro, director of IGM and an ITC alumnus, acted as president of the local conference organising committee.

The ITC delegation to the conference was headed by Professor Martien Molenaar, who delivered a keynote address on the subject of education and capacity building. In his capacity as one of the vice-presidents of the International Cartographic Association (ICA), Professor Menno-Jan Kraak (chairman of ITC's Department of Geo-information Processing) was part of the conference organising committee and also presented several technical papers.

Other ITC staff attending the event included Dr Corné van Elzakker,

Dr Connie Blok, Mr Loannis Delikostidis (PhD student) and Mr John Horn. The ITC staff presented or co-authored several technical papers, chaired technical conference sessions, and participated in the exhibition. Mr Delikostidis attended meetings of young (PhD) researchers.

One of the highlights of any ICA conference is the vast international exhibition of maps. This year's event was no exception, with some 200 maps on display. Dr van Elzakker headed the team of judges that awarded prizes for the best maps in various categories. In addition, Dr van Elzakker, who is chairman of the ICA commission on use and user issues, organised a number of commission meetings and participated in other commissions. Although the ICA commission on geo-visualisation did not meet in Santiago, Professor Kraak and Dr Blok have been active in this commission for several years, and are keen to stimulate research on this theme in the future.

The ITC exhibition stand at the conference proved a popular meeting spot for alumni, and in general attracted a good deal of interest from potential ITC candidates.

The Netherlands embassy in Santiago provided much assistance to our mission, and we were delighted that they were able to attend several of the technical and social activities at the conference.

Thanks to the kind organisation and assistance of Colonel Rodolfo Stuvén of IGM (also an ITC alumnus), around 30 ITC alumni and guests gathered for a reunion in the Officers Club at the Military School during the lunchtime break on Wednesday, 18 November. In his final alumni meeting as ITC rector, Professor Molenaar addressed the gathering and explained the details of the upcoming merger with the University of Twente. He underlined the fact that the ongoing contact with alumni would remain as important as ever.

Consistent with the high degree of interest from Chilean scholars and researchers, ITC is actively pursuing a number of possible academic relationships in Chile, as well as investigating new sources of study and research funding.

The next ICA international conference will be held in Paris in 2011.



Lunchtime on Wednesday, 18 November: around 30 ITC alumni and guests at a reunion in the Officers Club at the Military School

## A Fulfilled Career: ITC's First PhD Student Ever

Mathias Lemmens

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Dr Joseph Olusola Akinyede, born (1952) and living in Nigeria, is a very special man: he is ITC's first PhD student ever. "ITC is one of the best education institutions in the world," he immediately replies to my question concerning his considerations on continuing education at ITC. "It was a great privilege. ITC is unique."

Joseph got the opportunity to conduct research at ITC through a four-year scholarship granted by the European Economic Community (EEC) in 1986. A year earlier, an EEC scholarship had enabled him to follow a postgraduate course in applied geological survey – also at ITC. In February 1990, Joseph received a PhD degree for his thesis *Highway Cost Modelling and Route Selection Using a Geotechnical Information System* from Delft University of Technology, the Netherlands.

"My PhD research equipped me with the skills to independently understand a problem and quickly define ways of solution," says Joseph. "Let me give you a recent example. The Fulani people move their cattle from the north of Nigeria to the south in the dry season, and in the reverse direction when the rainy season comes. Their movements cause friction with the settled farmers. Who is causing the problem: the nomads or the farmers? To answer that question, I recommended mapping the Fulani track routes from satellite images captured over the last 20 years. Using GIS technology, changes over time can be identified and also the areas of infringement. The study has been approved and is ongoing."

### Great Value of Images

Having been awarded an MSc in geology with a specialisation in geochemical exploration by Ahmadu Bello University, Nigeria, in 1981,

Joseph set about building a career as a research officer at the Nigerian Building and Road Research Institute in the first 10 years of his professional life. Here he discovered the possibilities of aerial photographs when it came to road construction. "I became convinced of the great value of extracting geo-information from images to support the development of backward regions in my country," says Joseph, "and in the process discovered that I was keen to know more about the technology." After having returned to Nigeria as a doctor in technical sciences, he moved from road construction to agricultural land development. Ten years later, in August 2001, he again made a switch, this time from land to space, by becoming director of space applications at the National Space Research and Development Agency (NASRDA). Educated and trained to understand and interpret the Earth beneath his feet, from now on most of Joseph's career was devoted to space technology.

### Data Policy

In many countries, a great deal of geodata is scattered across a diversity of institutions. This scatter represents a stumbling-block to greater use and better exploitation of geodata. Also, the government of Nigeria recognises the importance of sharing geodata, of easy access and of avoiding duplication. As a result, the establishment of a national spatial data infrastructure was placed high on the agenda. Joseph was heavily involved in producing the national geo-information policy for Nigeria. "It was our thinking that NASRDA should be the repository of all (high-resolution and other) satellite data acquired over Nigerian territory. Then, if any agency or institution applied to NASRDA to buy satellite images, we would know



Dr Joseph Olusola Akinyede

where they were archived and whether they were usable by the applicant. That would avoid duplication, as well as guarantee a standard level of quality. That was the intention we had in mind. Our recommendations resulted in government policy, whereby everyone who wants to use satellite imagery must go through NASRDA. However, it is one thing having a government policy, it is another thing getting that policy implemented. The issue of having a policy on the ground that never comes into effect is typical of many developing countries. Why people still prefer to skirt around NASRDA cannot be explained and is hard to understand. It is a waste of money, a great waste. It is only good for the image production companies, but very bad for the country."

### African Regional Centre

It seems that Joseph's career takes a sharp turn every 10 years. First he was involved in roads, next in land development, and then he moved from land to space. April this year, he left NASRDA to make the transfer

from space to education by becoming director of the African Regional Centre for Space Science and Technology Education in English Language. In Africa, there are two such centres affiliated to the UN Office for Outer Space Affairs: one for the English-speaking countries, established in Nigeria; and one for the French-speaking countries, established in Morocco. Other centres are found in Brazil, Mexico and India. "The Centre, inaugurated in November 1998, maintains an excellent working relationship with NAS-DRA, which is the supervising agency on behalf of the Nigerian government." The Centre is sited on the campus of Obafemi Awolowo University, Ile-Ife, Osun State, the same campus where the Regional Centre for Training in Aerospace Survey (RECTAS) is sited. "This is not without reason: facilities and knowledge can be easily shared in this way." The Centre runs nine-month postgraduate diploma courses, the

best attended being the Remote Sensing & GIS course. Students come from a wide range of English-speaking countries in Africa. The UN provides the curriculum for implementing these capacity building projects. "I attended the 4th Meeting of the International Committee on Global Navigation Satellite Systems (GNSS) in St Petersburg from 14 to 18 September 2009, and there the addition of a GNSS course at the Centre within a year or two was discussed. ITC may very likely be one of the capacity building institutions that helps the UN to develop the GNSS curriculum." One of the first things Joseph did when he moved to the Centre was to set up a committee tasked with reviewing the Centre's achievements during its 10-year existence and making an inventory of the challenges. "I want to use this as a starting point for making the Centre ready for the coming 10 years."

### Fulfilled Career

Would it still be beneficial – in terms of aiding to shape their career – for African students to leave their home country and obtain an academic education at ITC as Joseph once did? According to Joseph, it is in the interest of developing countries to have education institutions sited on their own ground so that decentralised education can be offered. However, "local education should be given in close cooperation with ITC, as the focal point of expertise, in order to benefit from advice on developing the curriculum and to train the trainers." When looking over his shoulder at a career spanning 30 years, what feelings pop up? "I have had a fulfilled career," says Joseph, "fulfilled in the sense that I have made a positive contribution to progress in space technology for my country and Sub-Saharan Africa as a whole – more than a Nigerian, I feel African."

## ITC Alumnus Dr Alok Porwal Receives Best Reviewer Award

John Carranza

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Dr Alok Porwal is one of the recipients of the *Mathematical Geosciences* Editor's Best Reviewer Award 2008-2009 (see *Mathematical Geosciences*, vol. 42, no. 1, January 2010). Dr Porwal and two other mathematical geoscientists were given the award for their exceptionally diligent and thorough reviews, as well as their commitment to seeing the full completion of new and revised versions of manuscripts submitted to *Mathematical Geosciences*. This journal is one of three journals of the International Association of Mathematical Geosciences (IAMG), the other two being *Computers & Geosciences* and *Natural Resources Research*.

Dr Porwal obtained his PhD in model-based mineral potential mapping from ITC and Utrecht University, the Netherlands, in February 2006. His PhD research, which was co-supervised and co-promoted by Professor Martin Hale and Dr John Carranza, falls within the earth systems science research theme being investigated by scientific staff at ITC's Department of Earth Systems Analysis.

Dr Porwal is now a senior research fellow at the Centre for Exploration Targeting and the Western Australian School of Mines, Curtin University of Technology, Perth, Western Australia. He has over 20 years' research and



Dr Alok Porwal

professional experience in applications of GIS technology to real-world exploration targeting. His recent work includes continent-wide prospectivity mapping of Australia for all styles of uranium deposits for an exploration company. He is currently working on applications of machine learning algorithms such as neural networks, support vector ma-

chines and genetic algorithms for geological remote sensing and mineral prospectivity mapping. A life member of the IAMG, he has had a long association with *Mathematical Geosciences* as a reviewer and contributor of papers.

Congratulations Alok!

## Letter to the Editor

Dear Editor,

First of all I would like to wish ITC a happy Christmas, with the compliments of the season to all its professors.

With my letter of August 2009 (copies to my professor Frederick Ackermann and Mr Elvino Dias Duarte), I enclosed my article "Fifty years of serendipity in Sri Lanka: a tribute to ITC" so that it would reach ITC before its 60th anniversary celebrations. Now I am also attaching the article "Fifty years of serendipity in Sri Lanka", which appeared on the Saturday magazine page of the Sri Lankan daily newspaper The Island on 26 September 2009 as a full-page article, with a map of Ptolemy's Taprobane.

This is virtually the same article I sent you. This article was greatly appreciated by the National Academy of Sciences, archaeologists, historians and the general public of Sri Lanka because of the authentic evidence of our ancient heritage from aerial photographs and field verifications.

I am further including a photograph of ITC alumni of 1960 who participated in the ITC study of the principal precise photogrammetric instrument manufacturers in Germany and Switzerland, namely Zeiss, Wild and Kern. Included in this group photograph are some staff members of ITC and the Zeiss factory. I hope this photograph can be published in a future ITC newsletter as it is of historical value and shows ITC participants who for the most part are no longer with us.

Yours sincerely,

A. Denis N. Fernando  
ITC Alumnus 1960



First row: Official Zeiss, Chong of Malaysia, Wong of Surinam, Fernando (myself) of Sri Lanka, Skinners of Cuba; second row: Prof. Corton, Smith of USA, Spitzer of Australia, Levy of France; as well as Loken of Norway, Datta of India, Dr Hempenius, and others that I cannot identify by name from Bolivia, Iran, Lebanon, Nigeria etc.

For the article "Fifty years of serendipity in Sri Lanka" see:  
([www.island.lk/2009/09/26/satmag8.html](http://www.island.lk/2009/09/26/satmag8.html))

# Mark your Calendar...



## Map Middle East 2010

22 - 24 March, 2010  
Abu Dhabi, UAE

[www.mapmiddleeast.org](http://www.mapmiddleeast.org)



## Geo Intelligence Asia 2010

2 - 4 June, 2010  
New Delhi, India

[www.gisdevelopment.net/geointelligence](http://www.gisdevelopment.net/geointelligence)



## Map Asia 2010

26 - 28 July, 2010  
Kuala Lumpur, Malaysia

[www.mapasia.org](http://www.mapasia.org)



## Map Africa 2010

23 - 25 November, 2010  
Cape Town, South Africa

<http://mapafrica.gisdevelopment.net>



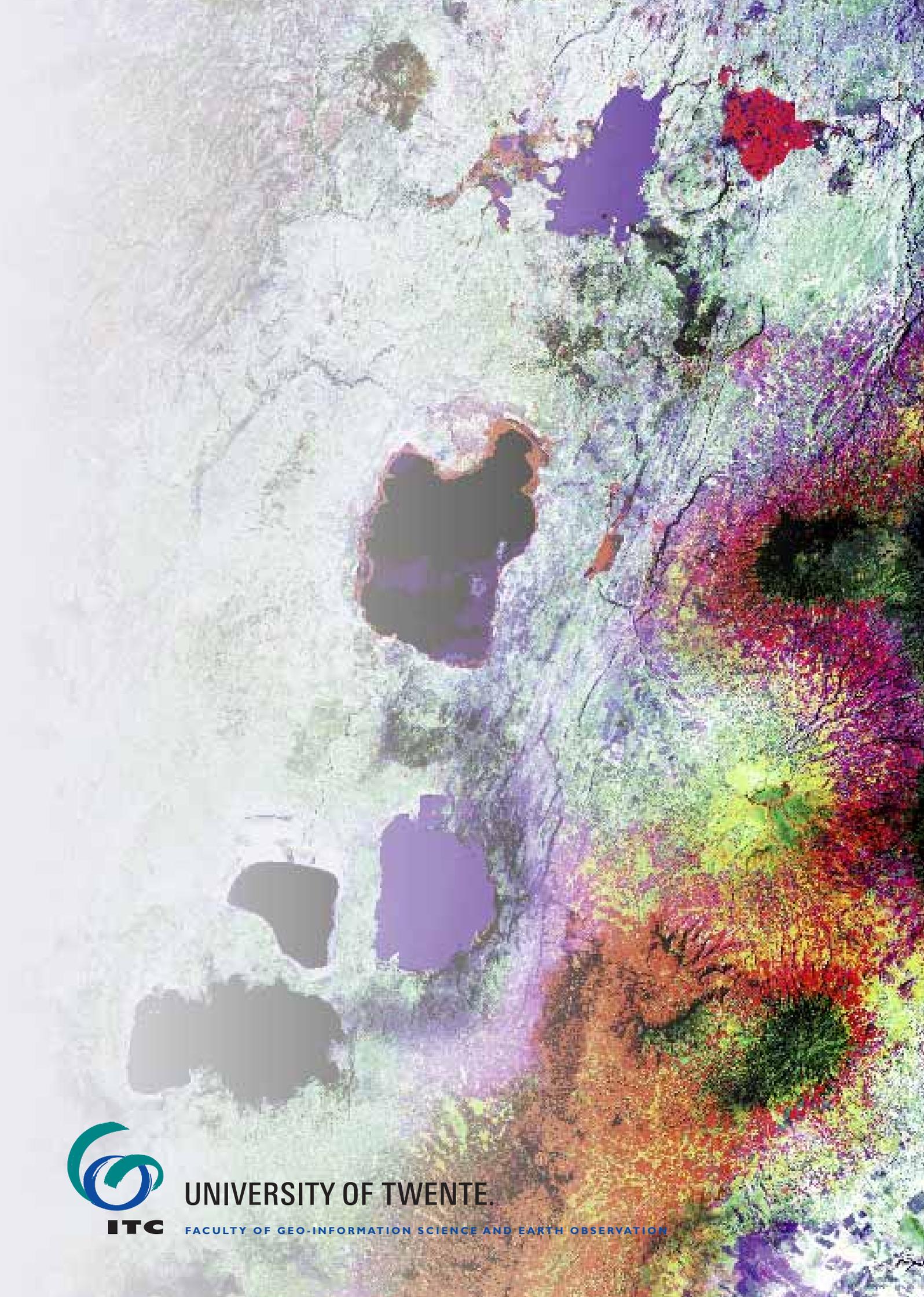
## Map World Forum

17 - 21 January, 2011  
Hyderabad, India

[www.mapworldforum.org](http://www.mapworldforum.org)



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