



# NEWSLETTER

## From IAESTE India to the MSc. WASTE International Symposium

In 2014-2015, I had the opportunity to visit India for 2 internships. The first two-month internship was an international exchange program with the association called IAESTE. The internship was focused in chemistry, not in biology!

I remember it was a wonderful experience full of challenges, fun, cultural richness and amazing people! This very first experience triggered me to find another opportunity to go back to India for a graduation project. After few months, I went back to Karunya University. Eight heavy months passed until I achieved the blowing shift from classical biology to advanced water treatment technologies. Yes!, I finally made my first step into the environment and waste world. During this journey, I literally played with nanoparticles under the sunlight. It sounds palpable; I synthesized nanoparticles to degrade the dyed water under the solar light. It was a very interesting topic done for the first time. The laboratories in the university were advanced and the work was very challenging. Long story short, this project made my graduation memorable with extensive regards from the panel. Moreover, it opened doors to join the MSc. Waste program within Stuttgart University in 2017.

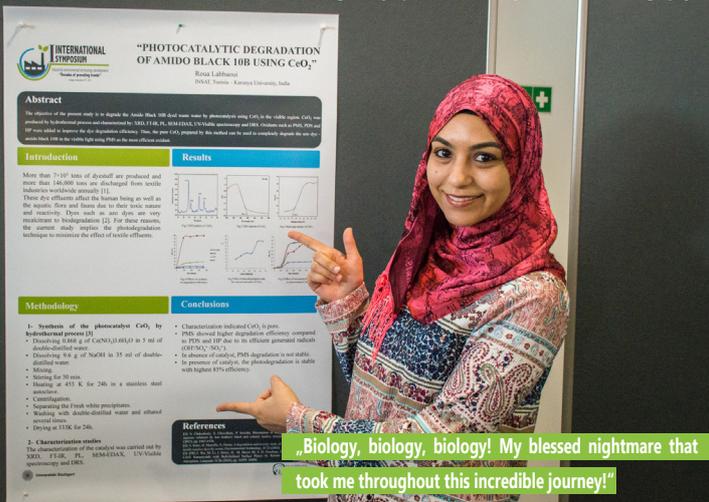
After I came, the MSc. Waste Team organized an International Symposium where they received many alumnae and international speakers to give us glimpses about the current advancement in the research and development of the waste management in the world. The symposium was conducted for a whole day. The speakers persuaded us with their talks and experiences in different fields such as the was-

tewater treatment in Brazil, biogas production in India and air quality and energy policies in Chile. They have also demonstrated the onshore wind technologies and highlighted the difference in sludge management between Europe and Latin America. The speeches were motivating to induct business in our home lands and widened our perspectives in the field. In addition, we as students and alumnae had the opportunity to participate in the symposium by presenting our papers and researches. Many student speakers enlightened us with their researches in PhDs and masters. The topics were unique and highly advanced to this era. It was enormously competitive because in the end of the symposium three students will be elected as the best research topics. Here also comes my footprint, I presented my dear project as a research poster. I was delighted not only because I had the chance to make my project seen again but I had the opportunity to engage with the international speakers. They evaluated my work, motivated me and left a big smile in my heart, which will induce me to carry on in this research.

In the end of the symposium, the international speakers gave a nice closer and selected the best three topics which belongs to seniors with wide imagination and efficient work. I hope the International Symposium happens every year from now and onwards, because it is a valuable experience to witness. See you dear readers in future symposiums with your footprints as well!

**Roua Labbaoui**  
MSc. WASTE student, Generation 2017

Research Poster from Roua during Int. Symposium - Photo by Jeramiah D. Photography



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# GRADUATION CEREMONY 2017

I do have to say that I may have some skills in international catering; in fact one of my side-businesses would definitely be event's management. The graduation Ceremony from MSc WASTE generation 2015 was precisely the perfect opportunity to start practicing for my future company!

Everything started on a cold winter evening, when the Class Speaker from Generation 2015 – Ms. Jasmin Raiser, arrived to the event's place and greeted me with a bright smile in her face. As many other graduates, she brought her parents, along with a pair of stiletto heels and a tight-fitting dress to the soiree.

I was pleased to meet my Generation 2015 colleagues again; they all look slightly more professional than last time. After some pictures, all the graduates headed into the main auditorium. The Official part was nothing but flawless: Students from Generation 2017 opened the gala with a dazzling musical performance, followed by some speeches from the Dean of studies, Dr. Kronenburg, and the Class Speaker from Generation 2015. Afterwards, Pr. Eckart took the floor to hand the certificates to the new graduates. Finally, Professor Trautmann gave

some special rewards for best academic performance and outstanding project commitment. All the new MSc. WASTE Logos were launched during the event; therefore, It was clearly a sophisticated and simple ceremony. A final sparkling wine toast accompanied by an international finger food buffet, featuring sweet and salty dishes from different continents (Organized by the MSc. WASTE students from generations 2016 and 2017), were nothing but the cherry on the top of a pleasant evening, also the perfect chance for me to realize how interesting would be having my own catering company!

As it has been a long time since we do not see our colleagues, it is always great to spend some time with them and talk about future plans, life, and new love affairs (Or pets, for some cases) - GOSSIPING. Every little gossip you share will definitely have a second part in the next occasion we meet, and I am definitely looking forward to it!

**Nelson Rincón Soto**  
MSc. WASTE student, Generation 2016



Graduates from generation 2015 - Photo by Yannis Chourdaki

## BUDDY WORKSHOP 2017



morguefile.com: Friendly Fingers 2017

Every year the new coming Generation is welcomed by members of the previous MSc. WASTE Generations – so called Buddies. (About this you might have read already in our Summer Newsletter Issue 18.)

Our MSc. WASTE Buddy Program is connected to the university's overall Buddy Program offered by the Office of International Affairs (IZ). In August 2017 I visited the small Buddy workshop at the IZ to get all relevant information and give afterwards to our new fellow MSc. WASTE Buddies an insight of what it means to be a Buddy.

The special thing about "The MSc. WASTE Buddy Program" compared to the general university wide Buddy Program is, that MSc. WASTE Buddies can help the newly arriving students not only with all administrative issues (enrollment, registration, bank account opening,...), but also MSc. WASTE Buddies are in the position to really integrate their mentees in the MSc. WASTE Family, because they are all members of a Professional Network. Meaning, Buddy students can act like big brothers or sisters, actually guiding their younger siblings through daily life.

**Franziska Rehle**  
MSc. WASTE Office Team

# WELCOMING EVENT - Generation 2017



Schloss Solitude, Generation 2017 - Photo by Jeremiah D. Photography

Around March / 2017 some people from around the world received an E-mail that would change their lives, their admittance to the WASTE Master's Program in the University of Stuttgart was confirmed and then a new path started. Documents, accommodation, visa application, etc. What made the process easier? The support from Generation 2016 Buddies Program. The main premise was that we had a senior student which we could ask anything, to the extent of picking us up at the airport when coming to Stuttgart.

Once here the formal meetings at university took place, we, the new students were able to get to know each other for the first time (Although we are still in that process!) and get to meet our seniors and Professors. One of the most memorable days was our first official meeting as part of the WASTE program along with Mrs. Carolina Acuña, Course Director.

After a short sharing of information, like where we came from, hobbies, interests and expectations, they organized a trip to the Solitude Castle just 30 min walking from the main building of WASTE; when we started walking it was a sunny day, we entered the woods and we were able to see the lake and take some photos during the process and arrived to Bärenschloss, a viewpoint in the middle of the forest where rain had already started.

We continued our journey, we didn't know that the rain would soon be enough for everyone to start sharing their umbrellas and gather together, finally we have arrived to the castle and we were blessed with the magnificent view of the city even with so many clouds for that exact moment the

view was clear and beautiful. We took some official photos for the webpage and we were ready to enter, good news it had stopped raining, but not so good news the administration office of the castle made a mistake and reserved the other castle located at the other extreme of the city, so we finally couldn't enter. It was okay as everyone sat down and started to share their food, we had fun thanks to the efforts of Generation 2016!

*„We hope our journey in this new path is full of good moments and we know we have the support of everyone in the MSc. WASTE Program“*



MSc. WASTE Map, Generation 2017 - Photo by Jeremiah D. Photography

**Maria Paula Aparicio**  
MSc. WASTE student, Generation 2017

# MSc. WASTE SUMMER PARTY 2017

## Summer Party 2017: Study hard, work hard, play hard and of course ... party hard!

"Waste Summer Party", those words were "spinning" in my head since I have heard them for the first time during the welcoming meeting that we had as new Waste Master students during October 2016. After almost ten months waiting for warm weather, finally summer came and we could enjoy it!

Everything started when I checked (3 months before the party) an email sent by Carolina Acuña, our course director, who proposed to have a meeting in order to organize the Waste Summer Party 2017. We created several teams with different functions such as, prepare/sell drinks, food (including grilling and desserts), clean, setup, organize games, and others in order to fulfill our objective. We planned to have an amazing party in front of our beloved IFK institute on Friday 28th July, 2017 during afternoon. I knew since the beginning that this event would entail effort, patience, perseverance and especially a lot of team work. However, I trusted in my classmates and I knew that everything would be great.

The day arrived and I was so excited to start the setup part with the volunteer team, I woke up early and helped to organize the tables, benches, tents, the shisha corner, the bar and the table football. We were so lucky to have strong classmates and friends who supported to have a nice setting up. Immediately, at midday the decoration team arrived and started their job. They were so creative and prepared ornaments with recycle material that we had in the Waste office. In the meanwhile, the food team started their job inside the IFK's kitchen. I had the opportunity to be part of that team as well. Then, the drink team arrived and started with their responsibilities.

It was almost 5 pm and the first guests arrived, we needed to be quick in order to finish our tasks and open the ticket spot for sel-

ling food, drinks, desserts and of course the Bingo tickets. After 30 min we had almost 100 people in our party, everyone who belonged to the working force team knew what to do and how to help. I can say that it was one of the most organized parties that I ever went.

At 6 pm the party already had started, first we enjoyed an amazing food that consisted of grilled chicken accompanied by a selected buffet of salad, delicious desserts and vegetarian food. As a drink, the guests could choose among beer, cocktails, soft drinks and wine. Afterwards, Dr. Kronenburg and Dr. Acuña made a welcoming speech highlighting the specialness of this party and wishing to everyone present to enjoy it.

Next, the Bingo game started and the luckiest people were able to win helpful tools such as lunch boxes, bags, and others. After that the contagious music started and indirectly invited us to show our best steps on the dance floor. Bernardo Guevara (from Generation 2016) was our wonderful DJ during all the party. The music was varying from Latin, German, and Arabian to electro. I could observe that everybody enjoyed the party and it was interesting to share special moments with our teachers, classmates, colleagues in an environment completely different from the classroom.

Definitely I would like to thank the Generation 2016, Carolina, Dr. Vogt, lecturers, all our friends and volunteers who helped to organize this party since the planning to the cleaning stage; it was a pleasure to work with you. I hope that next Waste Summer Party would be similar or better than this one.

**Grecia Solís Castillo**  
MSc. WASTE student, Generation 2016



MSc. WASTE Summer Part 2017 - Photo by Marcelo Korelo

# EXCURSIONS TO SOLID WASTE TREATMENT PLANTS

## Biogas plant, Composting plant and Incineration plant



MSc. WASTE Students at Incineration plant

On 7th of July, students' specializing in solid waste treatment under the guidance of Dr.-Ing. Martin Reiser had an opportunity to visit two biowaste treatment plants with different outputs: a biogas plant named Rems-Murr-Kreises mbH (AWG) Abfallwirtschaftsgesellschaft located at Waiblingen and a composting plant named Landkreis Abfallwirtschaftsbetrieb located at Esslingen.

The first stop was at biogas plant. We were guided to a room where they explained us how the plant worked and how it could be made profitable. Then, a member of the staff led us to a tour through the facilities. They showed us the pre-treatment area, the scrubbers, the biofilter as well as the bioreactors. They were really big! Throwing some numbers, 10% of the energy they produced is needed for the plant to maintain the temperature inside the reactors and to move the mechanical parts.

After the biogas plant, we visited the composting plant. In this plant, they explained us the process inside the control room. We realized the problems and understood the techniques the plant used to deal with different seasons or the plastic waste. We were curious to know that even bioplastic was a problem to the plant. This is due to the fact that the normal process takes place during 40 days and bioplastics require at least 80 days for degradation. So even if they are biodegradable they cannot be used for the purpose. Later we had a walk through the facility and the tour ended with a close look at the biofilter.

And just one week later, about 20 students from WASTE program, together with the supervisor Dr.-Ing. Hans-Joachim Gehrmann and M.Sc. Francisco Carrasco M., participated in one-day excursion to a waste incineration plant. The plant MHKW Ludwigshafen, which was established in 1964, has a treatment capacity of

more than 200,000 tons of household waste per year from 1 million inhabitants in Ludwigshafen and nearby cities or communities. It aims to reduce waste volume before the disposal to the landfill with the compliance with the emission limit values. Aside from the environmental aspects, it is also economically profitable, with the recovery of ca. 4,000 tons of metals and the generation ca. 64.000 MWh of electricity and 214.000 MWh of heat energy per year.

The excursion was started with a brief introduction of the whole plant by one of the staff, who provided us an insight into the development and the techniques of this incineration plant. We were guided to the delivery area before the tipping area, where the vehicles were weighed and waited to dump the waste. Paper, glass and biowaste were excluded. Later, we entered the plant and came to the waste bunker. It served to moderate the fluctuations in the waste quantities. We visited the operation room where the workers operated several gripper arms to mix the waste and inspected the condition in the incinerator. The workers even narrated us an incident where in there was a cat in the bunker and the worker built stairs made up of waste to allow the cat to climb up and be finally rescued. This talk about the experience they had working with cranes.

Later, we were informed of the structure and function of the grate furnace and got a glimpse of the flame through the insulated window. Besides, we also went to a Freilandklassenzimmer, which was designed for educating kids from the neighboring schools; the process of the compost, the organisms involved, the generation of energy through waste and other waste treatment techniques in a vivid way. It was aimed at arousing the awareness of recycling and environmental protection.

**Miriam Chacón and Yingzi Gao**  
MSc. WASTE students, Generation 2016

# WASTE INTERCULTURAL MEETINGS (WIMs)

## MSc. WASTE - ALUMNI WIM 2017

Nearing the end of a two-year intensive WASTE Master program can arouse some urgency in thoughts and plans for the near future. Virtually every student of the program is at one point confronted with what are seemingly trivial but essential questions. What are the prospects for the future? What further steps are needed to enhance one's chances of stepping into a professional career? Is securing a career in Germany's Job market even realistic? These questions among other pressing issues loom over every student in the WASTE program. After all, going through this Master program was to better prepare us for the engineering challenges outside the realms of the academic bubbles. Lucky for us the ordeals and experiences of our predecessors of prior Generations are guides for us to maneuver similar hindrances.

Under the auspices of our devoted, selfless and dynamic course director, Dr.-Ing. Carolina Acuña Caro, who herself is a graduate of the program, coordinate an alumni WIM held on the 3rd of June 2017. Current students were accorded a platform to interact with some of our exemplary predecessors, learn from their experiences and take heed of their priceless advices.

To grace the occasion, Dr. Kristy Pena Munoz of Generation 2006 delved into her personal academic and career struggles. Her profile includes a PhD obtained from the University of Stuttgart. Her resilience and persistent knock on doors while taking no "NO" for an answer paid off in many instances in her personal growth.

Today, she is fully employed by an international company called CAMBI as a specialist in Sludge transformation into Biogas. She is an example of what the current and future prospective students can become. On his part as a guest speaker, Mr. Francisco Carrasco Maldonado of Generation 2012 highlighted his transition from the WASTE master program into a full-fledged PhD research position at IFK of Stuttgart University. His research from 2014 involves the new trends in Oxy-fuel combustion simulation in cement production. According to him, his experience in the Master program couldn't be more valuable in adapting to the high standards required of a PhD candidate in the German academic system. He is indeed an epitome of the prospect that lies ahead of those looking forward to taking up research positions as a career path.

Several other speakers including Reyhane Youssefi of Generation 2013 and Mr. Isaiah (Yow-Lin) Huang who is currently employed as a Chemical Engineer in Germany all expressed their invaluable experiences in the Master program as stepping stones into their current professional undertakings. As part of the prospect for a future in Germany as a professional Engineer, the speakers emphasized the essence of an improved level in the German language as a key besides academic achievements in securing careers in Germany. They also highlight the importance of building a network of acquaintance in both Germany and among colleagues in the program. The future they said is all about the extent of your relationship with professionals in the engineering field.

**Abdou Suso**

**MSc. WASTE student, Generation 2016**

## MSc. WASTE - CHRISTMAS WIM 2017



In Colombia, the 8th of December is a holiday that comes after the so-called "Candle's night". A lot of candles are lighted outside the homes and children have to protect them from blowing out while adults drink wine and gossip with the neighbors. I could not be gladder that the MSc. WASTE Christmas WIM took place on the 8th of December. It definitely helped me bring back this old childhood-Christmas nostalgia.

Everything started with a picturesque-decorated room filled up with gifts, drinks, Christmas food from all over the world and nice people. Then, the traditional gift-stealing activity was carried out, where everyone

picked a gift from the pile and crossed their fingers to keep it until the end of the exchange. I enjoyed stealing gifts, and I was not afraid of doing it at all!

The second activity was the Mexican "Piñata" which in short words was the magical moment to become children again. At the end, I saw more than 1 pocket filled up with candies and suckers. I have to admit, the students from generation 2017 know how to throw a party!

**Nelson Rincón Soto**

**MSc. WASTE student, Generation 2016**



MSc. WASTE Students at Christmas WIM

# WASTE INTERCULTURAL MEETINGS (WIMs)

## ∴ Ropes Course WIM ∴

As part of the tradition that involve being a Waste Master Student, the Waste Office and the Waste Club organize every year, during the end of summer semester, the most different and exciting WIM among the others: Going to the Stuttgart Klettergarten. This year the WIM took place on Saturday 8th August in Neuberths Waldwirtschaft im Schmellbachtal located in Leinfelden - Echterdingen and gathered students from Generation 2016, the Waste Master Course Director Carolina Acuña, relatives and friends who belong to other Waste generations.

Everything started at midday, when most of the participants rode their bicycles from IFK to the Klettergarten forest. The route was cool and almost all the participants could warm up before the exhausted afternoon that awaited them. After arriving, they received special training in how to wear appropriately the safety belts, helmets, and ropes in order to avoid any accident. At the beginning, the circuits and routes looked easy to climb; however, the participants noticed that those routes were difficult and they have to be careful in order to not fell down. In addition, there were some participants who had never tried a climbing experience like that in their lives.

After some minutes attempting to figure out what was the best way to climb, Kenn and Lukaz (Students from Generation 2016)

noticed that there were different types of routes that started from the easiest one. So, they decided to try the first route; after some minutes of success they got the enough confidence to go for the most difficult. Nevertheless, they regretted about their decision after falling down (It should be noted that they fell using the safety belt). This generated laughs among the participants that did not hesitate to also try the most challenge route!

Most of the time that they were in the Klettergarten was sunny, but during some minutes the black clouds covered the sun and they experienced rain. This situation increased the difficulty of going through the routes and circuits since every step and cords were slippery. After five hours enjoying, eating, drinking, laughing and climbing, was time to came back home.

Thus, most of the participants who arrived by bicycle had to take the train because they were completely tired after this experience. That afternoon was amazing. In fact, they could discover hidden abilities to climb, to laugh about themselves and of course to enjoy among Waste family members.

**Grecia Solís and Ceren Yapici**  
MSc. WASTE students, Generation 2016



Ropes Course -

MSc. WASTE Ropes Course WIM - Photo by Marcelo

# FROM STUTTGART TO CURITIBA: Some stories and interviews



## ::: Our story: From Stuttgart to Curitiba :::

### First Generation of MSc. WASTE Students studying their double degree in Brazil

Being a student in the WASTE Master Program for one year was an amazing experience. As we moved to Germany, we had the opportunity to discover a new culture, meet new friends from all over the world and travel to many other nearby countries. That already sounds awesome! Right? However, what could be more exciting, adventurous and totally out of the box?

Bingo! We found the answer at the Brazilian WIM in February when we saw the WASTE/UFPR Double Degree presentation. In addition, knowing that nobody before dared to apply for it was even more exciting. Since that day, we started inquiring about this program and thinking about all the possible difficulties. With the great help of the double degree coordinator (Dr. Daniela Neuffer), the WASTE course director (Dr. Carolina Acuña Caro) and the International office (IZ), we decided finally to apply for the Program.

For international students that just came to Germany, the process was not very easy. Nevertheless, we managed to do it! Nothing is impossible if you really want it! That was our motto all along the way.

After a hectic last month in Germany where we had to do exams until the last day, pack everything, regulate our status with the foreigners office, etc. The day of our flight finally arrived. Saying farewell to our friends and the country where we stayed one year of our lives was very emotional.

Now here we are in Curitiba, Brazil! It is an awesome country and we already made many new friends. There is only one obstacle: Portuguese. Here a rare minority in the country speaks English. For sure we struggled in the first days but there are many friends here from the MAUI program that helped us! So our only advise for the newcomers: Learn Portuguese! You will need it! And be ready to have a lot of fun!

**Marouane Merizak and Simindokht Mobarakabadi**  
MSc. WASTE students, Generation 2016

# FROM STUTTGART TO CURITIBA: Some stories and interviews

Interview: From Stuttgart University in Germany to Universidade Federal do Paraná in Brazil

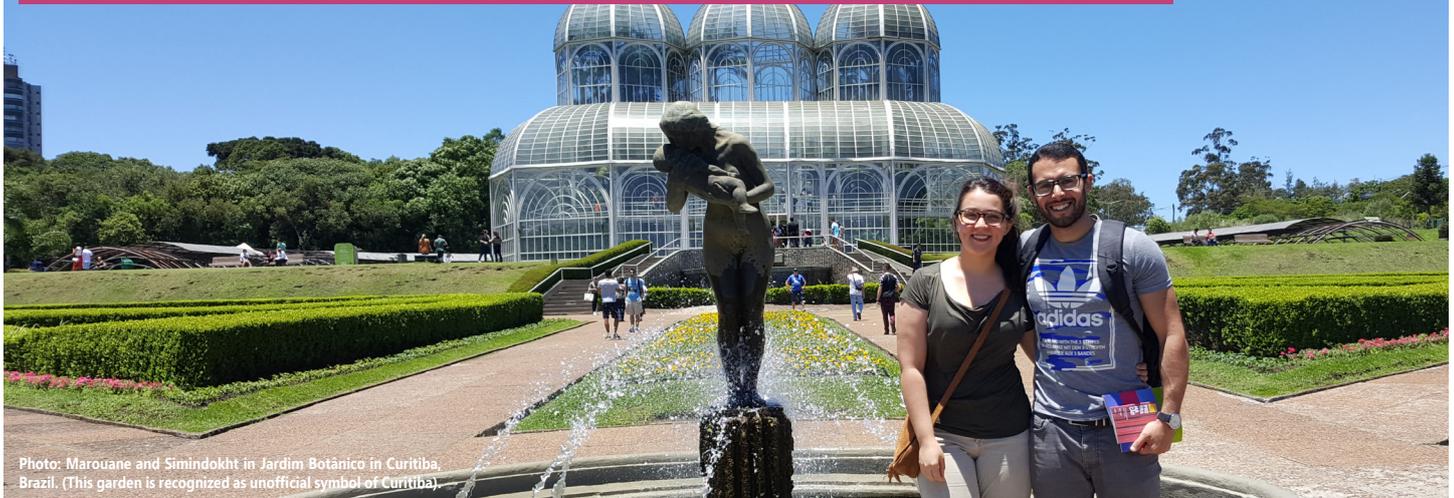


Photo: Marouane and Simindokht in Jardim Botânico in Curitiba, Brazil. (This garden is recognized as unofficial symbol of Curitiba)

Living and studying in a country that is located in another continent, completely different from Germany – especially in weather and language – , with almost 208 million inhabitants and with a high environmental performance index in South America is a challenge decision that Simindokht Mobarakabadi and Marouane Merizak, WASTE master students from Generation 2016 of Stuttgart University, took during their second semester of studies. We have the pleasure to talk with them and make some questions about this fabulous experience and what are their expectations for the future.

## 1. What was your motivation to participate in the Double degree program organized by Universität Stuttgart and Universidade Federal do Paraná in Curitiba, Brazil?

Mer: Being part of a double degree is a challenging experience both academically and personally. Not only can you obtain two degrees in a much shorter time than getting each one of them separately, it is also a great opportunity to discover two different countries. That means you become part of two cultures and two educational systems.

Mob: Well, I am an adventurous person. There were two countries ready to be explored and the idea of living in those, doubling my knowledge, experiences and my true potential in just two years of my Master's studies was an exciting opportunity that WASTE and MAUI were providing for us.

Moreover, I wanted to go out of my comfort zone and prove to myself that I am serious and determined to take up challenges. I was looking forward to twice my professional network, and also learn about educational system in another country.

## 2. As a foreign student in Brazil, how was the process of adapting to another society?

Mer: At the start, it was a little bit challenging to adapt mainly because of the language barrier. However, in a short time I made many friends here who helped me figure out how things work.

Mob: As a foreign student who cannot talk the local language, everything was really hard at the beginning. I remember the very first days here in Brazil when I was feeling like an alien in another planet. But the only thing which kept me go on was the nice people from Brazil; they were trying their best to help us with a big smile and a friendly face. Gradually, after starting the language course in CELIN, the UFPR

language center, and becoming more familiar with how things work here everything changed.

## 3. What is your opinion about the modules and lectures that you are studying in Brazil? Can you explain us some similarities and differences between German and Brazilian courses?

Mer: It is a very different system here in UFPR. Lectures of a certain module are done intensively during a week or two and are usually offered in evenings. Besides, before the start of lectures I did six weeks of mandatory internship in an environmental consulting firm. UFPR has also a language center called Celin (similar to Sprachenzentrum in Stuttgart) that offers Portuguese lessons to foreign students.

Mob: Here in Brazil, we have a professional master degree which means most of our colleagues are those who work in industry and facing problems then they come to MAUI to solve their problems and learn more. For us, it sounds a good opportunity to have an insight about the industrial problems in Brazil and go beyond academic borders. The lectures here are in form of seminars. We have days or weeks of lectures for 5-6 hours per day and then we participate in exam. [Unfortunately we did not have the chance to participate in any lecture so far because we were busy with the internship.

## 4. Finally, what do you expect about this 1-year exchange experience?

Mer: My hope is to get the best of German and Brazilian experiences. Besides, as one of the first exchange students from WASTE in Brazil, I will try my best to open the way to other students to apply and enjoy this fantastic experience. And of course, I will not miss the opportunity to travel and enjoy this beautiful exotic country.

Mob: Grasping maximum knowledge from two sides, WASTE and MAUI, and using the limited time we have in the best possible way are my academic expectations. And my cultural goal is to live the culture and learn the language of both sides during these two years. Besides, as the first outgoing student of WASTE in MAUI, I will try my best to make the way easy for students of next generation and share my experiences with them. And I am sure that they will have great experiences by attending this double degree program.

**Grecia Solís Castillo**  
MSc. WASTE student, Generation 2016

# SOCIAL PROJECTS IN FRANCE

## Short-Term Erasmus Projects to foster the MSc. WASTE experience!



Working as a team with people from different countries in France



Last day of the project with Youth Pass Certification

My motivation was to enhance my interpersonal skills, do a volunteer work with an international team, discover a historical region in France „Poitier“, and of course leave a positive impact in this world where I belong to. All these motivations drove me join a short term Erasmus + project in Poitier, France. T

he project was briefly about youth and drugs, we as international participants attended workshops, created videos, charts, brainstorming, youth organizations visits and meeting local people. Despite the short time project duration, it was really intensive and fruitful.

During the project, the organizers prepared a fun surprise for us... and it was an awesome surprise, a visit to Futuroscope, a theme park based on Multimedia and Cinematography 3D and 4D, I travelled to Egypt and flew over the pyramids as well as Taj Mahal in India while I was in reality sitting in Futuroscope in France. It is said that Futuroscope is unique all over the world.

Time flew and the project ended so quickly and it was time to come back to Stuttgart, full of energy to resume my studies and exams. „See you in another experience or maybe I would be glad to read about another Waste student experience participating in a future Erasmus+ platform.“

**Eslam Abdelraouf**

**MSc. WASTE student, Generation 2016**

## „RECYCLING BEWUSSTSEIN IN PERU – PARALLEL WORKSHOP“



Photo - Recycling in Perú

At the beginning of the winter semester 2017, the project “RECYCLING BEWUSSTSEIN IN PERU – PARALLEL WORKSHOP” was selected by the Stuttgarter Change Labs – Uni Stuttgart as one of the 8 projects who will be supported and executed during the next 6 months. This workshop represents a key part of a bigger project named “Inclusive recycling center in the district of Comas in Peru” which aims to improve the waste management system in Comas, a district with around 500.000 inhabitants located in the capital Lima.

Through the introduction of recycling concepts and innovative instruments for waste management to the community of Comas and Stuttgart, the workshop seeks to raise awareness about this topic in both cities with the ultimate goal of finding solutions for the problematic that the Peruvian district has to deal with, the waste. The workshop will be simultaneously conducted in both cities and the results will be later disseminated to the public and will serve as a basis for the further planning of the project “Inclusive recycling center in Comas”. The project responsible of the parallel workshop are the students Dessiré Velez (Architecture and urban planning Master Program) and Vanessa Bolivar (Waste Master Program) with the participation of young engineers and architects from Peru and Germany who are also part of the organization Reciclaje.pe. If you want to know more about both projects or you want to support us, you can visit our website <https://reciclaje.pe> or send us an email to: [info@reciclaje.pe](mailto:info@reciclaje.pe)

**Vanessa Bolivar**

**MSc. WASTE student, Generation 2015**

# STUDENT JOB AT DÜRR

## Working at the Division of Clean Technology Systems

When I applied to the MSc. WASTE in 2015, one of the most attractive points in my opinion was how diverse it can be – with possibilities for everyone in the fields either of research or industry (something that doesn't happen in Brazil, where most of the Master Programs are completely focused on research). Since I graduated, I always wanted to have some experience in industry, especially in Germany, which is known for its 'state of the art' environmental technologies, so when our course director Dr. Ing. Carolina Acuna Caro sent us an email with an opportunity of a Student Job offered by the company Dürr Systems AG, I didn't hesitate to apply for it. The prerequisite for the position was the biggest challenge for me, High German language proficiency skills! With my intermediate level of German, I had to translate my CV and write a motivation letter – it wasn't easy, but with some inspiration and help from the Waste Office I managed to prepare all the necessary documents. and it opened to me the first door: the interview.

It is one thing to write a CV or a motivation letter with the help of Translation tools, the internet and most importantly friends, it is a completely different experience to test your German skills in an interview. Luckily, the experience could not have been better, and I left there knowing that it is more important to be honest about how much you know instead of to know everything. Of course, every case is different, but I also learned the importance of asking questions, especially about the company, the work processes involved in one position and to be

pro-active during the interview rather than memorize information such as the budget of the company and the name of the CEO.

Today it's been almost 2 months since I've been working in the division of Clean Technology System in the Research and Development department, and I have been learning every day. As my specialization fields in my masters I chose Solid Waste and Wastewater, whereas my work is in the field of air pollution treatment, in short, the combustion of polluted process air to minimize organic contaminants that comes from different types of industry (specially coating and paint industry – the focus of the company). It is very interesting to be in the research department of an industry – and experience industry scale technologies instead of tests in a pilot scale. My job allows me to apply all the knowledge from our Combustion classes in the 1st semester in an industrial-scale plant! In addition, I am following the development of the products throughout the year and the realising the constant improvement of the processes which increases the efficiency of the air cleaning technology.

I think that my biggest expectation for this student job is to be able to learn from the practice, to apply all the knowledge that I gained from WASTE in a renowned company and get the best experience that I was always looking forward in this Master. Apart from that, of course to be able to improve my German skills because only practice makes perfect, and being in contact with the language and especially with some scientific terms aids on my personal and professional development.

**Paula Daolio Silveira**  
MSc. WASTE student, Generation 2016

# DESIGNER OR ENGINEER: Working at RED GmbH



Photo: E. Coli Strains after ionization by Jeramiah D. Photography

Honestly, I was surprised when I opened the RED GmbH webpage; particularly due to the classy Hugo Boss shoe insoles popping up in the homepage. Just for the record, I have no problem at all with doing my internship at a fashion company; actually, it would definitely match my non-professional interests!

A few days before, I received an email from the MSc. WASTE Office stating that an Engineering-oriented company was looking for some students in the field of Air Quality to work in Product Design and Development. Immediately, the offer caught my eye, hence, I sent them my CV (Featuring my new self-taken "Tie Picture") just to give it a shot. After a couple interviews, I officially started working at RED GmbH, a company aimed to research and develop new – so called "Made in Germany"- products to improve the life quality in Chinese conurbations. Then, I realized that I was surrounded by Industrial and Graphic designers with deep knowledge in 3D- drawing software and an innate sense for aesthetics. Of course, I asked for the Hugo Boss shoe insoles; unfortunately for me, that was not the project that I was hired for. Instead, the company gave me two short-term goals to achieve: On the one hand, build up technical marketing material for a new air purifier to be used on children craves; which I could summarize as simplifying the contents of the course "Basics of Air Quality" in a ten-page consumer-friendly document.

# DESIGNER OR ENGINEER: Working at RED GmbH

In that point you understand that even when you do not believe it, you are kind of an expert in air quality, or at least you have enough knowledge to captive your co-workers.

On the other hand, RED GmbH is developing a brand new ionizing system for domestic fridges aimed to control pathogenic bacteria growing in food stocks. Fortunately, my MSc. WASTE Colleague, Rashmi Rao, joined the team and fostered this project with her biotechnology background. Together, we are testing the ionizers under different conditions for multiple bacteria strains to determine the bactericidal effect of the ions. The used ions are  $\text{NO}_2^-$  and  $\text{O}_2^-$  negati-

vely charged particles released by a low-ozone emission ionizing brush; they are transported by the inner air flow of the fridge to act on bacteria colonies afterwards. The final product is conceived as a "Cleansing Egg" to be placed in domestic fridge shelves to control the bacterial population of your food!

Red GmbH is definitely not a large factory; I am not precisely dealing with massive amounts of emissions or managing flue gases' chimneys, I am also not modelling 3D reactive flows as I thought that I would be doing in my internship. However, I honestly could not be gladder to help solving simple and everyday life issues: Keeping your fridge sanitary for longer.

**Nelson Rincón Soto**

**MSc. WASTE student, Generation 2016**



## Traveling and learning - Lund University, Sweden



Waste containers in Sweden



Waste room in Sweden

Having nice vacation days and learning about solid waste management at the same time may sound a little bit contradictory. It supposes that vacations are made to be relax and do not think about lectures or exams. However, as a good engineer I found a great chance to learn during my summer break on September of this year. I had the opportunity to visit Lund, a city in the province of Scania located in the south of Sweden. The city of Lund has great tradition within education; in fact, Lund University is renowned for becoming a center for high-tech industry nowadays and of course because of their numerous intellectual and literary figures like Carl Linnaeus (naturalist who classified more than 11,000 species of animals and plants).

I spent one week there visiting some good friends who hosted me in one of the student corridors inside Lund University campus. For me was a fabulous experience to share the same kitchen with new people - most of them were Swedish students-. Everything was almost similar to German corridors; nevertheless, my reaction was so big when I discovered that they separate the solid waste differently. At the beginning, I was confused because I could see 3 small containers, made of different material, under the sink without any label. I asked one of my friends, and he explained me that the paper bag was for disposing bio waste, the plastic bag inside the bin was for disposing packaging food material and the plastic bin without any bag was to place paper, cans and plastic bottles. Every person in this corridor knew where to dispose the waste, I could notice, also, that everybody took the responsibility to keep the correct separation. But, I observed that the bins were so small for 14 people sharing the same kitchen, so I asked again about how they manage the solid waste when the bins are full, and the answer that I received was interesting!

The solid waste that they collect from all the neighbors of the corridor is allocated in one special room that contains almost 9 containers more (bigger than the last 3 that I explained above). They have containers for disposing bio waste, colored glass, transparent glass, paper, metal, plastic bottles, cans, batteries and packaging material. When those containers are full, the neighbor in charge of the weekly kitchen service should dispose every kind of waste in special containers located outside the building. My friend told me also that environmental rules in Sweden are strict and every person who lives there must follow them (even international students). I wanted to know more about the next step of the solid waste management, especially the waste treatment that they have in the city; nonetheless, I did not have the enough time to visit the incineration plant located in Malmö, 15 min to the south of Lund. I really wish that in this winter Christmas break I would have the time to know more about Solid Waste Management in south of Sweden.

**Grecia Solís Castillo**

**MSc. WASTE student, Generation 2016**

# SWISS TRIP: First trip together from Generation 2017

By initiative of Generation 2017, a trip to Switzerland was organized; the class speakers shared the details and the meeting point was at 6 am at the University, everyone was really excited to get to travel, they took the train from Stuttgart Hbf and to make the wait shorter played some games. Once in the destination the first thing to do was to walk through the beautiful streets and head to a castle known as Der Munot, full of history and surrounded by vineyards.

Leaving the castle behind, the next stop were the Rheinfalls located in the Rhein River which crosses the whole city, a magnificent view worth of admiration; at the edge of the river everyone

gathered for a picnic, sharing food and stories along with the amazing view characteristic of the landscapes of this country. Finally, walking along the river until Schaffhausen, the city, was reached, the afternoon had already past, what better to do than have dinner together and spent a few more hours getting to know the culture and their traditions until the time to travel back finally came. Surely it won't be the only trip to Switzerland or to another destination in our studies time and hopefully it would all be full of joy and special moments lasting forever!!

**Maria Paula Aparicio**  
MSc. WASTE student, Generation 2017



MSc. WASTE 2017 Students in their trip to Switzerland

## FUN WITH WASTE: CHEMICAL ELEMENT WORD SEARCH



### Fun with WASTE

C L Q H N O I S S I M E P Z C V M Z O T  
 O R E T A W E E C N Y T E X Z X M L V C  
 C Y L M Y G O S O T S S P N S M E Q V J  
 Q C N S D G I I I G D F O Z A P G S K T  
 Q T W O S J S N E F H I A Y C U L W B J  
 B I O I P R U C H T T H T F S U F Y X Q  
 L P P L E M R Y R S H R J N D S K A U M  
 F Z W P M U C A U F K E E G Z G Q L M V  
 R S S O O B E B K W I E E T V M O Q E Y  
 P I C S Y T M P F N U N S V S N B B L O  
 D X E I T O E D F X V I W M A A S A L U  
 I R H Z C C T C M Y F G N H Q A W W I N  
 K Q F P B O A N H D Q N T Y J R I Z F Q  
 O I A J S B Y P U N T E H Q D I V W D H  
 S Z Y U W U D E M A O F Y X O F Y C N I  
 V X O F I K V O I I J L Q M D S B A A I  
 K O A B D Q D R B X K I O A R O A W L C  
 O S Y B V I U C T X T A J G K F P A W J  
 S K M U S I S Z A V X N G Y K D E I I  
 R R Y G C B P R J P P Z W D O W N G J A

- AIR
- WATER
- SOIL
- EARTH
- WASTE
- IMPACT
- RESOURCE
- TECHNOLOGY
- COMMUNITY
- ENGINEER
- COMBUSTION
- EMISSION
- LANDFILL
- SLUDGE
- BIOETHANOL
- DISPERSION



Find all the  
hidden words!

**Maria Paula Aparicio**  
MSc. WASTE student, Generation 2017

# MSc. WASTE in one single comic!



Freddy Mimiaga  
MSc. WASTE student, Generation 2017



MSc. WASTE International Symposium 2017 - Photo by Jeramiah D. Photography

# NEWSLETTER

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**M.Sc. Air Quality Control,  
Solid Waste and Waste Water  
Process Engineering**

**WASTE**