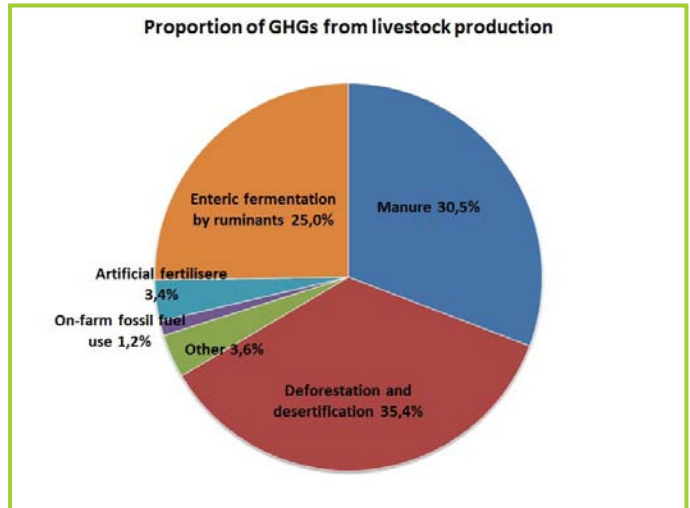


SAY YES TO BEET, NO TO MEAT

We never thought, that what we eat contributes to the greenhouse gas (GHG) production, especially the livestock industry (meat industry). FAO (Steinfeld et al., 2006) has estimated that the meat industry contributes between 15 – 24 % of GHG emissions. My next few words will make you aware about the effects of the meat industry on the environment. I will be more than pleased if any one of you will reduce or stop consuming meat.

First ist the impact on natural resources. One of the biggest environmental impacts of the meat industry is the depletion of natural resources such as water. Today, there are more than 17 billion animals raised as livestock in the world; about triple the human population. Raising these animals require huge amounts of water. Most of the water is used for irrigating grains and hay. According to a survey by the Water Education Foundation, one pound of beef production needs 2464 gallons of water. Another vital natural resource is top soil. It is being used faster than nature can replace it. Raising livestock also depletes other natural resources, like fossil fuels. David Pimentel explained the situation this way, 40 calories from fossil fuels are needed to produce one calorie of protein from beef; whereas, only two calories from fossil fuels are needed to produce one calorie of protein from tofu. Another rapidly vanishing natural resources is rainforest. Much of this forestland is being cut down to farm and raise livestock. According to the Nature Conservancy, every second of every day one football field of rainforest is being destroyed.



Additional impacts on the environment from a meat-eating diet are pollution of water and air. All livestock produce enormous amounts of manure and urine, which pollute natural resources.

>>> continues

VERY GOOD PERFORMANCE PAYS OFF, LITERALLY

On 9 November 2010 the first generation of students who have studied in the new four semester M.Sc. study program of WASTE had their graduation ceremony. One of the highlights of this ceremony was the award of "Best WASTE-Student" of this generation 2008.

And the winner is: Ms. Cruz Elia Rodríguez Díaz from Mexico. She has shown the best academic performance and thus truly deserves this award, which was handed over by Prof. G. Baumbach, the program coordinator of WASTE, in a small ceremony. Ms. Rodríguez Díaz has a B.Sc. in Chemical Engineering from ITESM in Monterrey, Mexico and she was finishing her studies in the WASTE program with a Master Thesis at ISWA with Prof. Kranert on the topic of „Modelling and Application of Anaerobic Digestion as a Biowaste Management Solution“. The award included a special certificate for the honored student as well as 1000 € of prize money. By winning this award Ms. Rodríguez Díaz demonstrated that very good academic achievements can literally pay off.

This 1000 € prize was generously donated by RECOM Services GmbH, a high-tech enterprise that provides solutions and expertise for minimizing technical risks associated with build-up and operation of industrial plants in the power and process industry. The M.Sc. Study program WASTE wants to thank RECOM Services GmbH and its CEO Dr. Benedetto Riso for this donation and thus for supporting and rewarding academic excellence. Regarding Ms. Rodríguez Díaz it should be mentioned that she had more than one reason to be jubilant on that very day, apart from the graduation ceremony and the Best WASTE-Student award she received, it also happened to be her birthday. So the prize and the ceremony which later turned into a party just came in the right time. We want to congratulate Cruz Elia Rodríguez Díaz and wish her all the best for the future.



▪ Adolf NEUWIRTH, Examination Office

>>> SAY YES TO BEET, NO TO MEAT

Animal waste changes the pH of water and the gases emitted are believed to be a major cause of global warming. Air pollutants such as ammonia, methane and hydrogen sulphide, as well as clouds of dust and particles are emitted into the atmosphere. In fact, the meat industry is the number one source of methane throughout the world, releasing over 100 million tons a year.

There is some evidence that our digestive systems are not designed for meat consumption and processing. This is the reason why there are high rates of heart disease, hypertension, and colon and other cancers. On top of this the plenty of drugs and antibiotics are applied as a salve to unnatural factory farming conditions and growing occurrences of meat diseases like E-coli and Salmonella. The factory farmed chickens, cows and pigs of today are among the most medicated creatures on the earth. Drugs are used to reduce stress levels in animals crowded together unnaturally, although 20 percent of the chickens still die of stress or disease anyway.

The average meat eater is responsible for the death of around 2400 animals during his or her lifetime. Animals have to suffer during their housing, transport, feeding and slaughter, which is something not clearly evident in the neatly wrapped packages of meat offered for sale at market counters. On an average pig get 6-8 square feet (0.56-0.74 m²) of space and beef cattle are luckier than factory pigs in that they have an average of 14 square feet (1.3 m²) in the overcrowded feedlots where they live throughout their lives. Veal calves, taken away from their mothers shortly after birth, live their entire lives in near darkness, chained by their necks and unable to move in any direction. They commonly suffer

from anemia, diarrhea, pneumonia and lameness.

Here are a few facts to be kept in mind:

- Meat is a big industry; by some estimates grazing occupies about 25 percent of the earth's land, while feed crops take up about a third of all arable land.

- Beyond that, the author and vegetarian activist John Robbins reports that it takes around 60 pounds (27.2 kg) of water to produce one



pound of potatoes, and 168 pounds (76.2 kg) to produce one pound of corn. One pound of beef today requires a whopping 12,000 pounds (5,443 kg) of water, when you factor in irrigation of feed crops, watering, transportation, storage and other farm-to-market calculations.

- We don't need the huge amounts of animal protein that are typical of the US-

American diet. In fact, diseases like cancer, diabetes, high cholesterol, obesity and other conditions have been directly linked to our over-consumption of animal protein, especially red meat.

- Analysis has shown that producing a kilogram of beef leads to the emission of greenhouse gases with a warming potential equivalent to 36.4 kilograms of carbon dioxide.

Incredibly, 18 percent of global greenhouse gas emissions (as measured in carbon dioxide equivalent) are due to the growing number of livestock around the world. It is not just methane and manure -- land-use changes, especially deforestation to expand pastures and to create arable land for feed crops, plays a large role in global warming.

Beyond the stench of billions of tons of manure, each year over one billion tons are created in just the United States alone, is an even more serious problem: manure releases ammonia, VOCs, hydrogen sulfide and particulate matter into the air causing serious human health problems. Manure also emits methane and nitrous oxide, two powerful greenhouse gases with far more global-warming potential than carbon dioxide.

Last, the American dietetic association stated that, appropriately planned vegetarian diets are healthy nutritionally adequate and provide health benefits in the prevention and treatment of certain diseases. Replacing meat with vegetable sources of proteins has immense benefits. That is why eating less meat is one of the easiest and most important ways to reduce your environmental impacts.

▪ Vishal N. CHAUDHARI

*Note: BEET (Beet root) represents vegetables here

DATES TO NOTE

- 16 December 2010: Christmas Party
- 24 Dec. - 9 Jan. 2011: Christmas Holiday
- 15 January 2011: Registration deadline for exams
- 20 January 2011: 26. WIM: Presentation of the Program for Remigrating Specialist
- 12 February 2011: End of lecture period
- 15 February 2011: Application deadline for 10th generation starting in Sept. 2011
- 18 April 2011: Start of lecture period
- 15 May 2011: Returning deadline for individual study plan
- July 2011: Summerparty
- 22 July 2011: End of lecture period

Studying WASTE

FUTURE PROSPECTS THROUGH WASTE MASTER PROGRAM



On 13th July I attended the Waste Intercultural Meeting (WIM) together with other students, alumni and lecturers. The invitation raised high expectations for me. On one side, it was the first time that I met colleagues who have the same fascination for environmental issues.

On the other side, although I was not yet a student of the Waste M.Sc. Program, I had the opportunity to hear about the experiences of the people working in Germany who had already completed the program. I am very glad to have participated in this intercultural meeting because it gave me a better understanding of the M.Sc. Program, future professional activities and future prospects.

Some of the alumni talked about their current work at the private sector in Germany, for example Carlos Perez and Réka Tittesz. Carlos works in the production of cleaning products, and Réka works for Eisenmann AG in waste disposal. Réka is a specialist on a treatment process based on thermal waste incineration for recycling as a secondary source of energy or raw materials.

Currently, most of the alumni work in the research area linked to different institutes of the University. Gülsen Öncü is involved in a very interesting project called „The Influence of Aerobic In-situ Stabilization of Landfills on Leachate Quality and Quantity“. Nicolas Escalante carries out research on „Dynamic Modelling of the Integrated Planning and Assessment of Sustainable Waste and Resource Management Policies in Megacities of Developing Countries“. At the department of Water

Management, Karen Moarkech is currently doing research on a „Development Plan for A Mobile Blackwater Treatment Plant for Camping Vehicles and Boats“. Also, several alumni are working in the Institute of Combustion and Power Plant Technology: Ajay Ramesh BIDWE, whose research concerns dual fluidized bed hydrodynamics for gasification; Alain Dominguez Mendoza, who works on the construction of chiller driven by flameless combustion in the BIOCOOL Project; and Gosia Stein-Brzozowska, who is responsible for corrosion performance of a state-of-the-art heat exchanger material in oxy-fuel and conventional air-fired ultra super critical power plants.

Additionally, students interested in further specializing on environmental topics can consider the option of enrolling in the international Doctoral Program of the Department of Civil and Environmental Engineering Sciences. Dr.-Ing. Gabriel Hartmann, the course director of the EN-WAT Program (Environment Water) gave a presentation to this topic.

Some advice given by the alumni to my classmate:

- The WASTE program offers the students the opportunity to be involved in research projects through the “Independent study”, the Master thesis or the Hiwi’s work, contributing to develop personal and professional skills.
- Improve German and English language skills
- Build up professional network (conferences, trade fairs...)
- Finding budget for projects will always be a challenge!
- Get good marks!

• Maria Fernanda GONZALEZ

EXPECTATIONS II



The passing of fall and onset of winter means more than one year has passed since we first arrived in Stuttgart. Arriving here, my expectations were that I would be very busy with school work, building new relationships and improving my German. How right this assumption was! One unique aspect of the WASTE experience has been the broad spectrum of knowledge we are exposed to. This breadth of knowledge in particular required me to visit the library almost daily until the dreaded voice, „die Bibliothek schließt in dreißig Minuten“, told me it was time to find some place else to learn.

Fortunately, that some place else was sometimes a dinnertable with friends. Sharing recipes from home has been a fun way of sharing our cultures. WIM meetings offered another great opportunity to learn about not just other countries but one another. My fellow students are proving to be the highlight of the program. Instead of competition, collaboration seems to be our driving energy.

As I put my first year behind me, the doors to my future are beginning to open. No longer are we confined to the classroom but we are putting our knowledge into practice in the form of class projects and independent studies. My expectations for the coming year are for even more work, but also that we take full advantage of our final times together. Upon graduating, I hope to embark on my career as a well-rounded engineer with a clear sense of how to use and apply my skills acquired through the WASTE program. Leaving Stuttgart, I hope to carry with me friendships and memories that last a lifetime.

• James STARNES

THERMAL WASTE TREATMENT EXCURSION



In July 14th, the thermal waste treatment excursion took place. The students had the opportunity to get to know two treatment facilities: the municipal waste treatment plant MVV in Mannheim and the BASF hazardous waste treatment plant in Ludwigshafen. In the morning was the excursion to MVV plant. Lunch was served at BASF and in the afternoon we took part in the excursion of its facilities.

The excursion was a very important

aspect in our learning process. Learning how knowledge is applied at the industrial level is really rewarding.

Thanks to IFK and all the people related with the excursion’s organization. Thanks to the both companies, MVV and BASF, for allowing us to get to know their processes and for their hospitality.

• Hasbeyd DIAZ CASTRO

WELCOME EXCURSION TO LUDWIGSBURG

It was a pretty cold day towards the end of autumn 2010. It had been 23 days since I had arrived in Stuttgart and the weather was dismal. The cloudy sky was crying and it seemed as if winter was settling in around us. The falling rain was giving me a flash back memories of my home and a vague prospect of future. You could say it was a typical German rainy September day and the leaves falling around us were slowly turning from green to gold, I was among the international family of WASTE Program students, but I was walking through my loneliness. I felt that the trip to the castle turned out to be happy and memorable day for us all.

Hey keep going on!!

The castel is at the end of the road after passing the crossroads...

I remember how the nice leader of

our first friendly excursion, Mr. Vogt, went through a lot of trouble to get the maximum number of WASTE students there had ever been organized for such a trip.

Hey, you are getting away!! Come back to the road! It was still raining. Keep going to find the castle!!!

Beyond the road the huge castle was awaiting us, an amazing castle in the heart of Ludwigsburg, which will always give me unforgettable memories of the first WASTE student's day out. We viewed the castle on a magnificent tour with a nice tour guide. The tour took us about 2 hours and he walked through many different halls full of history inside.

After visiting the palace and seeing the several dining rooms, everyone became hungry: And we made the way of restaurant for lunch which was paid for by

the WASTE Club. With a wide variety of food and drinks on the tables, we began hot debates that took us several hours, exchanged our facebook profile names, and got to know each other better.

To sum it up, I had a great time beside the international family of WASTE Program students and it was worthwhile for me to go. I hope it was worthwhile for you too.

Every one has their own way of life, whether their goal would be a castle, garden or even a deserted house. It doesn't matter why you aim for it, but it matters how you get it.

Hey, keep going on, you are coming back from the castle!!

▪ Hamid Reza SHARIFAN



EXCURSION TO THE IFAT/ENTSORGA-EXHIBITION

IFAT is an exhibition for environmental technology and the biggest of its kind in the world. It is known for its international focus and professionals from all over the world come to look for the latest technologies. It takes place every 2nd year in Munich and during the 5 days of exhibition over 100,000 people attend the fair.

In the early morning on September 14th, we started with a fully loaded bus of students in the direction of Munich. Mainly, the students were from the international WASTE Program but also some students from the Environmental Engineering (Umwelt-schutztechnik) joined the excursion. Some just came because of their interest about the exhibition but others were actually looking for a company with whom they could do an internship, master or diploma thesis. During the drive, Dr. Fischer announced that everyo-

ne could catch a free lunch at KTV?, which was organized by Prof. Kranert. As we arrived, we quickly did a group picture on the entrance and then everyone was free to



explore the exhibition on their own.

The IFAT is a really big exposition which you can not view in one day. Therefore, you need to focus on the things you

are most interested in.

The course director of WASTE, Ulrich Vogt, and I were going to Hall B2 where they displayed technology for thermal waste treatment, flue gas scrubbing and biogas production. As we got there, we were surprised to see a former WASTE Student at one of the exposition stands, Ms. Réka Tittesz from WASTE Generation 2007. She represents the company Eisenmann at the fair. At another exposition, we met two people who studied in Stuttgart. One was actually doing his Ph.D Thesis with Prof. Baumbach and the other had been studying Environmental Engineering, like me.

In the evening when we met at the bus, you could really see that it had been a long day. Almost everyone had taken merchandise, articles and brochures.

▪ Edmund RIEHLE

THE LEIPZIG IPSWAT SCHOLARSHIP MEETING



Every year, there is a meeting of IPS-WaT (International Postgraduate Studies in Water Technologies) award holders. It takes place in a different location in Germany every year, with the support of one of the participating universities. This year the meeting took place in Leipzig from 7th to 9th July. The day began with a bus trip shared with students from Tübingen University. We met Wednesday 7th at 6:45 a.m. here at the university and arrived at a nice hotel in Leipzig close to 13:00, where each person received a pleasant individual room.

The opening plenary began at 13:45 with a welcome address from Ms. Cornelia Parisius, senior scientific officer from IPWSaT. Then, there were interesting activities such as the panel „The German Water Research in the International Context“ by a representative of the Centre for Environmental Research – Leipzig; the panel „The German Development Cooperation in the Water Sector“ by representatives of the Federal Ministry for Economic Cooperation and Development (BMZ), the German Development Service (DED) and the German Agency for Technical Cooperation (GTZ); and an overview of the German Water Partnership by a representative of Sachsen Wasser GmbH. For the evening, a boat tour

around Leipzig with a final stop at a restaurant was planned. We stayed at the Cafe Kanal Restaurant to have dinner and to cheer the German national soccer team which was playing the FIFA World Cup semifinal match against Spain. Unfortunately, the Spanish won the match and we sadly came back to the hotel.

Thursday morning, the Ph.D. scholarship holders had the opportunity to present advances in their research work. Here, the presentations were distributed in three thematic groups which were carried out in parallel. The groups focused in water related phenomenon modelling, water management, and improvement of water cleaning techniques. At the end of the morning, there was a summary presentation of the results of each group. During the afternoon, four parallel excursions were planned. The scholarship holders and course directors could choose the desired excursion to participate in, and most of the WASTE award holders chose to visit the CoTra Project in Leuna. This Project, which is part of the SAFIRA II research

project, consists of a compartment transfer pilot plant in Leuna and was in operation since 2007. The main goal of the project is the development of near-natural ground-water remediation techniques for large scale contaminated sites, so called mega-sites. Here, two different technical approaches, constructed wetlands and aerobic trench systems, are tested for the controlled contaminant transfer from anaerobic into aerobic environmental conditions in order to foster natural degradation processes of typical organic contaminants found in refineries. During the evening, we were free to do a city walking tour and to visit a Biergarten.

On Friday morning, there was the course directors meeting and parallel to it, the poster session. Here, we could attend a quick explanation of the other PhD students works which were not possible to attend the day before. The plenum closure was carried out close to 11:30 a.m., and certificates to the graduate scholarship holders were handed out. At the end, we all joined the group photo. I would like to say that the meeting was not just to attend scientific work presentations but also to meet other scholarship holders, to make more friends and to exchange enjoyable cultural experiences.

Finally, since we were already in Leipzig, we made the best use of the weekend: we visit the nearby nice city Dresden. Luckily, there was the Museums-Sommernacht and we could visit until late night many amazing places such as the Frauenkirche, the Fürstenzug, the Botanischer Garten, the Palais im Großen Garten, the Technische Sammlungen Museum, and the Schloss and Park Pillnitz.

• Ivan CANDIA HEREDIA



IAHR-EXCURSION TO BARCELONA



During last summer's vacation week the IAHR organized an excursion to Spain! And of course, the WASTE team was there.

This time we went to Costa Brava to visit a waste water treatment plant and a desalination plant. The group was mainly formed by WAREM-students, Ph.D.-students and WASTE-students and we start the fun right from the campus Vaihingen. From there we drove the whole Sunday night and arrived

at Pineda del Mar on Monday midday. Since we all were very tired from the trip, the afternoon was free. Some of us stayed at the hotel and some other went to the beach for a while. And after a nice dinner we met at the lobby of the hotel, where we chatted and danced a little bit.

On Tuesday, we went to Montserrat, a place known for two things. Its special cordillera and La Moreneta, an image of Virgin Mary who, according to catholic tradition, appeared in one of the caves of the cordillera in the year 880. Later on, the

benedictian monks built a monastery and a basilica where, today, hundreds of pilgrims visit the black sculpture of the Virgin Mary. The shape of the cordillera is unique and it has a lot of caves. We decided to make the route in order to visit the Holy Cave. However we choose the wrong way and went exactly on the opposite direction, but the walk and the pictures turned the mistake into a very nice experience. Part of the objective of the trip was to get to know our colleagues better.

>>> continues

>>> IAHR-EXCURSION TO BARCELONA

Later that night we played some games and chatted. Although we went to bed a little bit late, we woke up very early for our trip the next day: the waste water treatment plant in Blanes. This plant was built next to a river and its main purpose, beside treating waste water, is to provide the river „fresh“ water during dry seasons. Therefore, after the usual treatment, this plant also has a disinfection unit. Here, the clean water is treated with chlorine and UV radiation in order to discharge into the river with a very high quality that under Spanish laws can be even consider as drinking water. Later that day we visited Girona, a very colorful Catalan town. We had some tapas together and then took a walk around the city.

The visit to the desalination plant, the biggest desalination plant in Europe, was planned for Thursday. It is a very new facility and it is located just a few minutes away from Barcelona. Catalonia has a climate where seasons are not defined as summer and winter but more as wet and dry. Hence, as well as the waste water treatment plant, the main use of this plant is to provide Barcelona and its 3 Mio. inhabitants fresh water during the extreme dry seasons. When we

visited the plant, it was working at its minimum capacity but at full capacity during dry seasons, it can produce 45 l of fresh water for every 100 l of sea water. The water is taken from Llobregat basin River. The plant also has pressure exchangers, which help to spare up to 50% of energy consumed. Using the latest technology in reverse osmosis, the fresh water obtained after the whole process presents also drinking water quality. And we actually could tested at the end of the visit!

After the visit we went to Barcelona and saw the Gaudis Sagrada Familia, Gaudi's unfinished master piece. Gaudi was one of Barcelona's main architects.

He actually used this city as his muse and his greatest creations are there. We had already in the Gaudi mood, so we decided to close the tour with a visit to Parc Güell. This is a park on one of the highest hills of Barcelona and we had a great view of the whole city. The main entrance of the park was designed by Gaudi.

For closing of the trip, on Friday we went back to Barcelona and had the day off. Some of us went shopping and some others did some sightseeing in the city: the gothic quarter, Gaudis houses, the Ramblas, etc. At night the whole group met to have dinner together.

On Saturday, we came back to Stuttgart but on our way we stopped at Figueres. We visited to Salvador Dali's museum. Here we saw some of his private collection and of course, the museum, which is one of his master works itself.

Although we did not want it, the week was over. We drove back to Stuttgart, arriving on Sunday morning.

The trip was great! The group was very nice! I learned a lot and also had so much fun!

• Maria BLANNO VIDAL



Umweltschutztechnik Excursion to Black Forest

Every winter semester the former generations of Umweltschutztechnik students prepare an integration excursion for the new students of this program and this year they decide to include us, the WASTE students, in this nice tradition. Kittiya, Sumate, Benedikt, Han, Stephen, Norma (a student of MIP) and me accepted the invitation.

Our Journey started in the busstop „Schleife“, where we caught the bus to Stöcklewald, a recreational centre for young people located in the Black Forest which is divided in two houses. The tradition establishes that the first year students should sleep together in one house and the former students in the other one. The curious detail is that the house for the new students does not have heating or beds, and the weather was really cold.

We were separated in small clothespin groups and wrote our name on a wood pin in order to get to know new people. When we were finishing meeting people, a tasty meal was waiting for us. Finally the party began!!! After a few drinks and songs, the number of people we met increased with



the hours of the night.

On Saturday, a new adventure was waiting for us. Once more we were divided into groups of five people. The former students had planed some activities. There were many stations with different activities. We made a choreography, prepare nodles, and drink a horrible beverage. It was a lots of fun!!!!

On Sunday after breakfast, our weekend finished, all of us cleaned the house, and came back home with new friend requests in facebook. This was a really nice opportunity to get closer with our classmates of Umweltschutztechnik. I hope they continue inviting us and in the coming years we could be a part of this tradition.

• Ana Maria VASQUEZ CHAPARRO

Recent events

GRADUATION CEREMONY 2010



It was a great day in Stuttgart Vaihingen. Families from all around the world came to celebrate the graduation of the 7th Generation of WASTE Students. Their two years of hard work were coming to an end.

The graduation ceremony took place at the Internationales Begegnungszentrum in Stuttgart Vaihingen. It is a cosy little building on the outskirts of the Universität Stuttgart and an ideal setting for this event.

The graduation ceremony was full of lovely musical performances by WASTE students. Prof. Michael Schmidt, the Dean of the Faculty of Energy Technology, Process Engineering, and Biological Engineering, and Professor Günter Baumbach, Study Dean of WASTE, delivered opening addresses. Ms. Sandra Palacio and Mr. Vishal Chaudhari, the student representatives, also gave a nice speech. The speech was followed by a slideshow, full of pictures of past events and adventures. Everyone laughed and smiled as they reflected on the great times they had in WASTE.

After the slideshow, the graduating

WASTE students received their certificates one by one from Prof. Michael Schmidt and Ulrich Vogt. Each graduate posed for a triumphant picture with their newly awarded certificate.

Following the presentation of Certificates, Prof. Günter Baumbach delivered the award for the best student to its deserving recipient. This year, Ms. Cruz Elia Rodríguez Díaz received this 1,000 Euro award which was donated by RECOM Services GmbH.

Prof. Herbert Kohler, from Daimler AG, gave the ending address. His address highlighted the responsibilities environmental engineers have to spread environmental technologies and processes over the world.

After the ceremony, we were all treated to a delicious dinner. Tables piled with food from countries all over the world greeted the guests as they left the ceremony. The food had been prepared by

student of WASTE Generations 2009 and 2010 the hours before, which is a long tradition from the very beginning of the study program. After everyone ate their share of food, the dancing and celebrating began. Wine and conversation flowed freely, and the dancing lasted long into the night. As people got tired, they slowly began to leave, going their separate ways into the night.

Congratulations to the 7th generation of WASTE Students! Best of wishes for all your future endeavors and thank you to all of those who helped make this event spectacular!

• Stephen MARKWARDT



SUMMER PARTY 2010

WASTE summer party is always one of the most attractive and traditional events before the summer holidays. Although the party this year was held on Friday, a small change from the traditional day Thursday, which turned out to be a good decision.

According to their interests, students were divided into different groups, some were responsible for the food, others took care of the decoration, and the rest would do the cleaning after the party.

The day before the party, some students set up 3 big tents for the party, because all of them would like to enjoy the comfortable weather between spring and summer, unfortunately that day was not generously en-



ough to keep shining, the party had to be moved inside, though nobody seemed to be affected, they all came to the party with a cheerful mood.

Delicious foods from different countries were as usual welcomed, and the party provided us a chance to try various foods without travelling around the world.

This year we had a semi-professional DJ, who made the party into another highlight, so it was no doubt that the second theme of the party became „dancing with the music“. Under such kind of atmosphere, you could not just stand, what you should do was moving your body with the rhythm of the music, no matter how you chose to do it.

Surprise also came with the party, one student happened to have birthday on that day, so there happened to have a birthday cake on the party, how sweet!

There is no party without ending, but we could also hope for the next one. I wished, if the weather could be better, so that we might have our Summer Party 2011 in a real summer day.

• Zhuguo ZHANG



UNIVERSITY OF STUTTGART ATTENDED EUROPOSGRADOS EDUCATIONAL FAIRS IN COLOMBIA, VENEZUELA AND MEXICO, NOVEMBER 2010

Once again this year the University of Stuttgart attended Europosgrados, one of the biggest and most important higher education fair in Latin America. This event aims at promoting the postgraduate programs of European universities and foster academic exchange at all levels (students, lecturers and researchers) between Europe and Latin America. This time the fair was held in Colombia, Venezuela and Mexico and the University Stuttgart was represented by the Course Director of the WASTE Master Program, Mr. Ulrich Vogt and Ms. Marta Escoto de Tejada from El Salvador, alumna of the WASTE Master Program, generation 2006. We were in charge of representing the University of Stuttgart as a whole and, especially, of informing about the 7 International Master Programs (taught in English) and the International Ph.D. Program – ENWAT.



The tour started on November 10th in Colombia and finished in Mexico on November, 26th. During this time, apart from participating in a total of five fairs (2 in Colombia, 1 in Venezuela and 2 in Mexico) it was possible to meet representatives of the most important Universities and some German Schools in these countries.

First stop: Colombia.

The third edition of Europosgrados in Colombia was organized by DAAD and Campus France in two important cities: Medellín and Bogotá. Visitors of the fairs had the chance to meet representatives of more than

60 Universities and Institutions from Germany, France, Spain, the Netherlands, UK and Italy. The University of Stuttgart was one of the 14 German institutions present in Colombia. Europosgrados Medellín was held in Palacio de Exposiciones on November 11th and the fair in Bogotá took place on November 13th and 14th in Centro de Exposiciones Plaza de los Artesanos. Altogether, more than 11.000 visitors came to find out about study opportunities and scholarships in Europe. On November 16th, after a very nice, busy and successful week in Colombia, we took another plane to continue the tour in the capital of Venezuela, Caracas.

Next stop: Europosgrados Venezuela.

This edition of Europosgrados was also the third in Venezuela. In this occasion the fair, organized by DAAD, Campus France and the British Council, took place on November 17th in a new location called Nuevo Mercado de Chacao in Caracas. Although the fair was smaller than in the other countries (in total, around 20 institutions from which 5 were German institutions), it was a big success in terms of attendance and interested students (biggest number of interested people in our database in one single day!). This was very rewarding, especially after one of the most exhausting sessions of the trip (9 hours in a row). In total, it is estimated that around 1,300 people visited the fair from 11 a.m. to 8 p.m. on that day.

Last but not least: Europosgrados Mexico.

The seventh edition of Europosgrados, organized by DAAD, Campus France, Nuffic Neso Mexico (the Netherlands) and Fundación Universidad.es (Spain), brought together more than 80 institutions of higher education from more than 10 European countries in one single place, the World Trade Center located in Mexico, D.F. This year Europosgrados not only took place in Mexico City (20-21 November) but also visited the city of

Monterrey, in Nuevo Leon on November 24th. Some preliminary estimates show that more than 6,000 visitors attended the fair in Mexico City and roughly 1,500 visited CINTERMEX in Monterrey. In Monterrey, the team got extra-help from another alumna from WASTE Program, Yatziri Ro-



dríguez Guerra from generation 2005, who collaborated in informing the students and answering their questions.

After two weeks full of activities and lots of interesting and interested people, the journey ended leaving behind more than 600 interested students with more information about their preferred study programs and with their main questions (about admission requirements, living in Stuttgart, scholarships, etc.) answered.



Hopefully many of the students, who approach the University of Stuttgart stand searching for advice, will apply and study in Stuttgart in the near future. For sure, some of them will be reading or even writing for the WASTE Newsletter in the next generation!

• Marta Escoto de Tejada,
WASTE alumna generation 2006

TAG DER WISSENSCHAFT 2010

On Saturday 26th June 2010, Universität Stuttgart at Vaihingen campus organized a Science Day,



the theme for this year was "Entdecken-Forschen-Faszinieren", an opportunity for people of all ages to discover endless and wide spectrum of science. The scientists and students from more than 120 institutes of the university and adjacent research institutes took part in this event. All the disciplines from engineering, natural science to the social science and economics were present in the event providing an insight into the world of science and technology, workshops and hands-on experience to the people. A fun filled platform to discover various fields and be a researcher. Young talent got an opportunity to seek into the

current state-of-art technology, the ones which will be adding new dimensions to present technology 15 years latter. As the University was transformed into children's campus, there were special programs for them, e.g. ISWA organized small lab work in the field of water technology under the name of the "Nassy".

It was my first Science Day at the Universität Stuttgart and it was an amazing experience to be a part of this aspect of the University, as I learnt a fun filled way of how to spread the word of science and technology into the society? And how it helps children to set the vision of their future? The WASTE course was also the part of this event. As all other institutes of our course were exhibi-

ting some technology therefore we decided to exhibit ourselves "the WASTE family" emphasizing the diversity of nationalities and cultures. So, this time we had a food stall for Indian food. We all together had prepared the food. I was surprised to know the popularity of Indian food, people were already at the stall before we delivered the food to the stall. From an observer's point of view, it was surprising to see people from different nationalities under one roof selling Indian Food. It has been a nice experience to be a part of this event exploring my culinary skills and working closely with other WASTE family members. Finally we could contribute to the cashier of the WASTE Club Stuttgart e.V. by selling our delicious Indian food.



▪ Shelesh AGRAWAL

OUR OWN WORLD CUP 2010

It seems that football is always the hottest topic in the world. After enjoying the excellent performance of the FIFA World Cup 2010, we decided to hold our own Football Cup to see which team would be the best among us!

This year ten teams participated in the International Soccer Tournament 2010, which took place on Saturday, July 31 at the sports fields of the University in Allmandring. Besides 7 international M.Sc. programs - WASTE with two teams, WAREM, COMMAS, MIP, GEOENGINE, PHYSICS, and INFOTEC - one Doctoral Program ENWAT and the International Association of Hydro-Environment Engineering and Research (IAHR-SSC) joined the competition.

The tournament started at 10 a.m. and finished at 5:30 p.m. Ten teams were divided into two groups and the teams played against each other; each game took 20 minutes. The best two teams of each group were qualified to the semi-final; the two winning groups had the chance within the final to win the title. It was a marvelous day to play football, sunshine with suitable temperatures. A group of students provided drinks so nobody had to suffer from the high tempe-

ratures. Although we are not professional, this small world cup in the university drew a lot of attention of the students, who came to support their own teams!

After 20 matches in the preliminary round, four teams went to the semi-final games, the opponent of the defending champion from 2009, the ENWAT team, was GEOENGINE. In the second game,



PHYSICS played against IAHR-SSC. ENWAT easily won against GEOENGINE with the result of 3:0. The battle between the IAHR-SSC and PHYSICS seemed to be tough. None of them scored the winning goal even after the two extra times, so the game had to be drawn into the most exciting part, penalty shoot-out. PHYSICS was the lucky team, who got another ticket to

the final, but after the exhausting fight, they were too tired to face the strong ENWAT team. Unlike world champion Italy, who had to go home after the group phase, our champion from last year, the team from ENWAT, was finally again the smiling winner. Congratulations!

Although there is only one winner on the pitch, like the Course Director of the WASTE program said: "today all of us were winners"! We do not need to admire the people in South Africa, because we had our own World Cup. We celebrated for our own!

The good atmosphere and spirit of the soccer tournament continued in the subsequent party in Unithekle with good food, drinks, the awarding ceremony, nice games, good music and dancing until the morning hours of the next day. The participants enjoyed meeting new friends from other study programs and other countries. Thank you very much to the students of the organization team and their countless assistants which did a great job! We are looking forward to the next international soccer tournament in summer 2011.

▪ Zhuguo ZHANG

Life after WASTE

1ST REUNION OF 5TH GENERATION WASTE STUDENTS

Some moments are such, that they give spur to other moments. One such moment occurred on Facebook. Ceren Balkanay, a WASTE 4th generation student, put the poster of WASTE 5th generation in her Facebook profile and tagged everyone she knew. The days followed with a flood of comments and memories of our days in WASTE and Stuttgart. Someone suggested having a reunion and so it was planned. Samuel Sasu took the initiative and did a great job of coordinating. We all decided to meet on 5th of June in Stuttgart. It was Saturday and we hoped for a warm sunny day. It is clear that WASTE had provided opportunities for students not only in Germany but also in home countries and other countries in the world. Therefore, two and half years after graduation, it's difficult to call them back to Stuttgart. Those who were in distant countries expressed their regret



for their inability to come for the reunion. However, 14 out of 44 agreed to join the reunion party. Most of the participants were still in Germany either working or doing doctorate at various universities. Magdalena flew from Athens to Stuttgart just to meet us and enjoy the reunion.

The planned day of the 5th June turned out to be sunny and warm, a perfect weather to party, however out of fourteen, three of them called us and told their inability to come. Sasu organized all the food which was enough to eat until the end of day. We met at 2 p.m. at Pfaffenwaldring Grillplatz in the woods near IFK building. We greeted each other but everyone was hungry and simply started eating immediately. Everyone's memories of Stuttgart days were just flowing out, what they used to do, how they used to party, how tough were the exams, who used to sleep in the classes and so on. The heat of the day

made us drink a lot. A surprise came in the evening when Mila Kostieva came to party with her husband and a lovely 2 year child. For a long time we were chatting, teasing and enjoying food. Sasu made everyone tell their life after WASTE. It was really a touching moment to listen to everyone's story, Kristy told her experience of working in Mexico and a how her life changed after a small accident. Chinmay told about his days in Austria. Magdalena told about how her job in Athens and how it is similar to what she learned during WASTE. Piyathida Noon told about her working in Alstom, Switzerland and slowly at the end she declared about her wedding plans. People like me, Sasu, Tanhee, Alain Miguel and Olakunle had a similar story of their doctorate profession. It was 7:30 p.m. and we decided to continue the party in one of Stuttgart's party clubs in Stadmitte at 11 p.m.. I had to leave and we all exchanged hugs with a promise of future Reunion with more fellows from WASTE.

• Ajay Ramesh BIDWE
WASTE alumnus generation 2006

„THE BEGINNING OF MY VISION”

My vision since childhood has always been to find solutions and take initiatives in Global Environmental Protection and Climate Change issues. It all manifested further when I joined the unprecedented WASTE Program at Universität Stuttgart in 2006 for strengthening of my fundamentals of environmental engineering and management. By graduation I acquired good deal of knowledge, I also happened to come in contact with “Global Marshall Plan” on the day when I was technically leaving Universität Stuttgart. The Global Marshall Plan (concept inspired from the book “Earth in Balance” written by Al Gore, former vice president of USA) is a worldwide organization started by Frithjof Finkbeiner in Germany. It is an ideal platform to showcase the social responsibility of the local and global citizens to achieve common goals and values for our better future. I have had harmonized these thoughts with Mr. Finkbeiner when he came to the WASTE Graduation ceremony to share his vision of “World as Sustainable Global



Village”.

I was motivated by Mr. Finkbeiner to join the Global Marshall Plan to share my ideas and vision with our co-citizens. I have been involved with the Global Marshall Plan for the 3 years now and am convinced that I may make a significant impact on the minds of the like minded people who are envisioning a sustainable Eco Social Global Village.

“Think global and do local” – This is the slogan of the 21st century for all of us. Hence I went back to my mother nation India where I am became the Coordinator of global Marshall Plan India with following tasks:

- Educating the goals and objectives through meetings and presentation at various levels
- Study of local conditions
- Integrating concepts and people into Global Marshall Plan
- Resource Accumulation
- Provide a platform for taking the initiative
- Planning and Implementation

To realize the Vision of a Sustainable Eco or Green Planet for a world in balance, we need people who have gained technical and managerial experience from programs such as WASTE. We have tremendous responsibility as well as the opportunity to

address the climate change and energy challenges by thinking unconventionally and creatively, or beyond a mere job/career opportunity. I believe that the WASTE Program has the potential to inculcate this quality in us, who may be the future of change makers.

To achieve our goals we need concrete, smart and pragmatic objectives and identify one's niche area where one would possess a passion to drive and realize the aim. To perform we need an integrated energy and environment concepts driven by ethical values, global standards, sustainable climate and energy policies, emerging technologies and innovative open minds.

“Hence as part of my concrete plan to do active projects, I have special privilege of opportunity to work with ISWA, Universität Stuttgart in a global network project.

If I may hope to be practical and pragmatic, we could all make an impact on existing fundamentals of the global resource pattern of conservation and utilization. Then, the time is not far when we see a paradigm shift in the world environment through „WASTE” to an „ECO, GREEN, and RESOURCE ABUNDANT PLANET”.

• Naveen Kumar MADSHETTY
WASTE alumnus generation 2006

THE PATH TO MY PH.D. AND AFTERWARDS



„Desire is the key to motivation, but it is the determination and commitment to an unrelenting pursuit of your goal - a commitment to excellence - that will enable you to attain the success you seek.“ says Mario Andretti. And „The secret of success in life is for a man to be ready for his opportunity when it comes“ (Benjamin Disraeli).

I'm Md. Aynul Bari and I was a student in the first generation (2002) in WASTE. I completed my bachelor in Civil Engineering from Bangladesh University of Engineering and Technology (BUET), one of the leading engineering universities in my country. At that time, we were not familiar with German education system and M.Sc. programs offered in English. Fortunately, we received information from DAAD about the new WASTE Program starting from 2002 and luckily that I got admission in the first WASTE program.

After successfully completing fundamental courses of process engineering, I moved into the main stream and chose two specialised areas „Air Quality Con-

trol“ and „Solid Waste“. I started my master thesis in IFK. I worked in a UN funded project „Assessment of ambient air quality of Cyprus“, where I was responsible to investigate the levels and origin of natural and anthropogenic sources of particulate matter (PM₁₀ and PM_{2.5}).

The knowledge and experiences gained from my WASTE study helped me starting my Ph.D. research work in the same institute and in co-operation with the Institute ISWA. I received doctoral grant from the Ministry of Baden-Württemberg. In parallel to my Ph.D. work, I was also involved with working two other projects funded by BMBF (Federal Ministry of Education and Research) and UBA (The Federal Environment Agency), and worked on the identification of traffic-related PM sources at a high traffic site in Stuttgart Neckartor, and investigation of organic pollutants emitted from biomass combustion plants in Bechtoldsweiler. From these project works, I have gained more experiences in scientific writings, which helped me a lot in my further postdoctoral research work. I just finished my one year term postdoctoral work in the Air Quality Research Division of Environment Canada in Toronto. This gave me a new experience to work with regional air quality model by developing and implementing source attribution scheme to discriminate between transportation and

other source types of polycyclic aromatic hydrocarbons. Furthermore, I am starting my new assignment from January 2011 as Postdoctoral Fellow in the University of Alberta, Canada and I will work on residential indoor air quality exposure study in Edmonton, Alberta.

I could remember that during my WASTE study and Ph.D. work, I got tremendous support from my supervisor and Doktorvater Prof. Baumbach as well as from all other colleagues of IFK and ISWA. And this I would never forget. It is the WASTE program that enables me to successfully perform my Ph.D. research in Germany and makes my dreams come true. I could even consider my WASTE study as medium of path that encouraged me crossing the Atlantic Ocean and applying my research experiences in Germany to the air pollution problems in Canada. However, I am still in my way to fulfill my final dream of applying my research experiences to my home country Bangladesh where severe air pollution problem makes a real threat to the people.

I would therefore encourage all current and future students to sincerely perform their master's study in WASTE program which could provide a valuable asset in life. I am proud to be a member of the WASTE family.

• Dr. Aynul BARI
WASTE alumnus generation 2002

RESEARCH SCHOLARSHIP FOR KRISTY PEÑA (MEXICO), WASTE STUDENT OF GENERATION 2006



Ms. Kristy Peña, WASTE student of generation 2006, got a scholarship from the renowned German research foundation Alexander von Humboldt within the International Climate Protection Fellowship Programme. The Alexander von Humboldt Foundation contributes to the establishment of international collaborative networks by granting up to 20 International Climate Protection Fellowships annually. Ms. Kristy Peña got one of these eligible scholarships. The programme targets prospective leaders in the fields of climate protection and resource conservation from non-European emerging economies and developing countries. During a 12-month stay in Germany, the scholarship holders conduct a research-related project of their own choice in cooperation with specialist colleagues at a German host institution. Kristy Peña's host institution is the University of Stuttgart, Institut für Siedlungswasserbau, Wassergüte- und Ab-

fallwirtschaft (ISWA) and her supervising professor is Prof. Steinmetz.

Ms. Kristy Peña studied in the International M.Sc. Program WASTE from 2006 to 2007. She did her Master's Thesis in the Daimler AG in Sindelfingen. After her graduation she worked from 2008 to 2009 as an Environmental Engineer for Daimler Tractocamiones in Saltillo / Mexico; from 2009 to 2010 as an Environmental Engineer in Occupational Health for SERVINTESP company in Monterrey / Mexico.

The topic of her research at the University of Stuttgart will be in the field of biogas production.

Nowadays, in developing and transition countries, there is a big potential in the use of sludge as main source for biogas production through anaerobic digestion avoiding greenhouse gas emissions coming from landfills and / or open dumps. On the other hand, new sustainable sources of energy, such as hydrogen (H₂), offer the advantages of being well storable and transportable. An example is the use of H₂ through multi-fuel cells, which is completely emission-free since only water

vapour develops as exhaust gas. In 2008, Mexico City implemented the Green Plan whose objective is to offer solutions to the environmental problems in the city, concerning wastewater, waste and air quality management. Ms. Kristy Peña's 12-month research is part of a long-term project related to the Green Plan. She focuses on studying the feasibility of using bio-waste to produce H₂ and biogas through a two-stage anaerobic-aerobic digestion process. While defining the metabolic pathway on the anaerobic digestion and the main control parameters, the H₂ production will be highly efficiently increased. Characterized facultative bacteria like E. coli (H₂ production) and methanogenic bacteria (CH₄ production) will be used. The study will set the basis for further research on H₂ production from biosolids in Mexico, offer alternatives for sludge from wastewater treatment plants and, finally, encourage investment on Clean Development Mechanism projects in the country.

• Ulrich VOGT, Course Director
Information from Humboldt foundation

Where to go in Europe?

TRIP TO CROATIA

It was the end of May 2010, right in the middle of project work and lectures when Ana Maria, Ana, Norma and me embarked on a four day mini-holiday to my home country, Croatia.

Andres from Bracelona joined us at the Zagreb Airport.

S-Bahn, airport, landing in Zagreb, I was so excited to be in my homecontry, I could not wait to get out of the airport, but why do those Columbians need so much time to pass the border police???

After lunch, we went around Velika Gorica, my home town, had a coffee, met my friend Isabella, and relaxed.

Afterwards, we visited Zagreb, the capital city of Croatia. Since that day was holiday, all of the city was cleaned and well decorated with flags. So we went in Tomislav square and Ban Jelacic square (named after the Croatian hero and viceroy who defeated the Hungarians in an uprising in 1848 and his monument is in the square). We could not miss the Cathedral, the most monumental Croatian building. It was built in the neo-gothic style. The colourful Dolac market is the main market in Zagreb, which is definitely worth visiting. We walked along Tkalciceva Ulica towards the upper town and came to the 13th century Stone Gate (Kamenita vrata) with a painting of the Virgin Mary, which miraculously escaped the great fire of 1731 and is now

a place of pilgrimage. We explored the upper town which includes Banski Dvori (the Presidential Palace) with its colourful guards, Sabor (the Parliament), and St. Mark's Church (with the works of Ivan Mestrovic, Croatia's most famous sculptor).

Lotrščak Tower is the best preserved building within the city's defensive system. Its belvedere provides a wonderful view of Zagreb. Cannons have been fired from Lotrščak Fort every day for over a century to mark noon. So when you are in Zagreb around noon, don't be frightened when you hear a big bang in the middle of the day.

Since my friends were waiting for us in „Cug“, our bar in Zagreb, we finished sightseeing and joined them. That was for me one of those perfect moments: my new and old friends having a drink together at the same table.

After partying in Zagreb, breakfast and coffee we headed towards the Stinica. Stinica is one place you will never visit unless I take you there. Sometime in the middle of the 80s time just stopped there. It is a nice place to go with friends. I drove until the first stop, since driving is stressfull



for me. Andres generously continued and he is such a good driver that I fell asleep. We visited Novi Vinodolski (a beautiful Kvarner tourist destination), which is situated

in different direction from Stinica.

In Stinica, my sister Tena and her boyfriend waited for us with fish, which my father caught and left for us. Enjoying the sights, walks, cafes, food, and the best company, time to go back came too soon.

After landing in the Stuttgart airport, it was the first time I did not feel sad, and I thought to myself, „Mission accomplished!!“

• Ivana CACIC

SARDEGNA, ITALY.....GETTING RID OF STRESS

It was the summer of 2009, just before our final exams. I was getting prepared and really stressed out. I had only one month to get ready and so much had to be done. My friends listened to my crying call for help and convinced me to escape to Sardegna for 4 days before starting to study.

At first I was not sure because I had a lot to read and finish, but they gave very good arguments. It was my opportunity to go to Italy and to travel.

The tickets were bought. I could not change after the decision I made of going. However, I managed to put some class notes in my backpack to read them in my free time (big mistake). My friends threatened to burn my notes if I dared to take them out. Luckily that was not needed. As soon as we got to the island of Sardegna, I was totally absorbed by the beautiful city of Cagliari. We spent all four days on the beach relaxing and enjoying the sun.

There I discovered that the best surprises can be found in unexpected places. Walking down a small hidden street, we



stopped to have something to eat in a little cafe. The surprise was, we found out it had the best food ever and there I tasted the best café espresso of my life (is not an exaggeration).

Cagliari in Sardegna has everything to get rid of stress and start fresh for exams. Four days was all I needed to forget everything. The last day at the airport we were so sad. We did not want to leave.

I still hope to go back there. To paradise. To Sardegna.

• Cruz Elia RODRIGUEZ DIAZ

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