Healthy Ageing

Education, Research and Entrepreneurship
Working together on health and participation

share your talent. move the world.
Sports & Physical Activity

Young and old benefit from physical activity and sports! Regularly engaging in physical activity is a solution for a more and more common problem: obesity and overweight. It is important to enjoy physical activity and sports and it is not always necessary to visit a sports centre to do so. Taking the stairs instead of the elevator or going on a brisk daily walk can also make a real difference. Living and working environment can also contribute to physical activity. Engaging in physical activity also benefits the health of the elderly, physically as well as mentally. Research shows, for instance, that the progress of dementia decreases while a patient remains physically active. Activity literally stimulates brain activity. It is essential to go on paying attention to physical activity in daily life. In addition, this also contributes to a healthy lifestyle.
Healthy Ageing and knowledge

The future of health care is a hot topic in the Netherlands. Society has to deal with a growing number of elderly people, a rising demand for care, and tight budgets. These developments raise some serious social issues, which may be solved with the help of education and research. After all, if there is one thing all reports on the relationship between education, research and practice agree on, then it is that society has a need for knowledge; for the development of new knowledge as well as for a more effective, increasing implementation of already existing knowledge.

Over the past ten years (and, since a couple of years, under the name ‘Healthy Ageing’), Hanze University of Applied Sciences has been carrying out research into Healthy Ageing and into growing up in a healthy manner. This is done in cooperation with professionals, institutions and government bodies – in short, with the practical field because the research as well as education are practice-oriented. Students, lecturer-researchers and partners in the field work together in innovation labs on new products and services that can be applied in practice. New knowledge that we gain this way helps us improve the quality of our teaching. More on the results of research carried out in these innovation labs can be found in this magazine.

We now have a network of 150 commercial and non-commercial partners. In addition, we work together with other universities of applied sciences in the Northern Netherlands, the University of Groningen, the University Medical Center and various Regional Training Centres (ROC’s). Healthy Ageing plays a role in more than twenty degree programmes, more than five thousand students are following a programme in the field of health and care, and a hundred researchers and about thirty lecturers are conducting practice-oriented research.

This collaboration is not limited to the region: the results of our practice-oriented research address societal challenges that are also faced elsewhere. For that reason, we are looking for lasting partnerships with enterprising partners from the region as well as abroad.

This magazine offers a wonderful overview of the broad spectrum of Healthy Ageing related activities at Hanze University of Applied Sciences Groningen. It beautifully illustrates how Hanze UAS contributes to the improvement of care and health in our region and beyond. If you would like to know more after reading this magazine, do not hesitate to contact us.

Henk Pijlman
Chairman of the Executive Board

Healthy Ageing plays a role in more than twenty degree programmes, more than five thousand students are following a programme in the field of health and care.
Strategic theme of the Hanze University of Applied Sciences Groningen

Impressive results obtained in the field of Healthy Ageing in the past five years

The Healthy Ageing theme has established itself firmly in our society. We are all getting older and this calls for new, smart solutions to improve quality of life and to minimize the health burdens on our society. The focus is not only on the elderly and the sick but also on growing up in a healthy way, on social participation and on quality of life. Healthy Ageing involves an integrated, multidisciplinary approach, focussing on the entire life cycle.

Major demographic shifts are taking place: in 2050, more than thirty per cent of the population will be over 65 years old. These changes are occurring in most of Europe. No wonder the European Union has identified ‘demographic change and active and healthy ageing’ as one of the major societal challenges, along with energy and climate change. In addition, in July 2013, the European Commission declared the Northern Netherlands a reference site in the field of Active & Healthy Ageing.

Healthy Ageing as a strategic priority
In 2009, Hanze University of Applied Sciences Groningen chose Healthy Ageing as a strategic priority, for which it developed a Healthy Ageing programme. The number of people now actively contributing to this theme is impressive: not only in degree programmes and research in the fields of Health Care Studies and Nursing, but also in Sports Studies, Social Studies, Life Sciences, IT, Economics and Art. The programme covers themes such as lifestyle, nutrition and exercise, extending healthy working lives, extended independent living at home, social participation, e-Health and technology.

A growing number of Bachelor’s and Master’s degree programmes are incorporating Healthy Ageing into their curriculum. Practice-oriented research has also increased substantially; almost half of all senior lecturers are involved, numerous PhD projects are being carried out and various lecturer/researchers are working on research projects, often in cooperation with other partners in the region.

In the past five years, Healthy Ageing has become a strategic focal point. The Higher Education and Research Review Committee has rated the performance agreements of Hanze University ‘excellent’, mainly thanks to the focus on and promotion of the themes of Energy and Healthy Ageing. In addition, the Dutch Ministry of Education, Culture, and Science (OCW) has awarded funding for a Centre of Expertise on both themes.

Centre of Expertise Healthy Ageing
In January 2013, the Centre of Expertise Healthy Ageing (CoE HA) received a four million euro grant for a period of four years from the Dutch Ministry of OCW. The Centre started off with thirty-five regional partners in the North, with the Hanze University of Applied Sciences as secretary. It is a public-private partnership that focuses
on innovations in health and wellbeing. By 2014, it had grown into an innovation platform involving more than a hundred partners. The CoE HA’s partners include the four Universities of Applied Sciences and five Regional Training Centres (ROCs) in the Northern Netherlands, the University of Groningen, the UMCG, more than forty healthcare and welfare institutions, nearly fifty large and small companies, municipalities, and partner organizations such as the Healthy Ageing Network Northern Netherlands [HANNN]. The innovation labs are proving successful. They yield concrete results that are implemented in education - in other words, economic and social valorization of knowledge.

The Healthy Ageing programme will be discontinued in its current form and incorporated in the existing organization as of 1 September under the name Hanze University Centre of Expertise Healthy Ageing. We are proud of our contributions to the region in the form of practice-oriented research and training of future-oriented professionals. The intention of this magazine is to give our Hanze colleagues and the many partners with whom we cooperate concrete examples of our contributions to Healthy Ageing.

Joost Degenaar
Programme Director of Healthy Ageing and Project Director of Centre of Expertise Healthy Ageing
Healthy Ageing, Allied Health Care and Nursing

“An ageing population: an international problem requiring

Learning from each other’s solutions instead of continually reinventing the wheel – this is the guiding principle of Hanze UAS regarding international collaboration in the field of healthy and active ageing.

“Together is better,” says Cees van der Schans, professor of Healthy Ageing, Allied Health Care and Nursing. “We collaborate with national and international universities on applied research projects to create synergy. Pooling high quality expertise this way ensures higher quality research. This in turn results in evidence-based solutions that can be readily implemented into daily practice.”

Healthy Ageing is a multidisciplinary concept if ever there was one. “Despite the cultural differences between countries there is also much overlap. Concerns about old age and adult children worrying about their parents are universal phenomena. Countries may differ considerably in the way they organise and finance care, but these differences can also offer solutions. “If something works well in one country, it may also work well in another.”

The professorship in Health Ageing, Allied Health Care and Nursing has entered into a partnership with a researcher at Hong Kong Polytechnic University. For Stephen Bunt’s PhD project, they will jointly investigate whether social vulnerability in elderly people living at home differs between Asian and Dutch people. This knowledge contributes to knowledge development in this field and offers insights that can help improve interventions aimed at making elderly people less vulnerable. A next step in this collaboration is to explore the potential for cooperation in the field of education.

Cees van der Schans

Together is better.
The Quick Mild Cognitive Impairment Screen (an English screening instrument for mild cognitive impairment [MCI] and dementia) has been translated into Dutch and validated for the Dutch situation in collaboration with the research group of the geriatrics department of University College Cork (Ireland). This instrument offers a better alternative to the screening instruments currently in use in the Netherlands. A joint scientific report on this instrument will be published in an international scientific journal.

The added value of international networks

One of the international platforms that Hanze UAS is a part of, is the European Innovation Partnership on Active and Healthy Ageing (EIP AHA), a broad network of fundamental and applied researchers, companies, and professionals – from biologists to cooks. Network partners exchange knowledge and best practices regarding vulnerability and the prevention of functional decline in elderly people in Europe. Participation in such a network paves the way for considerable research grants, but according to professor of Healthy Lifestyle, Ageing and Health Care Hans Hobbelen, member of the Functional Decline group of EIP AHA, there is so much more to it than that. “This network helps me keep a finger on international research activities regarding healthy and active ageing. We get to work with researchers with extensive track records, and this strengthens our own position and that of Hanze University of Applied Sciences.”

Hobbelen, for one, is increasingly requested to participate in international projects and to sit on scientific boards, and was recently invited to become vice president of an international professional association. “It is fascinating to see countries come up with different solutions for the same issues in a different context.

Practical European guidelines

Hanze UAS, the UMCG, EIP AHA partners and others formed a consortium with the aim of doing research within the framework of the EU programme Horizon 2020. Harriët Jager-Wittenaar, professor of Clinical Malnutrition and Healthy Ageing, is preparing an innovative proposal for this purpose which, content-wise, builds on her research in the Clinical Malnutrition innovation lab (more on this can be found on page 16/17). “Together with excellent universities, universities of applied sciences, and businesses in countries such as Belgium, Sweden, Norway, England, Switzerland, Canada and Spain, we want to study the ways in which we can combat malnutrition in elderly people – a risk factor for functional decline and vulnerability – in Europe.” The project aims to provide results that are in the first place helpful to the elderly themselves, but also to professionals in health and social care and informal caregivers all across Europe, at home and in institutions. “We hope we can prevent malnutrition by making food tastier and more attractive, among other things. Prevention is a key aspect of our research. We also focus on clinical nutrition interventions, because malnutrition is an even greater risk for elderly people who have fallen ill.” A focus on prevention is badly needed, according to Harriët. “The aspects of malnutrition have already been studied extensively all over the world, but, in practice, malnutrition is still detected and treated at a late stage. In addition, there is little coordination between all these initiatives, and there are no practical European guidelines. By combining our efforts and adapting a multidisciplinary approach, we expect we can help reduce the problem of malnutrition.”

Networking

Dr Margreet Luinge, in her capacity as professor of Child, Language and Development, maintains contact with several international researchers who are working on the same subject as she is. Meeting people at international conferences forges and strengthens relationships. In addition, overlap of subject matter forms the basis of joint research projects. Last year, for instance, Margreet completed a RAAK International project, which involved the exchange and development of international knowledge and expertise regarding the development of preterm infants. The international consortium searched for early indicators of abnormal development in preterm infants. At an international meeting in Sankt Gallen, the Groningen researchers discussed possible explanations for the results they found with German, Swiss, American and Finnish colleagues. They presented the results of the project in the film ‘Zorg op maat voor prematuur geboren kinderen’ (‘Tailored Care for Preterm Infants’), which includes English subtitles.

For more information, go to www.kindexpert.nl

a multidisciplinary approach”
One of the researchers in the international consortium came over from the USA; she organised various workshops for physiotherapists, speech therapists and nurses in the Netherlands. Her research is closely related to that of the professorship in Language & Development. Margreet is now trying to get her to come to Groningen as a visiting professor. A German researcher gained her PhD with research in a related field; she worked at Hanze UAS one day a week over a course of two years, and in that capacity she brought Düsseldorf and Groningen closer together.

This international collaboration has led to new insights as well as an application for a new international project: Growing up Healthy. This means that collaboration with the international consortium is being continued and expanded to include other researchers, including one from Australia. In general, Margreet sees cross-border collaboration as an incentive for both professionals and researchers. Mutual differences bring conceptual uncertainties to light and force you to answer questions such as: what exactly are speech/language problems? The answer is relevant to both professionals and researchers. “Both sides benefit.”

Quantified Self
The Quantified Self Institute of Hanze UAS has international roots: it was set up in collaboration with the founders of the Quantified Self movement QS Labs in San Francisco. “We are keeping in touch with each other, and we’ll be going there again soon,” says research director Martijn de Groot. In a few years time, the Groningen QSI has become a popular international partner. “The wealth of knowledge capital we have acquired is greatly in demand,” according to Martijn. “We get so many requests to meet with people that we just have to say ‘no’ sometimes.” The institute regularly carries out research in collaboration with or commissioned by international partners. On behalf of the French IDS Santé, for example, the QSI evaluated the Fitbit, an activity tracker used by thousand citizens in four French cities. Another fruitful international partnership is the one with the multinational Withings. This company provides activity trackers and smart body analysers, which QSI is going to test on a subpopulation of LifeLines, an elaborate cohort study of the University Medical Centre Groningen. “We are going to investigate whether this research method is suitable for LifeLines. In addition, we want to know if the devices help users adopt different, healthier behaviour.”

The QSI is not only at the receiving end of all the attention: in his turn, Martijn gladly draws inspiration from colleagues all over the world. “So many wonderful things are happening in this field. Researchers and thinkers in the US in particular are taking the lead in exploring the possibilities of Quantified Self – that inspires me!”

Fitbit, activity tracker used by thousand of citizens
What role can music play in the lives of elderly people, and how can the musicians of tomorrow respond to this? The research group Lifelong Learning in Music & the Arts, of the Centre of Applied Research Art & Society, has been studying these matters for years.

The research group’s recently concluded that, while reaching Royal Concertgebouw Orchestra level might be slightly overambitious, it is still very well possible to learn to play an instrument at a later age. “Older people do not necessarily wish to stand in the spotlights,” says professor Evert Bisschop Boele, coordinator of the research line ‘Healthy Ageing through Music and the Arts’ of the Centre of Applied Research Art & Society. “For them, it’s about so much more than that: about realising a dream, about the structure that practising an instrument provides, about the social aspect of making music together, about practising fine motor skills, about improving cognitive skills, or, simply, about having fun.”

**Young musicians, older pupils**

The study paired young graduates in music with older pupils. The research results make short shrift of prejudices such as “older people are slow learners, they read slowly, are less flexible and suffer from arthritis, rheumatism and other ailments”. “During lessons, the focus is less on such problems and more on what these people are still capable of, and that’s what counts,” says Evert. In fact, the relationship that develops between the teacher and an older pupil carries far more weight. When teaching young children, you are more likely to stick to fixed methods, but when teaching an older pupil, who has far more musical life experience, you are more likely to strike up a conversation and discuss things.”

**Music workshops in nursing homes**

The research group also carries out research projects involving, for instance, creative music workshops for the elderly in nursing homes. Participants improvise, compose, and fall back on their own stories and experiences in order to create a joint final product that is to be performed in public. Other research projects aim their creative music workshops specifically at older people with dementia and their carers, where music helps “the person behind dementia” to rediscover themselves. Evert: “We have studied what exactly happens in these workshops and what a workshop leader should know and be able to do.”

**Musical memory**

What effect does music have on the elderly? “Making music together reduces social isolation and helps participants bond with each other. It also has a positive effect on cognition and motor skills. We found that music appeals to patients with dementia on a very deep level. Musical memory is retained for a very long time. We saw that people ‘rediscovered’ their personality, and music is the tool with which to demonstrate this. This in turn improved their relationship with their carers, who also participated in these workshops,” says Evert. “For musicians, these workshops help expand their expertise.”

The Centre of Applied Research Art & Society also carries out research projects in the field of visual arts and Healthy Ageing. The research group Image in Context, for instance, works together with the innovation lab Health Space Design.
Healthy Ageing has many interrelated aspects

Health = Wellbeing

= Participation = Health

Healthy Ageing is a broad concept. It involves physical health, of course, but it also concerns participating optimally in society and feeling as healthy and happy as possible despite a physical or mental disability. The Rehabilitation Professorship has been working on this topic for years in close cooperation with the professional field.

“Participation – at work, at home, in education and so on – benefits physical health. In turn, a healthy lifestyle is important for optimal participation,” says Professor Lies Korevaar. “All the themes addressed in our professorship have a clear relationship with growing up in a healthy manner and active ageing – all that differs is the perspective. Healthy Ageing is, without a doubt, at the heart of this professorship.”

Promens Care
The Rehabilitation Professorship has a long-standing relationship with Promens Care, an organisation that provides care in the provinces of Groningen and Drenthe to people with a mental or psychological disability. Once a year, the partners agree on one or two themes that they conduct research on together and for which they develop teaching programmes and innovative material. The Wellness programme, for example, focuses on optimising the wellbeing of people with a mental or psychological disability by promoting a healthier lifestyle. Such a programme is a serious necessity. Lies: “People suffering from a long-term psychological disorder have a shorter life expectancy of approximately twenty years; not because of their mental condition but because of the problems that are indirectly related to it and are the result of excessive smoking, physical inactivity and obesity, among other things.

Annemarie Zijlstra, rehabilitation specialist and policy officer at Promens Care:

“Our collaboration with the Rehabilitation Professorship is inspiring and indispensable. Practical questions lead to practice-oriented research; new knowledge is created and finds its way into actual practice. We participate in national and international projects and contribute to as well as profit from new research. For an organisation as ours, which lacks a large research department and scientific staff, our contact with the professorship is of great value”

Lies Korevaar
Christien de Graaff is a member of the Executive Board of Alfa College, a Regional Training Centre (ROC) for the North and East of the Netherlands. She is enthusiastic about Healthy Ageing as a strategic theme and about the collaboration within the Centre of Expertise Healthy Ageing (CoE HA). “It is an important driver for educational innovation.”

Like many other institutions in the North, Alfa College chose Healthy Ageing as one of its strategic priorities years ago, alongside entrepreneurship and energy. Christien: “These are the themes that we focus our strategic attention on and to which we adapt our training programmes.”

The role of MBO
Christien considers the CoE HA “a wonderful collaboration between dozens of companies and institutions”. According to her, this theme cannot thrive without cooperation, and senior secondary vocational education (MBO) has its own role to play in this regard. “Issues raised by the business community are never mono-disciplinary; there are always multiple angles and levels. Our disciplines, on the other hand, are all oriented towards specific applications.” Cooperating with universities of applied sciences is common practice in companies and institutions, but still unusual between educational institutes. In innovation labs, however, these parties do work together, which is why becoming actively involved in the CoE HA was a logical step, as Christien points out. She is a member of the recently created CoE HA Advisory Committee. Alfa College currently participates in seven innovation labs: “We are very well-suited to working together in innovation labs. The participants are students and teachers from various healthcare training programmes, but also from such fields as technology, welfare, leisure and hospitality. It is important for our students to have the opportunity to actually carry out theme-related activities – it makes them feel good to know they are really making a contribution.” She adds, “This goes for teachers as well, of course.”

Embedding
Alfa College is working hard to embed Healthy Ageing structurally into its curricula. In various ways, this process is being incorporated in many of its training programmes and will certainly undergo further expansion. Next year, according to Christien, there will be an emphasis on exchanging experiences and sharing results within the innovation labs and between teachers from ROC’s and universities of applied sciences. This will inevitably foster the connection between MBO and HBO. “Another advantage of collaborating with the CoE HA,” she concludes.
Participation and wellbeing are integral aspects of Healthy Ageing

Healthy and Active Ageing means that people who require care, be they young or old, participate optimally in society.

Michèle Garnier, dean of the School of Social Studies:

“It’s great that Hanze University of Applied Sciences contributes to Healthy Ageing! I notice that people in our field see and value Hanze’s commitment. The innovation labs also play an important part in this as they provide a strong link with other parties in education and the professional field.

I am also really pleased that participation and wellbeing fall within the scope of the Healthy Ageing theme and that the focus is not limited to physical health and getting older. Healthy and active ageing means that people who require care, be they young or old, participate optimally in society. This is the focus of the Rehabilitation Professorship. Wellbeing is closely connected to this, being a key condition for growing up healthily and safely; which is exactly what the Integral Youth Policy Professorship concentrates on.

That angle of participation and wellbeing ties in perfectly with the principle of focusing on the healthy side of people: focusing on their abilities rather than their disabilities, and emphasizing their autonomy. This naturally also touches upon work and human capital issues. How will the demand for expertise develop in this region? How can we respond to that? These are issues that the Labour Participation Professorship is dealing with, and they tie in perfectly with the attention paid to this theme within the EU.

Together, the partners have succeeded in making us a leading region in the field of Healthy Ageing. It can safely be said that the School of Social Studies is quite capable of dealing with this theme.”
Peter Boonstra aims to bring researchers and the business community together in innovation labs. He notes that ‘business’ is not yet part of the DNA of knowledge institutions. Companies, on the other hand, are eager to invest in cooperation because they sense business opportunities – if not today or tomorrow, then certainly the day after that.

Peter is manager and business developer at the Centre of Expertise Healthy Ageing (CoE HA). Business development is essential in achieving CoE HA objectives. It is, after all, a matter of initiating sustainable cooperation between researchers, companies and healthcare institutions in a continuous innovation process. The innovation labs are supposed to yield new knowledge, products and services that can conquer the world independently. In 2016, when the government-aided period comes to an end, the CoE HA and Innovation labs have to stand on their own two feet.

Supporting innovation labs
“The money that the Centre of Expertise puts into the innovation labs is an investment,” says Peter. “The idea is to generate more money; otherwise, everything comes to a standstill after four years.” Together with Patrick van Oosten, consultant at consultancy firm Ordina, Peter visits innovation labs and provides support where needed: in areas such as e-Health and technology, business development and financing, and innovation in education. At the same time, this approach helps the CoE HA gain a national and, preferably, also international reputation as a place that offers knowledge and support to those who wish to achieve something in the field of Healthy Ageing.

Business community round the table
Companies participating in an innovation lab of the CoE HA often make a contribution in kind in the form of man-hours. These ‘scouts’ approach the themes of the innovation labs from a different perspective. Practically all themes found their origin in professorships and are therefore research-oriented in nature. Peter: “The business community should sit down with researchers straight away; they see opportunities that researchers might not.” For that reason, Peter brings the business community into contact with researchers. One of the results of these efforts has been the Pt-Global App (see page 16/17), which was developed in the early stages of a study conducted by Harriet Jager and which can help diagnose and treat malnutrition. Peter hopes that his active support can help bring about results like these in other innovation labs. According to him, an innovation lab ideally has a project leader provided by the business community and subject-matter expertise provided by a professor or researcher. Peter: “Professors are increasingly aware that they need project leaders if they want to meet their objectives.”
Youth & Lifestyle

Parents, schools, sports clubs and cultural and welfare institutions: they all contribute to children growing up healthily. This theme is not only about physical health, but also about stimulating talent and taking part in society. As a result of current developments, such as budget cuts in healthcare and changes in government policy, institutions concerned with youth are uncertain about the future. Especially in times of change it is important that local facilities cooperate and reinforce each other.
Ordina actively involved in CoE

Investing in innovation

Ordina, service provider in the field of ICT and consulting, is highly committed to the resolution of social issues. The company became involved with the Centre of Expertise Healthy Ageing (CoE HA) at an early stage and has since devoted numerous man-hours to the partnership. This should ultimately result in revenue, of course, but that this may take some time is not considered a problem by Paul Wiertsema, manager/consultant at Ordina. “It is evident that this innovation requires years of investing.”

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“A better understanding

According to Paul, healthcare parties will need to cooperate in order to innovate. “The Healthy Ageing programme and the Centre of Expertise are also part of this. Healthy Ageing is a theme that brings parties together, and this collaboration offers a great opportunity to mutually acquire the knowledge and experience needed to realize innovation.” Ordina helped develop the business case of the Centre of Expertise and is currently assisting in the support of innovation labs. In addition, Ordina is a partner in the innovation labs Health, Food & Technology and Clinical Malnutrition. “We believe strongly in an alternative approach and that is what we invest in. It is perfectly fine if we progress in small steps – it will give us a better understanding of how things should be done.”

“Healthy Ageing is a theme that brings parties together.”

We as an organization attach great value to social commitment; we want to come up with solutions to important issues in society.” One of the sectors that Ordina focuses on in this context is care. The emphasis in care is increasingly on what people are still able to do, Paul states.

“Healthy Ageing is a theme that brings parties together.”

The sector should therefore focus on helping to maintain and stimulate what goes well. “In developing our new products and services, we try to take into account the client’s perspective as much as we can. How can we support clients so that they can arrange the best possible care for themselves?” This is where innovative IT plays a key role.
Innovation lab makes name for itself with app

Malnutrition is a health risk

Many people tend to associate Healthy Ageing with a healthy lifestyle and obesity prevention, but malnutrition is a major health threat too – especially for people with health issues. Malnutrition causes a person’s physical condition to deteriorate, which may lead to a downward spiral involving more hospital admissions, increased medication use, the need of more complex care, reduced quality of life and a reduction in relatively healthy life years. Professor Harriët Jager-Wittenaar is head of the innovation lab that deals with this issue. For years, Harriët has been conducting research into the nutritional status of patients with cancer of the head and neck at the Department of Oral and Maxillofacial Surgery of the Medical University Centre Groningen (UMCG). She combines her research post at the UMCG with a job as professor of Clinical Malnutrition and Healthy Ageing at Hanze UAS. The introduction of the Centre of Expertise Healthy Ageing (CoE HA) and the innovation labs presented her with the opportunity to extend the research to clinical malnutrition of patients in general. Harriët wishes to point out that the innovation lab focuses on people with an illness, thereby distinguishing itself from other studies: “It’s not just about independently living elderly; plenty of research is already going into that. We focus primarily on people who run the risk of becoming malnourished as a result of an illness and the accompanying medical treatment.”

Public-private
Harriët is excited about the opportunity offered by the CoE HA to create a testing ground dedicated to this theme together with students, teachers, researchers, companies and the professional field. Setting up the innovation lab was exciting, and there was and still is much to learn from

The app is designed to detect and diagnose malnutrition in hospital patients and to monitor a person’s nutritional status.
Launch of international app

The innovation lab Clinical Malnutrition had only just been set up when the first result was announced: the international Pt-Global app, developed in cooperation with Dr Faith Ottery and the company Tizin Mobile. The app is designed to detect and diagnose malnutrition in hospital patients and to monitor a person’s nutritional status. The app is the first in its kind. In eighty per cent of Dutch hospitals it is customary to merely screen for malnutrition, thereby primarily focusing on someone’s weight and BMI; although important information, this is inadequate if you want to be able to diagnose someone with malnutrition. Consequently, some patients may be overlooked while others may have to undergo unnecessary treatment.

More indicators
Pt-Global uses more indicators to identify malnutrition than the current screening instruments. Apart from body weight, the app – developed on the basis of an existing, validated questionnaire – takes into account body composition, nutritional intake and physical activity, among other things. With this information, a healthcare professional cannot only detect malnutrition but can also make the diagnosis and monitor the patient’s nutritional state over a period of time. Eventually, the app will also enable the patient to complete many of the questions independently, saving the healthcare professional valuable time. In short, the care process is not only made more effective but also more efficient.

Health benefits
The launch of the app generated a lot of publicity, which partly accounted for the many positive responses that Harriët has received from professionals and from companies wanting to join. “It’s what this instrument deserves because considerable health benefits can be yielded if hospitals do not only screen for malnutrition but can also diagnose patients and monitor them. This will result in better treatment. We are also translating the app into twenty languages and, last but not least, the app will be scaled up to European level in the European Innovation Partnership on Active and Healthy Ageing. It truly is a tool fit for international use.”
Healthy Ageing in education requires a multidisciplinary approach

Training students to become

People who dare venture beyond the beaten path of their discipline, and who collaborate effectively with professionals from other, sometimes completely different, disciplines: bridge builders. That is what society needs in order to tackle the challenges of an ageing population, according to professionals and government bodies in the Netherlands and Europe. The Healthy Ageing theme has established itself firmly in Hanze UAS Minors and Master’s degree programmes, in its honours programmes and regular programmes, and in its teaching facilities.

Healthy Ageing in the regular programmes of the School of Health Care Studies

“The focus on healthy ageing is a given in our programmes,” says Karin Liebrand, coordinator of the Healthy Ageing Minor and educational advisor at the School of Health Care Studies. “All our programmes – Physiotherapy, Speech & Language Therapy, Nutrition & Dietetics, Health Care Management, Dental Hygiene, and Medical Imaging & Radiation Therapy – are linked to healthy ageing, healthy behaviour and prevention. Healthy Ageing is firmly established in our curricula.” Physiotherapy, for example, offers a specialisation in elderly people, Dental Hygiene has the Krasse Tanden (‘Spry Teeth’) project, Speech and Language Therapy focuses on the development of young children as well as on the treatment of speech and language disorders caused by ageing-related diseases, and a key component of the regular programme of Nutrition & Dietetics is prevention. “It is impossible to graduate from this School without ever having heard of Healthy Ageing.”

Innovation lab promotes knowledge circulation

Social Studies, Nursing, the School of Health Care Studies and the professorship in Health Care and Nursing are going to combine all practice-oriented research of students in the innovation lab, a multidisciplinary learning environment in which students conduct research on questions from the professional field together with lecturers and PhD students. Examples of knowledge labs are: The Vulnerable Elderly, Healthy Lifestyle and Prevention, The New Care Professional, Active Lifestyle with Physical and/or Mental Disabilities, Self Management, and Empowerment of Clients. If questions from the professional field require expertise in other areas, the innovation lab invites students and lecturer-researchers from other Schools. “The innovation lab wants to encourage students to adapt a multidisciplinary approach. Our goal: to have half our students in 2017 carry out a final-year project in a multidisciplinary setting,” says Sake van der Ploeg, coordinator of the innovation lab. “The professional field has an increasing need for professionals who look beyond their own area of expertise.”

New Healthy Ageing Honours programme

Five years ago, the School of Health Care Studies initiated an Honours programme in Healthy Ageing. A new setup for this programme for excellent students was realised in September 2014, and it now also welcomes students of Nursing and Social Studies. “Because of the developments taking place in the health care sector, it is necessary to integrate knowledge in these disciplines. Well-being is becoming increasingly important in the prevention of disease,” says programme coordinator Inge Wijkamp. A pilot project was launched in 2012 and a number of students of Social Studies joined in. “It was quite a success,” according to Inge. “Healthy Ageing lends itself well to interdisciplinary teaching.” Students independently choose their projects, contact the client, and, if necessary, involve other students. “One
of our senior students approached rehabilitation centre Revalidatie Friesland because she wanted to investigate whether evidence-based oral motor treatment intended for children is also suitable for adults. The speech therapists at Revalidatie Friesland had wanted to know that for a very long time, but had not had the time to find an answer themselves. Our Honours student took up the gauntlet and got in touch with students from neurology and oral hygiene, two neighbouring disciplines,” she says. “I think it is great that she involved students from the regular Speech & Language Therapy programme, thereby linking the Honours programme to the regular curriculum. She develops leadership and communication skills, among other things, and is responsible for the research project.”

Inge: “We need professionals in health care who are simply good at their jobs, but we also need bridge builders: people who take the lead in care innovations, who are broadly informed and possess the communicative, innovative and creative qualities to get innovations off the ground; people who do not just follow the beaten track but also explore other disciplines. All these competences are developed by students in this Honours programme.”

Future in Health Minor for all talented UAS students in the Northern Netherlands

The multidisciplinary Minor ‘Toekomst in Gezondheid’ (Future in Health) is open to motivated and ambitious students from all universities of applied sciences in the Northern Netherlands. The Minor is aimed at students who are interested in social developments and who wish to contribute to innovations in health and well-being.

“Demographic ageing is one of the reasons the current health care system is no longer tenable. The professional field needs professionals who think critically and are innovative and socially committed. We aim to develop such professionals with this Minor,” says Bea Dijkman, project leader of Future in Health. Issues that students will have to work on include: how can we live healthy and stay active for as long as possible? What do we need to grow up in a healthy manner? How can we organise society in such a way that the elderly can be an active part of it for as long as possible? What kind of technology can help us with that? How do we finance this, and which opportunities does this development offer for entrepreneurs?

Future in Health welcomes students from all programmes,
Students will study physical, social and spiritual aspects of healthy ageing, as well as means of improving the organisation of care and making it more customer-oriented.
Master’s degree programmes
The two Master’s degree programmes currently under development are Sensor System Engineering and Healthy Ageing Professional.

The Master’s programme in Sensor System Engineering dovetails perfectly with the needs of the professional field. In addition to the technical content, the programme offers a health-related specialisation that focuses on Products and Services in Health as well as Sensor Applications in Health. This programme follows on from the Bachelor’s degree programme in Advanced Sensor Applications and is also open to students of Electrical Engineering, Mechanical Engineering, ICT and Bio-informatics, provided they complete a transition Minor. “Sensor technology can play an important role in supporting the independence of vulnerable people. It enables them to live on their own for longer,” says project leader Ester Vertelman. The sensor technology sector is an important sector in the Northern Netherlands. “Companies need employees who are capable of analysing data and of developing proofs of concept into prototypes. We teach our students these skills in this Master’s degree programme.” The professional field is closely involved in the programme’s development and implementation; some of the lecturers work in the industry, and business representatives, experts, graduates and students work together in a ‘community’.

Healthy Ageing Professional is a Master’s programme that is closely connected to the Centre of Expertise. It is a joint project of the Schools for Sport Studies, Social Studies, Health Care Studies and Nursing. The programme’s focus is on prevention, says lecturer and researcher Steven Bunt. “We use a system-based approach. Students learn to look at humans in their entirety, thereby stepping beyond the boundaries of their own discipline. The focus is on promoting a healthy and active lifestyle, in sickness and in health. We are guided by possibilities, not impossibilities.” One of the focal points is the organisation of care provision. “What should it look like? Can we prevent people from having to rely on care, for instance by combining health with sport and welfare? Care is going to become more of a social matter. Sport and welfare professionals have to become more aware of lifestyle and the physical side of people’s problems, and health care professionals will need a greater knowledge of sport and welfare.”
Welfare & Healthcare

The healthcare sector is changing. Elderly prefer to live at home as long as possible. As a result of the Wmo (social support act) it is increasingly the responsibility of the council to support their citizens’ independence and participation. Mental healthcare is also in flux: clients, who have lived in a home for a long time increasingly move out to live independently with private home care. These developments require a different approach by healthcare providers and new abilities of healthcare professionals.
The mental healthcare sector is undergoing major changes. One of the developments is ‘extramuralisation’, the process of getting clients living ‘inside the walls’ to start living more or fully independently. It is quite a challenge, not only for the people themselves but also for the GGZ institutions supervising this process. GGZ Friesland decided to face the challenge with the help of various partners in the innovation lab ‘Social Participation of People with a Psychological Disability’.

Loes Winkel is manager of GGZ Friesland and project leader of the innovation lab, which is part of the Centre of Expertise Healthy Ageing (CoE HA). She says that many clients want to live on their own but are at the same time anxious about doing so. They fear isolation, among other things. “Our clients have no experience with living independently and they have a psychological disability. It is not an easy step. Social interaction is not easy for them. These are not the kind of people that you can simply send off to a sports centre.”

School for independent living
The question is how we can help this vulnerable group participate optimally in society. In order to find an answer, the Rehabilitation Professorship is carrying out a major national study that closely monitors the process at GGZ Friesland and a number of other institutions. Which groups have the least trouble taking the step to independent living? What is quality of life for the clients? How are they doing at work, at school and at home? Loes: “We want to know how we can support these clients effectively and efficiently. Should we make use of home automation or maintain daily contact with our clients via Facetime? Or should we reintroduce drop-in mornings at the community centre? GGZ Friesland is currently developing a ‘school for independent living’ to prepare clients for a life on their own. It offers dozens of modules with courses such as ‘keeping your expenses under control’. “The school for independent living is still under development,” says Loes. “How do our clients learn best? When taught in a group or individually? Will they be able to make use of e-learning tools?” We are currently also developing a training programme for staff so that they will know how to respond adequately to the developments. After all, employees need to be prepared for changing tasks and job content. This has given rise to Hanze’s decision to tailor its programmes to these developments as well, for example through the development of new modules.

Out of the GGZ box
According to Loes, GGZ Friesland hopes to benefit from the innovation lab in several ways. “First of all, the research that is being carried out lays the basis of how we can support our clients. Furthermore, we are keen to exchange knowledge and expertise with companies and institutions other than the GGZ. Peter Boonstra of the CoE HA, for instance, brought us in contact with NOVO, an organisation that has extensive experience supporting their clients (people with a psychological disability) by means of home automation. We can learn a great deal from them. In turn, they may be inspired by our school for independent living. The innovation lab gives us the opportunity to take a much wider look at the issues we are struggling with.”
Healthy Ageing

“The Integral Youth Policy professorship wishes to contribute to the development of talent in all children, and to help them participate optimally in society. This aim is closely connected to Healthy Ageing: there is a strong link between health and participation, and it goes both ways,” says Jeannette Doornenbal, professor of Integral Youth Policy and coordinator of the innovation lab Kind in de Wijk (‘Child in the Neighbourhood’).

KIWI is an innovation lab with a clear-cut objective. It focuses on the Groningen neighbourhoods Selwerd, Paddepoel and Tuinwijk. The municipality’s mission: to bring about social improvement in these neighbourhoods by pooling the efforts of all the parties actively involved with local youth. Jeannette: “Together with professionals we want to find out how these parties can do their job more effectively.”

Whirligig of projects
“We started with an inventory of all youth-related activities in these neighbourhoods and were surprised to find that every club has its own neighbourhood plan; there is no synergy, no decisions are made. This whirligig of projects has to stop.” Jeannette knows that changing this situation is not an easy task, especially not in a time of great uncertainty brought on by the major changes resulting from the Participatiwet (Participation Act), the Wet Pasend Onderwijs (Appropriate Education Act) and the decentralisation of youth care. “These developments are causing great uncertainty and noise in the institutions concerned. While it is therefore no surprise they are not overenthusiastic about spending a lot of energy on a new approach, we will work together on finding a way to achieve results.

Connect and improve
How can we align the plans and activities of all these different neighbourhood facilities? Jeannette sees this mission primarily as a change management task. The keywords are to connect and to improve. Content-wise, at least, the parties are in agreement. “The questions that are on the table are crystal clear: what are the threats to the children in our neighbourhood? The answer: poverty, poor health, lack of exercise and social exclusion. It did not take long for the parties involved to agree on two themes on which to focus their activities: ‘active lifestyle’ and ‘peaceful’. Various high-quality programmes have already been developed for this purpose. If necessary, however, the professorship is more than willing to develop new material.

The ultimate innovation
The idea is not only to forge a lasting relationship between schools and professional institutions in the framework of these themes, but also to involve parents, sports clubs – the entire community, in fact. The researchers are trying to find out how the various parties in the area can pool their efforts for greater effectiveness. The underlying idea is of course that the approach, if it proves to be a success, can be adopted in other neighbourhoods and cities. “In my opinion, that’s the ultimate innovation we are striving for,” says Jeannette. “We are looking for an approach that is transferable to other neighbourhoods but is at the same time adaptable to a specific context; in other words, an approach that can be tailored to a specific neighbourhood with its own specific conditions and people.
A perfect opportunity for entrepreneurship in the healthcare sector

Frans Donders is director of the Groningen Center of Entrepreneurship Value050, and of Cube050, incubator for starting entrepreneurs. Both Value050 and Cube050 are joint initiatives of Hanze University of Applied Sciences Groningen and the University of Groningen.

“The healthcare sector is currently undergoing major changes; think, for instance, of the transfer of care responsibilities to municipalities and of the focus of health insurers on purchasing high-quality healthcare. These kind of developments create opportunities and now is therefore an excellent time for new entrepreneurs in the healthcare sector. Innovation is also a necessity; otherwise, healthcare will become unaffordable. The innovation labs are working on precisely that: discovering new ways of providing care to people who need it, for instance with the help of ICT. How can these innovations be valorised? Value050 analyses the innovation lab projects and suggests answers to questions such as: how can we market these innovations? Is an innovation suitable for a start-up?

We start familiarising all students with the subject of entrepreneurship from their first year at Hanze UAS, in the hope of motivating them to eventually start their own business. Themes that we naturally pay attention to in that context are Healthy Ageing and Energy. Third-year students can choose from a variety of Minors in the field of Healthy Ageing and entrepreneurship, but personalised supervision is also an option. The number of starters involved in Healthy Ageing is growing, in 2013-2014 there were 14 student starters. Every sector, every School can make a contribution to this field; this is nicely illustrated by the person who recently graduated in Applied Psychology and is planning to set up a coaching business affiliated to the Quantified Self Institute. While those measurements of your body may all be very nice, using them to improve your health often means changing your lifestyle – something that most of us can use a bit of help and coaching with. I can’t stress this often enough: the market is changing rapidly and provides a perfect opportunity for entrepreneurship in the healthcare sector.”

Enterprise Europe Network Northern Netherlands

“In this rapidly changing market the international aspect is becoming more and more important as well. But how to find that foreign partner? How to deal with European legislation, international employment, or intellectual property rights? Questions like these can be directed to the Enterprise Europe Network (EEN), consisting of almost 600 contact points in over 40 countries. To assist entrepreneurs in the Northern Netherlands with similar questions we, as Cube050, joined a consortium with Energy Valley, Business Development Friesland, Water Alliance, and the Healthy Ageing Campus to form the contact point of the EEN in the Northern Netherlands. The contact point also cooperates closely with VNO-NCW/MKB Noord, Hanze UAS and NHL Universities of Applied Sciences, 123subsidies and Greenlincs.

Between these partners and their networks we have a strong and extensive web of knowledge and know-how on a broad range of topics, among which Healthy Ageing of course. As the EEN Northern Netherlands we welcome all businesses with international ambitions looking for advice on innovations and international entrepreneurship. With all the mentioned developments in the healthcare sector and the available support in the region, those perfect opportunities for entrepreneurship are there for the taking.”

Frans Donders
Healthy Ageing

Healthy Ageing is one of the lines of research of the Healthy Ageing, Alllied Health Care and Nursing professorship, but other research lines, such as Child, Language and Development, Organisation of Care, and Paramedical Care and Nursing have an important Healthy Ageing component too.

Active Ageing for people with intellectual disabilities

How can you improve the health of people with intellectual disabilities and enhance their participation in society? This is the key question in the Active Ageing professorship for people with intellectual disabilities, led by professor Aly Waninge; she also works as a physiotherapist at Visio Brink in Vries, a residence and day-care centre for adults with severe learning and visual disabilities. The innovation lab, focusing on the entire target group of people with intellectual disabilities, aims to systematically chart the interventions that can improve their lifestyle, and to offer guidelines on implementing and safeguarding these interventions in care. The emphasis is on more exercise, a healthy diet and a good night’s sleep.

Language expert

The website Taalexpert (‘Language Expert’; www.taalexpert.nl) is the leading innovative platform for speech therapists searching for the latest insights and tests in the field of language and speech impairments in children. “There is a myriad of tests available, for different ages and with different approaches,” says Margreet Luinge, professor of Child, Language and Development. Taalexpert offers a practical overview, informing speech therapists who the tests are meant for and which specific problems they address. With this information, they can determine which test is most suitable for a client.

Delfgoud

Delfgoud is a lifestyle programme that aims to improve the quality of life of elderly people with a low income. Elderly people with a low socio-economic status living in the municipality of Delfzijl are offered a programme in which exercise, a healthy diet and participation are key. The project is now owned by local residents and the participants themselves. The local community group facilitates the project and the municipality provides financial support to promote healthy ageing and participation. PhD student Annemiek Bielderman is monitoring this project. “We started with seven groups in 2012 and they are still active on a weekly basis. The participants are enthusiastic and feel responsible for making sure enough people participate. I am currently analysing the data and have so far found that participants feel fitter and have more social relationships.”
Year after year, lecturer Jan Zijlstra manages to get students excited about biomedical engineering, especially about projects at the interface of electrical engineering, mechanical engineering and health. “The students are really tech-savvy; I show them that we can also use that technology to help people.”

Every autumn, fifteen to twenty students of the School of Engineering undertake the English-taught specialisation in International Biomedical Engineering. A three-week summer course in Wilhelmshaven familiarises them – and students of nine other European universities of applied sciences – with subjects such as physiology, anatomy, biomaterials and medical technology. “They know a great deal about technology but have little medical knowledge. They need that medical knowledge to develop useful biomedical products and be a valuable discussion partner for doctors or managers of biomedical companies,” says Jan.

Biomedical projects
Back in Groningen, the students work on projects that Jan acquires through his contacts with biomedical companies and hospitals. For instance, Jan had groups of students working on four different projects in the autumn of 2013: a ventricular assist pump; a measuring and training device to prevent loss of muscle mass; a phantom heart pump, designed to interpret MRI and CT images of real aortas; and a calibration device for a ‘body box’, which can measure many different aspects of a person’s lung function.

Master’s degree programme
After completing their specialisation, many students undertake a final-year project in the field of biomedical engineering. Some Bachelor’s graduates take a Master’s degree programme in biomedical sciences at the University of Groningen or at another research university or university of applied sciences. As of September 2015, they can also undertake the new Master’s degree programme in Advanced Sensor Applications at Hanze UAS, which has Healthy Ageing components. According to Jan, a Bachelor’s and, even more so, a Master’s degree in the field of biomedical engineering will easily land you a job – but you should not restrict yourself to the north of the Netherlands, as most of those jobs are to be found elsewhere in the country.

Looking at blood
Heart problems? How convenient would it be if the cardiologist could check whether your heart is pumping effectively without having to open you up. Producing images of a beating heart is not the problem; that is what MRI and CT scanners are for. Being able to interpret those moving images, there’s the snag.

After completing the specialisation, Joost Witmer decided to do a final-year project in biomedical engineering. The goal of the project, commissioned by the UMCG and supervised by Jan, was to develop a pump that imitates the human heart. This pump indicates at any given moment the exact amount of liquid that is pumped through. Scans of the fake aorta (a length of garden hose) can teach us what the liquid flow of a specific volume looks like. This gives us a criterion for measuring blood flow that can help us assess images of real aortas.
e-Health & Technology
Healthcare and technology are increasingly intertwined. Technology can contribute to information, prevention, comfort, support and a sense of security. Healthcare providers, companies, educational centres and other relevant parties cooperate with a view to the development of innovative healthcare concepts. Thanks to technological applications, for instance, it is possible for the elderly and disabled to remain in their own homes for a longer time. And the young learn about a healthy lifestyle with the help of computer games.
That's the essence of research: trying all kinds of different things.

The Hanze Active Ageing Lab (or HAAL) is a delight for students, lecturer-researchers and PhD students. The lab is full of computer-controlled movement and measurement equipment intended for conducting research into factors related to movement, health and ageing. It also has a large room with apparatus that looks like fitness equipment for measuring exercise capacity and strength, among other things; a neuropsychology lab for testing responsiveness and memory; and a metabolism lab for conducting research into the ways in which muscle measurements can be carried out using ultrasound, a method that is less harmful to patients and also a much cheaper option than MRI.

Floortje Meulman and Klaas-Jan Kooiker are third-year students of Physiotherapy. They both specialise in the elderly. At HAAL, they use isokinetic measurement devices to find out what exactly muscular endurance is.

“We first wanted to find out if the HUMAC* is a suitable device for measuring muscular endurance, for which we would then develop a protocol. However, on the basis of the available literature on the subject we had to conclude that muscular endurance is a vague concept,” says Klaas-Jan. “And that makes it hard to measure,” Floortje adds. The students brainstormed about possible definitions and tested their theories on the HUMAC, using themselves as test subjects. Klaas-Jan: “One of the theories is that muscular strength decreases after thirty or forty times, and then remains the same. This would mean that 30 per cent of the maximum muscular strength is your muscular endurance. We tested this at various speeds, but the outcome differs per individual.” Floor: “That’s the essence of research: trying all kinds of different things. This is a wonderful lab with professional equipment. It gives us the opportunity to study things that could not be studied before.”

*The HUMAC is one of the measuring devices in the HAAL
Degree programmes do not adequately prepare nurses and social workers for working with elderly people, frail or otherwise; yet these are the people they are primarily going to have to deal with in their jobs. In the European Later Life Active Network (ELLAN), researchers of Hanze UAS are laying the basis for a European Core Competencies Framework for working with older people.

“The way that elderly people perceive their personal situation and the possibilities regarding, for instance, care, is based on what they know. They are often unaware of new developments. This is really something that should be kept in mind when working with older people,” says Petrie Roodbol, professor of Nursing and closely involved in the ELLAN project. “Another thing that makes older people ‘different’ for professionals in health and social care is the role of family. At some point, elderly people may lose the ability to make decisions for themselves; because they suffer from dementia, for instance. You also have to take into account that their senses do no longer work as well as they used to; their sight, their hearing – it all deteriorates. When something happens to them the balance is easily disturbed, and this often greatly affects their ability to function independently.

Objective competences
Countries all throughout Europe face the challenges of an ageing population, but the ways they are trying to deal with it vary considerably from one country to another. Denmark, for example, is committed to facilitating the independence of elderly people; in Spain, many elderly people move in with their children. Some countries have an elaborate multidisciplinary care infrastructure of doctors, nurses, social workers and other professionals, and others do not. Due to such differences, making changes to the curricula at a European level will prove difficult, says Bea Dijkman, educationalist and policy officer of Healthy Ageing. “What we can do, however, is objectively determine which knowledge and skills professionals require in the field. That is why we are developing the competencies framework. Once the framework has been approved by the professional associations of the participating countries, it will be embedded in the curricula.”

CanMEDS Roles
The ELLAN project consists of a number of work packages. One of them focuses on the development of the competencies framework. This work package takes the CanMEDS Roles as a starting point: roles that the professional needs to fulfil in carrying out his or her tasks. “These were originally developed for doctors, but we think that their general applicability would enable them to be adapted for use by other professionals and for working with elderly people. We are carrying out a literature survey to investigate the possibilities. We already described a number of roles, which we will submit to ELLAN partners and professionals to see whether they can identify with these roles and whether they can be applied in their professional culture,” says Bea. Research into these roles, carried out by Hanze UAS, fits in perfectly with the ELLAN work packages carried out by other partners. These are studies concerned with questions such as: what do professionals think elderly people need, what do elderly people themselves consider important, and how do students perceive the elderly. “The outcomes of these studies put the more general competencies of our work package in the context of working with older people and the specific skills that are required for this,” says Bea.

There are twenty-six participating countries and each work package comprises key partners from the north, south, east and west of Europe. Bea: “Involving every country in every activity would be unworkable, but we did make sure that the various cultures and traditions are represented in all work packages.”
If we want to age in a healthier manner, we should do more in the way of sport and general physical activity and start living a more healthy life. Professional lifestyle coaches can help us with this. As this is a problem that occurs all over Europe and beyond, the School of Sport Studies of Hanze University of Applied Sciences, Groningen, in cooperation with seven European universities of applied sciences and universities, has developed the international Bachelor’s programme Physical Activity and Lifestyle (PAL). It has been modelled on the Hanze programme Sports, Health and Management.

“A very long time ago, humans were physically active because we hunted, worked the land, or had to fight or flee. Nowadays, we go to the fitness centre by car in order to work out on a spinning bike. While many of us feel that sport or other kinds of physical exercise should be part of our lives, it is no longer embedded in our daily behaviour. Our philosophy is that sports and physical exercise are integral to being human, and that it plays an important, inspiring role for our health and well-being.” These are the words of Kris Tuinier, team leader of Sports, Health and Management, and closely involved in the new international Bachelor’s programme. “The challenge is to motivate, to entice people to opt for sport, physical exercise and a healthy lifestyle. To that end, you need to develop products and services that respond to other needs besides getting a healthy body, such as overcoming loneliness and meeting other people – and that’s exactly what the Sports, Health and Management and PAL programmes are for.”

Enjoyment provides lasting effect
Once graduated, the students can call themselves exercise and lifestyle coach. As a coach, they can assist clients in adopting a healthier lifestyle, but they will also be able to make living and working environments more activity friendly, and develop policies that promote a healthy lifestyle. “From their first year onwards, students work on projects aimed at encouraging people to become more physically active.” These projects involve interventions that are intended to have a long-lasting effect. Kris: “A lot of people start exercising because they want to become healthier, but motivation based on that premise is often short-lived. However, if you enjoy the physical exercise, you will keep it up much longer. Getting someone to change their behaviour is what it is all about, and that really is a job in itself. Our department has a positive attitude towards health, which means we focus on health and behaviour instead of illness and care.”

International Bachelor’s programme: intensive collaboration and exchange of knowledge and expertise
Bachelor’s degree programme in Physical Activity and Lifestyle
PAL has been developed with funding from the Erasmus Life Long Learning Programme of the EU. Partners of Hanze UAS involved in the PAL programme are Syddansk University Odense (Denmark), University of Kaunas (Lithuania), InHolland Haarlem, ESDRM of Rio Maior (Portugal), University of Rome Foro Italico (Italy) and umbrella organisation ENSSEE (European Network in Sport Science Education and Employment).
All participating universities and universities of applied sciences contribute their knowledge and expertise to the international PAL programme. Apart from exchange students, many lecturers take part in the exchanges as well. There are three countries where students can complete the entire degree programme and many more countries that offer a semester exchange programme. It is compulsory for students to complete six months of the programme at one of the partner institutions.
Hanze UAS Groningen is involved in the international IROHLA project, which aims to help elderly people gain a better understanding of their own health. ‘Health literacy’ is the main theme.

Health literacy can be described as people’s knowledge and understanding of health and well-being. Health literacy capacities of older adults can improve by empowering them and giving them more knowledge, skills and self-confidence in making decisions about their own health. Someone with a better insight into their own health will be in a better position to take informed decisions and will be more inclined to adopt healthy behaviour. Health literacy promotes therapy compliance and a healthy lifestyle in general. Health care workers can contribute by means of clearer and simpler communication on health issues.

This EU project, which involves several other European partners, is coordinated by the UMCG. Besides the importance of the project’s objective, involvement will also help Hanze UAS expand its international academic network. The Hanze UAS work package focuses on the development of teaching interventions which, once incorporated in the curricula of disciplines such as nursing and paramedical care, can contribute to health literacy. Researchers of Hanze UAS want to find out which useful teaching interventions are described in literature. On the basis of their findings, they will come forward with a proposal to incorporate certain interventions in the various curricula.

What do these interventions entail exactly? The interventions they found were mainly aimed at teaching specific, health literacy related communication skills and effective learning strategies. Incorporating these interventions in the curricula improves the quality of the degree programmes and teaches students skills that come...
among Ageing population

through education

in useful in their future careers. Project leader Wolter Paans, professor of Nursing Diagnostics: “Our search for health literacy interventions in literature revealed a number of interesting methods. One of them is the ‘teach-back’ method, which teaches students to make use of a specific question-and-answer method that enables them to verify whether patients understand the content of the information and how this information will affect their daily lives.”

Research Group in Nursing Diagnostics has large international network

“We have to look beyond our borders.”

Nursing diagnostics is an important part of the nursing profession. After all, a successful nursing intervention is the result of a proper analysis of a patient’s health problems. The Research Group in Nursing Diagnostics closely examines this topic.

Professor Wolter Paans likes to express his field of research in terms of a formula. Albeit slightly tongue-in-cheek, it shows in a short and powerful way what nursing diagnostics is all about: $V^2 + I^2 + R^2 = E^2$.

$E^2$ is the outcome, which stand for the E’s of the Effectiveness and Efficiency of nursing care. The V’s stand for Validation and Valorisation: developing a sound, scientifically based theoretical basis (validation) and guaranteeing a successful implementation in practice (valorisation). The I’s stand for Information and Integration, which refer to the development and application of nursing information technology and the integration of this technology in care practice. This can be achieved by efficiently linking nursing information – obtained through, for instance, sensor technology – to the electronic health record.

Last but not least, the two R’s stand for ‘Roles’ and ‘Relations’. This domain focuses on the social support system of people requiring care. In other words, family care is an important research subject in this research group.

The Research Group in Nursing Diagnostics is part of a strong international network. Paans: “We have to look beyond our borders and learn from global developments in nursing science. Nursing science is an international knowledge area that is especially well developed in countries such as the US, Canada and the Scandinavian countries.” For that reason, the Research Group in Nursing actively participates in multiple international networks. Two major network partners are ACENDIO (Association for Common European Nursing Diagnoses, Interventions and Outcomes) and NANDA (North American Nursing Diagnosis Association).

We have to look beyond our borders and learn from global developments in nursing science.
When we started out, none of the clients felt fit, many were overweight and all of them were in poor health and on medication.

Psychiatric patients and former psychiatric patients often suffer from metabolic syndrome, a metabolic disease that may develop as a result of being overweight or obese. Metabolic syndrome increases the risk of developing diabetes and cardiovascular disease, with high healthcare costs as a result. Students majoring in Sports and Health contacted the target group, developed interventions and studied their effectiveness. Their key conclusion: interventions should be focusing on supervisors as well.

“A student wanted to conduct research on this topic and that’s how it all started,” says lecturer-researcher Silvia Brouwer of the School of Sports Studies. She contacted the Department of Epidemiology of the University Medical Centre Groningen (UMCG) and the mental healthcare institutions in the north of the Netherlands, who all had plans to develop interventions for this target group. Their efforts were combined in the ELIPS project (‘Effectiveness of Lifestyle Interventions for Mental Disorders’), with funding from ZonMw. The first pilot was carried out on a voluntary basis with residents of sheltered housing in Friesland. The students carried out baseline measurements and observed the group’s lifestyle, physical behaviour and diet.

No standard programme
The residents did not have to follow a run-of-the-mill programme in order to change their lifestyle. Instead, the students adapted their interventions to what the residents were already used to and to what they enjoyed doing. A choir that used to rehearse sitting down would be asked to rehearse standing up, clients would walk or cycle to their day-care activities or work instead of taking the minibus, and the students introduced lunch walks and shopping for healthier food. The measurements carried out after three months indicated that the residents were, on average, more active, fitter and healthier. The students repeated the measurements after a year. “Most of the residents had gone back to their old habits. We realised that we would need to involve the supervisors in our interventions: what is their lifestyle? How can they encourage healthier behaviour in clients? This issue is being addressed in the follow-up study,” says Silvia.

In the meantime, the ELIPS project has been carried out in the majority of mental healthcare institutions in Friesland and Groningen among groups of residents living independently or in sheltered housing.
Labour & Healthcare
As the result of population ageing and the increase of the retirement age, the current labour force needs to remain active on the labour market much longer. This requires a new, precautionary approach. The theme of Labour & Healthcare focuses on employers, who want to innovate in order to facilitate their workforce optimally and to continue to provide high quality products and service. Educational centres work hard to further these developments. Young and old are given the opportunity to invest in their own development permanently. In short: life long learning.
Johannes Wolters is CEO of Lode Holding. Located at Zernike Campus, this company produces ergometric equipment, among other things. Hanze University of Applied Sciences Groningen and Lode have been allies for some years now; Wolters was involved in the establishment of the CoE Healthy Ageing and sits on the CoE Healthy Ageing Advisory Committee. Lode Holding’s subsidiaries Lode and ProCare participate in the innovation lab ‘Sports & Healthy Ageing’.

“This coordinated collaboration between a university, a university of applied sciences, secondary vocational education and business is quite unique! All these parties are willing to invest because they consider it an important cause. What really appeals to us is that it concerns applied knowledge; projects that are relevant to society in the short term. They come in useful straight away. The innovation lab focuses on the prevention of injuries in specific target groups: the students themselves, for instance, but also pregnant women and firefighters. We perform measurements and try to find out how these people can exercise properly and without injury. We at Lode are good at measuring physical performance; we have all kinds of measuring devices with which we can monitor our participants. Our innovations are not just technical in nature; we combine a piece of equipment with, for instance, an app that asks questions and gives feedback in a new application.

In addition, each year we offer work placement positions to about twenty students from various Schools of Hanze UAS and a number of students from the University of Groningen. We offer them a comprehensive placement programme including introduction and supervision to ensure a successful placement. Contributing to the educational development of young people in this way is very important to us. In turn, the students provide us with a fresh approach, asking questions such as: ‘Why do you do it this way and not that way?’”
Sport Physical Education and Coaching in Health (SPEACH)

The School of Sport Studies of the Hanze UAS has received an Erasmus+/Sport subsidy for her ‘Sport Physical Education and Coaching in Health’ (SPEACH)-project (2015-2017). The SPEACH-project makes an important contribution to the strategic theme Healthy Ageing of the Hanze UAS.

Physical inactivity is one of the largest international health challenges of the 21st century. In this context, the aim of SPEACH is to stimulate the consciousness and the desired behavioral change, related to an active and healthy lifestyle in European citizens (especially youth) through sports professionals. At European level the consortium would like to contribute to the solution of the problem and stimulate sport and physical activity. To achieve the above objective the project develops teaching modules in the field of promotion of sports and health-enhancing physical activity in existing educational sport programs for trainers/coaches, physical education teachers and sport and healthy lifestyle manager. In this way, through these sport professionals, children, young athletes, adults and elderly will be encouraged to exercise more.

The SPEACH project consists of 5 phases:

1. A needs analysis among EU education programs for sports trainers/coaches, physical education teachers and sports, health managers to identify which wishes and needs these programs have in the field of health promoting sports and physical activity promotion modules;
2. Developing modules on the basis of the results from phase 1;
3. Development of train-the-trainer modules so that these sports professionals are trained;
4. Testing, evaluating and adjusting the developed modules;
5. Quality assurance and sustainable implementation.
An excellent international network and successful cooperation with international partners improve the quality of education at Hanze UAS. This is especially true for degree programmes in the field of Healthy Ageing, says Henk Willemsen, internationalisation coordinator at the School of Health Care Studies.

This School, which offers a range of programmes in the fields of physiotherapy, nutrition and dietetics, dental hygiene, speech and language therapy, imaging techniques, and health care management, has close ties with more than thirty partner universities. Gothenburg and Leuven occupy a special place in this respect. “We cooperate more extensively and intensively with these two partners, and our activities are moving increasingly in the direction of joint teaching and research projects. Having this joint responsibility makes the collaboration more complex, but also stronger.”

Willemsen stresses that this combination of research and teaching forms the backbone of their collaboration. “The professors of the professorship in Health Care and Nursing are open to everything and their international network is strong. This really helps me when I am trying to build partnerships with degree programmes abroad. People know what we do here. They consider Hanze an interesting partner.”

Lecturer and student exchange

There are various sides to the internationalisation of education, and lecturer and student exchange is one of them. Hanze UAS is committed to having a considerable part of its Bachelor’s students spend at least three months at a partner institution or as a student on placement at a company or organisation abroad. The School of Health Care Studies is therefore used to seeing students come and go. “The idea is that they gain new insights and become familiar with a different culture. It forces them to temporarily stand back from their fixed ideas and beliefs, which broadens their horizons and promotes tolerance and mutual respect.” We also regularly welcome ‘visiting professors’, who are often invited through the network of one of the professors. Naturally, a visiting professor will give lectures, and these give students an idea of what goes on in their field in the rest of the world. In addition, the visitors will talk to lecturers and interested people from the field, as well as with, for instance, the curriculum committee of one of the degree programmes.

Internationalising the curriculum

Another aspect of internationalisation is to provide international – and therefore sometimes English-taught – components in the curriculum. These are often the components that attract students from abroad – another way to welcome the world into the Groningen lecture rooms. This glimpse into another country, with its different culture and its different way of working, gives students food for thought. “What inspires you? What can you use and what not?”

The School of Health Care Studies is currently developing a broad, English-taught Master’s degree programme, ‘Healthy Ageing Professional’, and an internationally oriented Minor, ‘Global Health and Quantified Self’. The term ‘global health’ implies that health can no longer be regarded as an isolated, local issue. Quantified Self refers to digital means that allow people to perform (physical) measurements of their body, which they may then send to a care professional at a distance. The potential of such devices is hardly being used to the full, even in our own country; but if you think of developing countries, where health care is scarce, it is easy to imagine what good such devices could do there. The School is going to organise a summer school on this subject in 2016 – a perfect opportunity for students from all over the world to meet. An international summer school on Medical Imaging and Radiation Therapy Techniques is also in the pipeline.

The professors of the professorship in Health Care and Nursing are open to everything and their international network is strong.
The School is currently even trying to enable students to write their thesis abroad, says Willemsen. They are trying this out in a pilot study with students of Physiotherapy in collaboration with the University of Gothenburg. It is hardly a piece of cake, though: the work contexts are different, the paces of the degree programmes do not match, and how can you make sure a thesis meets the quality criteria of both universities? “It is a tremendous amount of work for the lecturers involved. It is complicated, yet well worth it!”

Personal growth
Henk Willemsen noticed that Dutch students who spend a period abroad experience a boost in personal growth. This is exactly what he values so much about internationalisation. “I remember two students who spent a period studying in Bethlehem. When they came back, the change that had come over them was hard to miss: when they walked down the hallway, they did so with more confidence, their back a little straighter than before – their horizons had literally become broader.” The fact that the international experience had made quite an impact on the guys was once again confirmed when their supervisor from Bethlehem came to Groningen last spring for a major international conference on health care programmes. They picked him up from Schiphol airport and offered him dinner at their parents’ home in Friesland. The conference, initiated by the Consortium of Institutes of Higher Education in Health and Rehabilitation in Europe (COHEHRE), was a great international success. The School for Health Care Studies welcomed two hundred enthusiastic colleagues and forty students from eighteen different countries. “I thought the teacher exchange was very interesting, but the student programme certainly came a close second. Students from all these different countries spent a week cycling around in Groningen together, and on the final day they held a presentation for all participants.”
Food
Food and eating habits are of major importance for a healthy lifestyle. The theme of Food focuses on healthy food choices, the effects of food and the development of new ingredients and kinds of food. Another concern is the need to recognise and treat malnutrition in time. Healthcare institutions, companies and educational centres cooperate on innovations in the area of food. Think, for example, of the need to alert, inform and school healthcare professionals. This theme is not only about healthcare and treatment, but also about preventing health problems.
The success of networking

Food Circle links business, research and education

An increasing number of companies are discovering the commercial opportunities of Food for Healthy Ageing. The required knowledge and expertise, however, is often difficult to obtain; collaborating with the right partners is therefore a useful strategy. In the northern part of the Netherlands, Food Circle – part of the Healthy Ageing Network Northern Netherlands (HANNN) – is the place where businesses, knowledge institutions and experts join forces.

Food Circle helps solve technical and other issues for companies in collaboration with professors, lecturers and students of the Hanze University of Applied Sciences Groningen and the VHL University of Applied Sciences in Leeuwarden. They can carry out practice-oriented research for these companies, which at Hanze UAS is led by professor of Food & Nutrition Doede Binnema.

Food Circle organises theme-based network meetings that have a great spin-off effect, he says. “These meetings generate new ideas for product and/or process development, which companies take up with or without the involvement of a university of applied sciences. The Food Circle project has been a platform for various subsidised consultancy processes, aimed at, for instance, protein-enriched bread and healthier food colouring options for sweets. FOOD Circle has also joined forces with the University Medical Centre Groningen (UMCG) and the Carbohydrate Competence Center. This way, FOOD Circle makes use of all knowledge available in this region.

www.food-circle.nl
Finding new ingredients for Healthy Ageing

It goes without saying that life sciences and healthy and active ageing go hand in hand, and yet Dean Victorine de Graaf manages to surprise us with her ideas for projects. The search for natural resources for cosmetics, for instance, obtained from herbs from the Dwingelderveld National Park. “Looking good is feeling good – and that, in turn, is good for your health.”

Healthy Ageing is – besides energy, of course – an important focus area for the Institute of Life Science & Technology. All UAS programmes in the field of life sciences in the Netherlands are working together, says Victorine. In all degree programmes concerned, students are required to complete a technology track during their first two years, which provides them with the same knowledge and skills. In their third and fourth year, they explore the focus areas of their own UAS. From the point of view of life sciences, biorefinery – i.e. processing organic material into products and energy – is a cornerstone for both energy and Healthy Ageing. Both of them involve a search for ingredients with which others can open up new avenues and develop innovative processes or products. These are pieces of the puzzle that can help solve the major societal issues related to energy and Healthy Ageing. Victorine is delighted to see the students of her School gradually becoming aware of this. “A first-year student usually starts out with the idea ‘I’m good at chemistry and would like to do something with that’; that same student, during the second half of their Bachelor’s programme, realises that they want to do something for society.”
New ingredients for healthy and active ageing

“We are looking for new ingredients for food, medicine and cosmetics,” says Victorine. “Healthy humans are our starting point, and our goal is to keep humans healthy. This can be achieved in many ways.” By means of lupin seed, for example. Lupin seed is very high in protein, making it a perfectly suitable meat substitute. It also has many other beneficial properties, however. Currently, the seed is grown in fields near Veendam. Students at LS&T Leeuwarden (a collaborative partnership of the universities of applied sciences NHL and VHL) use lupin seed as an ingredient in bread. In the near future, this bread will become part of the daily menu of nursing home residents in Stadskanaal; naturally, students will ask them for their opinion on the taste and will examine whether lupin bread has any health benefits. There is also a project on cow parsley, which is carried out in cooperation with the University of Groningen. The latter carries out pharmacological research on the plant with the help of UAS laboratory technicians, while researchers and students of Hanze UAS try to identify ingredients that can be used in cosmetics.

Firmly rooted in society

Another way in which the Institute for Life Science & Technology tries to get in touch with society and companies in the region is by sending students and lecturers out into the field. The Life Sciences students do not stay put at Zernike Campus, but may, for instance, pursue a ‘Minor on location’ at the Health Hub Roden. Other external locations are the UMCG, where UAS students work on biomarkers, and the plant and herb test garden in Klazienaveen. The lecturers visit these external locations too, in order to teach and to supervise research, and this inevitably brings them into contact with people from the field.
Educational initiatives Health Hub Roden lead to innovation and business activity

At the Health Hub education and medical technology companies join forces, introducing an entirely new form of education: companies transfer their specific professional knowledge directly to students. This project has created 100 jobs and is financially supported with the sum of €13 million by local authorities, knowledge institutes and the business.

“We make sure third and fourth year students experience what the work environment is actually like by working on ‘Nice to Know’ projects at the Health Hub. Students who are still in school will deal with actual questions companies pose. About half of these projects eventually lead to ‘Need to Know’ questions, which companies would probably never have asked otherwise,” says initiator dr Victorine de Graaf-Peters, dean of the Institute of Life, Science & Technology of the Hanze University of Applied Sciences (UAS). The subjects vary from artificial bones to heart catheters and MRI technology.

Companies
Various company members of Springboard have already declared they want to contribute: VDL, IMDS, Alvimedica and KiestraBD. Talks are also taking place with companies in the field of HighTech analysis, food (supply) and precision engineering.

Education
Hanze UAS will contribute mainly in the domain of Life Science & Technology. Possibly more crossovers will develop, concerning for instance food quality control, biomedical engineering, IBS, ICT, Human Technology, MBRT etc.

University Medical Center Groningen will use the workshop to develop new materials, 3D printing and orthopaedics. Other northern knowledge centres are expected to join as well.

The project is the result of the cooperation with the Healthy Ageing Network Northern Netherlands (HANNN) and Springboard, VDL Wientjes, IMDS Roden, Alvimedica Vascular Research B.V., BioTransfer B.V., Advantage Project Beheer B.V., TCNN, UMCG, Noorderpoort College ISD Noorderkwartier, the council of Noordenveld and the province of Drenthe. The Hanze UAS takes the lead of this project.
How do you contribute to the long-term employability of employees? How come some people enjoy working well into old age? The Centre of Applied Labour Market Research tries to answer these questions with the help of the professional field.

The innovation lab Labour and Healthy Ageing, led by the Centre of Applied Labour Market Research, focuses on the long-term employability of employees. It tries to answer questions such as: what do people want? What do they need to be able to work longer and what does an organisation have to do to enable people to do so? De Zijlen and Vanboeijen, two organisations for people with intellectual disabilities, are taking these questions into consideration in the development of their shared services. Students and lecturers of the HRM programme are also involved.

“Sustainable employability is not only relevant at individual or organisational level, but also at the level of the regional labour market – after all, you also want people to be able to work somewhere else,” says Leni Beukema, professor of Sustainable HRM. Together with the Dutch trade union federation FNV, she is working on a project which, following the company closures in the northern Netherlands, intends to map the human capital of former employees. “What do they want? What can they do? Where are the bottlenecks? The FNV provides practical help. For us, these meetings provide research data needed for the development of employment policies in the North. The aim is to create employment opportunities that match the preferences and abilities of the people in this region.”

In addition to these two examples, the innovation lab has sub-projects focusing on sensor technology, reciprocal leadership and regional cooperation, among other things.

The Centre of Applied Labour Market Research is also closely involved in the innovation lab ‘Work Innovations in the Care Sector’. Louis Polstra, professor of Labour Participation: “Care and labour also covers the subject of working in the care sector. Major changes are taking place as a result of decentralisation. This does not only have consequences for the number of jobs available, but also for the nature of these jobs; the requirements placed on care professionals have changed. Taking this into account, as well as the introduction of all kinds of technical innovations such as e-Health, it is no wonder there are so many professional innovation issues. Our innovation lab carries out research on this topic in cooperation with the Zorg Innovatie Forum (Healthcare Innovation Forum, ZIF), NL Kenniscooparatie (NL Knowledge Cooperation) and healthcare institutions.”
Space and Healthy Ageing? "The layout of an environment influences behaviour. This has been established by science and it is also our starting point. Research shows, for instance, that a patient's surroundings play a role in the rate at which they recover: a hospital patient in a room overlooking a garden feels more at ease and can return home sooner than a patient in a room facing a blank wall."

These are the words of Mark Mobach, professor of Facility Management. “This type of research forms the basis of Healing Environment architecture, of which some nice examples can be found in the University Medical Centre Groningen (UMCG) and the Martini Hospital Groningen.” If it were up to Mark, more examples would follow – and their purpose would be extended to include areas such as stimulating physical activity and promoting autonomy. “There are more than enough successful initiatives, but many of the projects are never followed up on because they lack an evidence-based approach. For example, there used to be no research on the effects of surroundings on health and behaviour, but it is one of the things currently being tackled in this innovation lab.

Finding your own way
People who need no help finding their way in a hospital are less reliant on patient transport in golf carts, are self-reliant, and more physically active. Is there a logic to the layout of the hospital walking routes, however? Can visitors find their way around easily? These questions formed the basis of the final-year assignment that students of Architecture and Facility Management carried out at the Martini Hospital. Visitors coming in through the main entrance were asked if they would mind ‘being followed’ and if they were willing to share their thoughts and experiences out loud using smartphones while trying to find their way in the hospital. According to the student of Facility Management, this resulted in three bottlenecks...
What is the effect of the physical environment on health and well-being?

Research at the interface of health and environment

that corresponded to what they had already suspected on the basis of the hospital’s floor plan: a route involving many turns creates confusion. The student of Architecture came up with two proposals for improvement. First, to simplify the walking route: a straight line from bottleneck to main entrance. He also came up with a second, grander plan: to add an entrance cover in order to create a clearly visible interior area in front of the main entrance. The question of how to increase the logic of the walking routes was then resubmitted to four-year students of Academie Minerva, who focused on signposting. Mark: “These students came up with a kind of ring road marked with clouds instead of signs or lines on the floor.” All students presented their results at a community meeting. “You can see that students from different disciplines have a different approach to bottlenecks and come up with creative solutions that professionals had not considered – very fascinating and very much appreciated by the professional field.”

The elderly and their physical environment

The UMCG asked the Health Space Design Innovation lab the question: “How do elderly people experience our hospital environment and walking routes, and how can we take their thoughts into account in renovations, adaptations and new building projects?” Eighty students of Hospitality examined the walking routes from the parking garage to the clinics, with and without age simulation suit. The findings for elderly people and students were rather similar. However, the elderly did show a higher heart rate upon arrival at the clinic – “a sign that it took them more effort than the students and that they experienced a higher level of stress,” says Mark. Remarkably, the study also showed that people have more trouble finding their way when they first had to go outside (exiting the parking garage) before entering the hospital; if they were able to stay inside, finding their way would be easier. “This is something to take into account when designing a building or placing desks.”

New projects

There are many more projects in the innovation lab’s pipeline. At health care organisation Lentis, students are trying to find out how to increase physical activity in elderly care home residents and how to encourage staff to use the stairs. Research at care organisation ZuidOostZorg focuses on the use of ‘vitality gardens’ in elderly care homes, which stimulate physical exercise in the open air. In addition, the innovation lab recently launched a research project into organisational change and physical space at ’s Heeren Loo, an organisation for people with psychological disabilities. Mark: “Students are also involved in this project; one of the things they are trying to find out is how to bring land and buildings more closely in line with the needs of psychologically disabled people. In addition, they focus on the question: how can we integrate land and buildings into health care, and how does this affect the organisation of work? Such an integrated approach is what it’s all about.”

A visit to the UMCG in an age simulation suit

First-year student of Facility Management Daniëlle de Vries

“It’s a strange experience, walking around in an age simulation suit. I ended up feeling like some kind of alien; you just can’t walk normally with all those weights hanging off you. You’re wearing hearing protectors and glasses so that you can’t see and hear properly. If you’re a young person trying to find your way, you simply look around you. An older person has to turn their entire body, which takes much longer. Walking around in an age simulation suit was a really useful experience. You look differently at the things you encounter along the way. The signposts are harder to see and read, and taking a wrong turn means you have to walk back – it just takes a lot more out of you. It’s quite the challenge to find your way around if you’re a certain age.”
Despite an increase in demand for care, fewer and fewer people are available to provide it. Our care delivery system is therefore in dire need of a redesign. The professorship in New Business & ICT investigates how e-Health (i.e. the implementation of ICT in health care) can contribute to care innovations. We carry out practice-oriented research and development projects with students from various disciplines – in close cooperation with care organisation and ICT companies, of course. Our projects include:

**Independent living for people with an intellectual disability**

How can you ensure that people with a mild intellectual disability still have the opportunity to lead as independent a life as possible? This question led to the NOVO project, which was carried out by Hanze UAS four years ago in cooperation with NOVO, an institution that provides assistance to people with a mild intellectual disability, and Avics, an ICT system integrator specialised in care.

Up until that point, it was customary in the world of ICT to leave the entire development process up to ICT specialists – end users would only become involved in the implementation stage. The professorship opted for a different approach: ICT specialists and end users would be cooperating from the very start. What was the advantage of this approach? Professor Hugo Velthuijsen: “The worlds of care professionals and ICT specialists are miles apart. ICT specialists invent the most amazing applications while actual users may be hard to find. Our approach helps forge a better understanding between the parties – they will start speaking the same language, so to speak.”

**Time machine**

The CAVE project (Computer Aided Virtual Environment) provides personalised presentations for elderly people with dementia. Images, sounds and scents together make up a virtual experience intended to enhance and/or maintain the well-being of the person in question. The professorship works together with Coendershof in this long-term project, a residential care centre of care organisation ZINN in the Helpman district in Groningen.

Five Minor groups subsequently worked on a system with which these productions can be made. Project leader Aranka Dol: “First, the students gather as much personal information as they can with the help of family members and any (other) informal caregivers, for which they use a standard questionnaire. They use this information to get an impression of the life of the person in question.”

Using the information, photographs, videos and music, the students compile a CAVE presentation: a collage of images, sounds and scents.
Preventing HIV or malaria with games
Can video games teach children in Kenya about HIV and malaria prevention? “They most certainly can,” says Rob Willems, lecturer of the English-taught Minor GameOn. He has already developed a number of games and tested them in the field with the help of an international group of students. Over the past two years, they made several games for the organisation of George Onyango in Kenya. Rob: “George Onyango wanted there to be a game that teaches children in the Lake Victoria region what they can do to prevent a malaria infection. The disease is very common there. He asked the University of Auckland in New Zealand to develop a card game, which proved quite a success. The drawback of a physical game, however, is that pieces may get lost. You cannot play properly with cards missing. Moreover, children are more likely to retain information if it is embedded in an interactive game.”

No yoyo app
How can e-Health applications support the treatment of people with an eating disorder? Over the past two years, five groups of students of the Minor in Care & Technology have been working on applications for people with obesity, anorexia and other eating disorders. According to researcher and lecturer Aranka Dol, this has resulted in some great ideas. “The ‘no yoyo app’, for instance, which works like this: if you feel like having a snack, you first consult the app on your phone, which offers an alternative activity. For example, “lay off the chips and go walk the dog instead.” How effective is e-Health in treating eating disorders? Aranka’s tentative conclusion: “I think the most effective approach for therapists and clients is to make use of an e-Health application in addition to personal contact.”

iAge project: living on your own once you can no longer rely on care facilities
Elderly people in rural areas will be faced with a dilemma at some point: how will they be able to manage on their own once they can no longer rely on care facilities and they increasingly require assistance to get them through the day? It is a dilemma shared by all people over fifty in the shrinkage regions along the North Sea. Participants in the European Interreg project iAge are determined to help them.
Hieke van der Kloet conducts research on this subject. “The underlying idea is that you want people to be able to continue living in their own village in order to prevent depopulation. Our objective is to come up with living concepts that involve ICT –for example, a device that allows people with mobility problems to close and open their curtains automatically, or a video surveillance system to increase their sense of safety. Technology offers numerous possibilities. In Japan, implementing robots and other technical devices in care provision for the over-fifties is much more commonplace than it is here. Europe is far more cautious in that respect.”
Hieke’s students investigated the expectations of people over fifty with regard to ICT in their homes. Hieke: “More than ninety per cent of the people we interviewed is in favour of ICT at home and is ready to start using it. We want to find out which technological applications can help people live at home for longer. We do not limit ourselves to solutions that are purely ICT, but also take into account facilities such as stairlifts. People told us that they are particularly afraid of losing their mobility inside their homes. We want to use all this information to develop several living concepts for people over fifty.”
Living, Leisure & Health Care

An optimal arrangement of the spatial environment contributes to people’s health and welfare. An inviting environment stimulates physical activity, social interaction and the increase of autonomy. Everybody has their own wishes and demands. While some people like to live in the city with all facilities nearby, others prefer the countryside. Environment, infrastructure and service degree can contribute to the quality of healthcare and happy patients/inhabitants. To improve the quality of the habitat it is important to focus on innovations, combining healthcare & welfare with living & leisure.
iAge focuses on elderly people as end users, and aims to promote economic development in regions that are struggling with an ageing and shrinking population. The Centres of Applied Research and Innovation on Area Development (NoorderRuimte), Entrepreneurship, and Labour Market participate in the work packages Labour Market and Independent Living. These work packages comprise numerous sub-projects in which professors, lecturer-researchers and students from various disciplines conduct research in the field and develop new products. Such broad, multidisciplinary collaboration is unique and very productive. It resulted, for instance, in an open source platform to which elderly people can connect ICT products that enable them to live on their own for longer. The platform can even be used on televisions – a major plus as they are already familiar with that system. “The German partner in iAge has shown a keen interest in this platform,” says iAge project leader Margreet Schurer of Hanze UAS. “Physiotherapy and ICT students have developed the prototype in cooperation with lecturer-researchers of the professorships in New Business & ICT and Demographic Change. They have also visited the iAge partner universities in Scotland and Norway to exchange knowledge. We are now looking into ways of marketing the product.”

Another example is the implementation of quantified self tools, which give the wearer feedback on health aspects such as stress level, sleep, and eating and exercise patterns. “We are trying to find out if these tools can contribute to the long-term employability of elderly employees. The reintegration company Museum Technische Werken (’Technical Works Museum’) is testing this,” says Margreet. “Students of Applied Psychology, the Quantified Self Institute, the company Estafette, and the professorships in New Business & ICT and Labour Participation are also involved in this project.”
The rapid developments in the field of Healthy Ageing require Hanze UAS to adopt a new approach. Practically all Schools and Centres of Applied Research and Innovation are actively involved in this field and they collaborate closely with the business world. All this Healthy Ageing-related research, education and entrepreneurship is being linked and streamlined by the Hanze UAS Centre of Expertise Healthy Ageing (Hanze CoE HA).

“It is such a huge success and there are so many initiatives – we should really take a step forward and properly link up all these activities; it is time to ‘go to the next level’,” says Joan Janssens, ‘leading dean’ of the Centre of Expertise Healthy Ageing. “All Healthy Ageing-related activities in the fields of research, education and entrepreneurship will be linked and streamlined. This way, we will become an important player in Europe – in line with the strategic programme Europe 2020 – and create even stronger ties with the region. In addition to a long-term strategic research programme, we introduce road maps for Healthy Ageing-related education and entrepreneurship; naturally, all of this is done in consultation with business partners and partners working in the field. This will turn the entire Hanze UAS into a Centre of Expertise on Healthy Ageing.

The four components of the Hanze UAS Centre of Expertise Healthy Ageing are outlined below.

**Research**

The integrated research programme Healthy Ageing is coordinated by a team of professors from all five Centres of Research & Innovation involved in this theme. The focus areas are ‘Prevention and Care’, ‘Participation and Learning’, ‘Active and Healthy Lifestyle’ and ‘Arts, Culture and Meaning’. Research and innovation in these focus areas is supported by the enablers ‘Built Environment’, ‘Organisations and their Professionals’, ‘Digital Health’ and ‘Business Development’.
and entrepreneurship

**Education**
Healthy Ageing-related education will be given a further boost, in the first place through the development of two signature Master’s degree programmes on Healthy Ageing: Healthy Ageing Professional (sport, health care & wellbeing) and Talent & Diversity. Hanze will also improve the interconnection between the Healthy Ageing-related activities in the various Bachelor’s degree programmes, and more attention will be paid to Healthy Ageing in Minors and optional modules. In addition, the different variants of professional learning environment in which students work on Healthy Ageing will be brought into alignment.

**Entrepreneurship**
The Centre of Applied Research and Innovation Entrepreneurship and the CVO (Consortium for Valorisation and Entrepreneurship), which was set up by Hanze UAS and the University of Groningen, have the lead in drawing up the road map for Entrepreneurship and Healthy Ageing. This road map identifies the innovations and markets that the Hanze UAS wants to focus on, as well as the key partners they wish to enter into agreements with. In addition, it pays special attention to product innovation and product development in the area of e-Health; something the Quantified Self Institute and several innovation labs will be playing a major role in.

Another important element is business development. A revenue model is developed for the CoE HA project and the individual innovation labs to ensure that the public-private partnerships can continue to exist after the grant period ends. In addition, Hanze UAS will further improve its services to Healthy Ageing professionals regarding their professional development, and to businesses regarding the competency development of their staff. Hanze UAS Professionals and Business will be playing a prominent role in the latter.

**CoE HA project**
The CoE HA project of the OCW is part of the Hanze CoE HA, a construction that institutionalises research, education and entrepreneurship and ensures continuity of the project. Businesses, knowledge institutions, care organisations and government bodies work together in the CoE HA innovation labs on innovations in health care and on the implementation and marketing of new services and products. The CoE HA project gives public-private partnerships a major boost. The innovation labs strengthen the ties with partners in the region, and this concept of knowledge development through close cooperation between research, education and professional practice is something we would like to develop even further.

The Hanze CoE HA gives the Hanze UAS a clear, distinctive profile for the network partners. By streamlining research, education and entrepreneurship and by creating links, more knowledge becomes available. This development not only provides the Hanze UAS students with state-of-the-art knowledge, but it also increases the knowledge and makes it more easily available to the partners – companies, start-ups, care organisations, and government bodies in the north of the Netherlands.

It is such a huge success and there are so many initiatives – we should really take a step forward and properly link up all these activities; it is time to ‘go to the next level’.
The Healthy Ageing Network Northern Netherlands (HANNN) focuses on the question: how can we, together, ensure that people can play a healthy and active role in society for as long as possible? HANNN is a network of companies, knowledge institutions, health care institutions, social organisations and government bodies that all make a contribution in one form or another. This requires an approach that covers the entire lifecycle: from the cradle (a good start), through work (a healthy workplace), to a dignified final stage of life, and everything in between.

In concrete terms, HANNN scouts for potentially useful ideas, brings together the relevant parties, and provides support throughout the project development process. The majority of these projects is wholly or partially covered by one or more of the disciplines of Life Sciences, Food & Nutrition, Medical Technology, and Healthy Lifestyle. In addition, HANNN is working towards a social agenda that provides solutions regarding the effects of an ageing population and the decentralisation of care and welfare to municipalities.

The Northern Netherlands occupies a leading position in the field of Healthy Ageing, on a national as well as a European level. HANNN maintains contact with other European regions, coordinates the lobbying activities in The Hague and Brussels, and supports application processes for regional, national and European funds. In July 2013 the European Commission declared the Northern Netherlands a reference site in the field of Active & Healthy Ageing.

Hanze University of Applied Sciences Groningen is one of the partners of HANNN and helps to raise the Healthy Ageing profile of the Northern Netherlands by means of the Centre of Expertise Healthy Ageing innovation labs, among other things.

For more information about HANNN, please visit www.hannn.eu
Healthy Ageing in education*

<table>
<thead>
<tr>
<th>23 Bachelor's degree programmes</th>
<th>These are healthcare programmes such as Nursing and Physiotherapy, but also programmes in the field of economy, technology, art and sport.</th>
</tr>
</thead>
</table>
| 8 Minors                        | Da Vinci (entrepreneurship)  
Financial Management in Health Care  
Healthy Ageing  
Entrepreneurship and Management in Care en Welfare  
Sport Health and Lifestyle  
Future in Health; developed by the four universities of applied sciences in the Northern Netherlands  
Care en Technology  
Care Marketing |

Excellence programme

| Honours programme in Healthy Ageing |

| 6 Master's degree programmes | Advanced Nursing Practice  
Healthy Ageing Professional (under development)  
Physician Assistant  
Sensor System Engineering (with health component)  
Talent and Diversity (under development) |

*All the programmes are in Dutch, except Sensor System Engineering

Healthy Ageing in research

| 28 professorships; 100 lecturer-researchers | Clinical Malnutrition and Healthy Ageing  
Computer Science & Sensor Technology  
Demographic Change  
Facility Management  
Flexicurity  
Healthy Ageing, Allied Health Care and Nursing (embedded: Ingredients & Health; Healthy Lifestyle; Ageing and Health Care; Child, Language & Development; Allied Health Care and Ageing; Participation and Health in Persons with Intellectual and Visual Disabilities; Statistical Techniques for Applied Research; Selfmanagement of somatic patients in hospitals)  
Healthy Lifestyle, Sports and Physical Activity  
Image in Context  
Integral Youth Policy (embedded: Learning and Behaviour)  
International Business  
Labour Participation  
Lifelong Learning in Music  
Life Sciences  
Marketing/Market-focused Entrepreneurship  
New Audiences  
New Business & ICT  
Nursing  
Nursing Diagnostics  
Physical Education and Youthsport  
Public Real Estate  
Real Estate Management  
Rehabilitation (embedded: Social Participation)  
Sustainable Financial Management  
Sustainable HRM  
Work Organisation and Productivity |

| 26 PhD students |

| 9 major projects | ELLAN (Erasmus Academy Network)  
Food Circle  
Health Literacy (FP7)  
Healthy Ageing through Music and Arts  
IAge (Interreg)  
Music and the Elderly  
Springboard 2.0  
Work Innovations in the Care Sector  |

| Many small-scale projects | SPEACH (Sport Physical Education and Coaching in Health) |

| Many students involved | e.g. in research carried out in professorships and in the innovation labs of the Centre of Expertise Healthy Ageing. |
The Healthy Ageing theme has established itself firmly in our society. We are all getting older and this calls for new, smart solutions to improve quality of life and to minimize the health burdens on our society. The focus is not only on the elderly and the sick but also on growing up in a healthy way, on social participation and on quality of life. Healthy Ageing involves an integrated, multidisciplinary approach, focussing on the entire life cycle.

Colophon

Healthy Ageing is a publication commissioned by Hanze University of Applied Sciences, Groningen © May 2015
The aim of the magazine is to give relations of Hanze University of Applied Sciences an idea of the Healthy Ageing-related activities that are taking place in education and research.

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Photography
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Layout and design
Gerben Edens (Hovaneden)

Translation
Words Words Words etc.

Printing
De Marne B.V. (Print run: 2,500)

If you would like to know more about Healthy Ageing and the opportunities it offers in the field of education and research, please visit hanze.nl/healthyageing or the website of the Project Centre of Expertise Healthy Ageing project, healthyageing.net