

# Foreword

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Dear participant of Proton International 2009! How wonderful it is that you are now reading this booklet. Perhaps you are still at home in Utrecht, perhaps you're reading this during our flight to Kuala Lumpur or maybe you're relaxing a bit in the hostel while going over these words from the chairman.

Different factors make every PI tour a unique experience, these being for example the weather conditions, method of transportation and synergy between participants and locals. Of course the destination is the biggest influence, so one could say that you are very lucky to join Proton's international study tour this year. It's customary for parents to think highly of their offspring, and I'd like to think that this is the biggest, most ambitious PI ever organised.

Enough bragging, I'd say. The function of this booklet is to whet your appetite and get your groove on, so to say. I hope that you'll use the descriptions of our daily programme to plan ahead for the final report, as this is of course a study tour.

Upon closure I want to share my enthusiasm about PI 2009 once more. This will be an unforgettable, very exciting tour, which I hope will bring you new insights into Southeast Asia's chemistry.

With kind regards,

Jeroen Rombouts  
*Chairman PI 2009*



*PI2009: Remi, Robin, Christine, Joost, Sonja,  
Sabine, Arjan and Jeroen*

# Travel Essentials & Tips

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## Health

As we are travelling far away from home, you should take precautions for not getting sick during our trip. For medical advice you should visit the GG&GD, which will inform you of the risks involved. You can make an appointment online. If you have not visited the GG&GD, you can still do so before the start of our trip. The most important points you should be aware of are:

- » Vaccinations against Hepatitis A and DTP are not compulsory, but highly recommended. Both protect against potentially deadly diseases and have little to no side effects. DTP is simply a booster shot for the vaccinations you received as a child and will extend protection for 10 years. Hepatitis A will only protect you for a year, but after that you can get another booster shot which will extend protection to 15 years. You can make an appointment for vaccination at the GG&GD. If you have extended health insurance, it may also be covered in your insurance plan.
- » Malaria is not a problem in Kuala Lumpur or Singapore, but mosquitos may spread Dengue fever. You should take precautions by wearing long sleeves and using mosquito repellent containing at least 30% DEET (diethyltoluamide) in urban and wet areas.
- » Beware of dogs and other stray animals as bites may spread rabies. If you are bitten or otherwise injured by an animal, you should immediately go to a hospital.
- » Be mindful of what you eat and drink: food should be cooked well and only drink bottled water. If you have allergies, you should take care to only pick food you can safely eat.
- » If you use any medicines, it's best to take them with you in their original packings and with 'bijsluiter' or doctor's recipe, so that you can show customs these are real medicines.

## Jetlag

Both the journey to and from Malaysia will be quite long and tiresome. Beside the fact that the journey will take several days, we also cross seven time zones. This will give you the well-know jetlag effect.

To get over the jetlag as fast as possible we strongly recommend to get in our new rythm as soon as possible. We will arrive during the day, so it is important not to directly go to sleep, even though you will probably be very tired. Try to stay awake until at least 22:00 local time. Though this may not be easy, it is definitely the fastest way to get over a jetlag.

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## Flying

As we will be spending quite some hours in aircraft, here are some tips to make these flights more comfortable:

- » Do not drink any alcohol before we leave. The cabin of the airplane is under reduced pressure and the air is very dry, causing you to dehydrate. Avoiding alcohol will give you more rest and comfort.
- » Try to sleep well the day we leave. This is hard because we are leaving in the night, but try to get some rest anyway.
- » Wear comfortable clothes: you don't have to look pretty in the air. Getting rest is more important! Try to avoid any tight-fitting clothes and wear loose clothes instead. Because the temperature may vary from warm to cold it is best to have clothes for both situations.
- » Because of reduced pressure your feet will swell up. You can't avoid this but wear loose shoes and no boots. It is possible that boots won't fit any more when we arrive at our destination.
- » Take your own iPod or mp3 earplug with you. Most airplanes have different music channels in the arm rest, which you can listen to during take-off and landing of the airplane. Listening to your own music at that time is prohibited because all electronics must be shut off.
- » Taking along earplugs and an eye mask will allow you to shut yourself out from light and noises in the aircraft. You may look funny, but that's a small price to pay to get some rest!
- » Make sure the weight of your luggage does not exceed **20 kg** and that your cabin luggage does not exceed **5 kg!** Also make sure you have no forbidden items in your hand luggage: *no sharp or dangerous objects and fluids in containers of up to 100 mL in a transparent, sealed bag!*

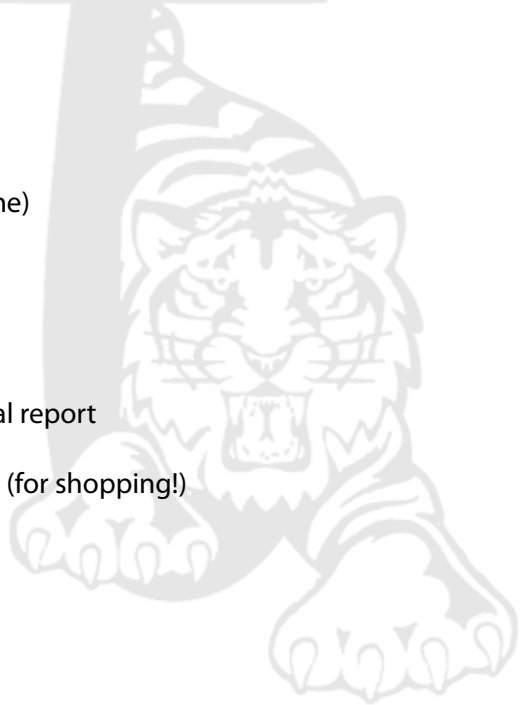
## Other Tips

- » Pack your luggage in a decent suitcase! Airport workers will probably treat your luggage roughly, so luggage in a hard suitcase has a better chance of surviving the trip.
- » Label your suitcase, so that it can be returned in case it gets lost at the airport. For the journey to Malaysia, use the address of the hostel in Kuala Lumpur, for the return journey use your home address.
- » Singapore and Malaysia use the British 'G' plug for electricity, so for charging you cell phone and other electronic appliances you should take an appropriate adaptor. A common world plug should work just fine.

# Packing List

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- » Passport
- » Vaccination booklet
- » Health & Travel Insurance Card/Papers
- » Bank card
- » Student card
- » Personal medicines (with original packings and leaflets!)
- » Anti-mosquito spray/cream (>30 % DEET)
- » Loperamide, O.R.S. (against diarrhea)
- » Sunblock
- » Toothbrush, toothpaste, shampoo, deodorant, etc
- » Suitable representative clothes
- » Towels
- » Swimming gear
- » Sunglasses
- » Hat
- » Umbrella
- » Warm sweater (for in the airplane)
- » Closed shoes
- » Mobile phone & charger
- » Universal plug
- » Camera
- » Eye mask, ear plugs
- » Notes and questions for the final report
- » This program booklet
- » Some empty space in your case (for shopping!)
- » Your enthusiasm!



# Culture & Etiquette

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*Melting pot* are the best words to describe the cities of Kuala Lumpur and Singapore. Although they differ in culture and atmosphere, both cities are great ensembles of old, modern, Western and Asian influences.

Kuala Lumpur effectively shows the combination of the integration of (Islamic) religion in a modern daily life. Religion plays an important part in the lives of the Malay, which is for instance noticeable in the eating habits. Not only the Islam is an important religion in Malaysia, also the Chinese traditions and beliefs and the Indian Hinduism contribute to the many influences that make Malaysia so unique. Kuala Lumpur might be a liberal city, especially compared to the majority of Malaysia, it is still, however, sensible to respect the habits and culture of the Malay greatly. Do not underestimate the cultural difference! Signs of rudeness that may seem 'small' to the Dutch, can be very offending to the Malay. These differences obviously also hold for the culture and habits in Singapore. In Singapore the Islam is not the most important religion, but the culture and habits still differ remarkably from the Dutch.



Some examples of etiquette rules are:

- » Always be polite! The Dutch are known to be very straightforward and this can come across as rude. Asians will almost always stay friendly and polite. Respect that by also being polite.
- » Especially in Malaysia, it is not common for a man to touch a woman, except if she shows initiative. This holds for instance for shaking hands: wait until the woman offers to shake hands.
- » Churches, mosques and other religious or sacred places are to be entered without shoes. This mostly also holds for houses.
- » Despite the liberalism in Kuala Lumpur and Singapore, it is still appreciated if the body is somewhat covered. Showing too much skin is not respectful. Obviously, in sacred places no bare body parts are allowed.
- » Do not show the sole of one's foot. This is considered to be very insulting. This has to be kept in mind when crossing one's legs.
- » Just like in The Netherlands, pointing is considered to be rude.
- » Do not touch someone's head, since this is a very sacred part of the body. Pay attention to this when cuddling a child.

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- » Be reserved as to show your emotions and signs of affection in public.

An important aspect of the Southeast Asian culture is food. The choices in taste, food styles and cuisines are overwhelming – except if you only want to eat potatoes and cauliflower. The variety is large due to the influences of the Chinese, Thai, European, Indians and more. We will be eating at so called hawker stalls and because we will not prepare the food ourselves; please pay attention to what you eat with regard to allergies. Note that the common cutlery are spoon, fork, chop sticks or the right hand.



Culinary must tries are:

- » Durian (stinky fruit)
- » Chicken rice (chicken with rice steamed in chicken stock / sauce)
- » Roti canai (flatbread with curry)
- » Ais kacang (shaved ice topped with fruits, syrups and condensed milk)
- » Air kelapa (coconut milk)
- » Hokkien mie (noodle soup)

In both countries, English is spoken well, however, the pronunciation and words may need some habitation.

# Hostels

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During our trip to Kuala Lumpur and Singapore we will stay at two hostels. From April 11 until April 17 we will reside in *Serai Inn* in Kuala Lumpur and from April 17 until April 24 we will stay in *Tresor Tavern* in Singapore.

## Serai Inn

The hostel Serai Inn promotes itself as a hostel “For Backpackers, By Backpackers,” the place for travelers to unwind from their tiring trip. Close by are China Town and Central Market, where you can wander around through the small market stalls with food, handicrafts, arts and more. We will sleep in the dormitories and a few double/twin rooms. The rooms are air-conditioned and linen are included. The hostel has a common area with roof top garden, where we can just relax and hang out.



Serai Inn & Hostel  
Second floor, #62  
Jalan Hang Lekiu  
50100 Kuala Lumpur, Malaysia  
Telephone: +60 320 704 728



## Tresor Tavern

Our hostel in Singapore is located near Bugis and Little India. Although Bugis is originally named after the bloodthirsty pirates roaming the waters surrounding Singapore, nowadays only bargain hungry consumers roam the shops, restaurants and promenades of this area. We will sleep in the dormitories and we can enjoy ourselves and rest after a day of exciting visits in the common area, including a TV, board games and outside area to smoke.

Tresor Tavern  
243 Jalan Besar  
Singapore 208916  
Telephone: +65 629 36 005

# Programme

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Below you will find the entire programme for PI 2009. No doubt you have already seen this during one of the presentations or in one of the newsletters. All visits have been confirmed, so we do not expect any change in the schedule. We're travelling far this year, and the committee unanimously decided that we'd stay longer than the usual 11 days, to increase the value/money ratio of buying an expensive plane ticket.

We hope this schedule offers you the best balance between study-related activities and relaxation. We have tried our best to incorporate enough moments for recharging the human battery.

<b>Date</b>	<b>Visit</b>
Friday, April 10	Travel to Kuala Lumpur
Saturday, April 11	Arrival in Kuala Lumpur
Sunday, April 12	Tour of Kuala Lumpur
Monday, April 13	Visit: Pharmaniaga
Tuesday, April 14	Visit: University of Malaysia
Wednesday, April 15	Excursion: FRIM & Batu Caves
Thursday, April 16	Excursion: Melaka & Port Dickson
Friday, April 17	Travel to Singapore by train
Saturday, April 18	City Tour of Singapore
Sunday, April 19	Excursion: Singapore Zoo
Monday, April 20	Visit: ICES and AkzoNobel
Tuesday, April 21	Visit: Temasek and NUS
Wednesday, April 22	Free Play
Thursday, April 23	Visit: IBN and BTI @ Biopolis
Friday, April 24	Visit: Shell
Saturday, April 25	Travel Back to The Netherlands

# April, 10 & 11: Departure

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Asia here we come! Our study trip has finally arrived and today we trade our rainy Holland for sunny Kuala Lumpur. The schedule for this day is as follows:

- » 02:30 - Gather at the entrance of the Went building
- » 11:30 - Departure from Frankfurt Airport to Bahrain Airport
- » 20:25 - Departure from Bahrain Airport to Kuala Lumpur Airport
- » 09:40 - Arrival at Kuala Lumpur Airport



We will gather at the Went building at half past two in the morning. From here we will take bus to Frankfurt Airport. At 11:30 we will fly from Frankfurt Airport to Bahrain Airport in a Gulf Air Airbus A340 (flight GF16). From there we will take the connecting flight to Kuala Lumpur at 20:25 (local time): flight GF280 to Kuala Lumpur.



Lumpur. During this leg we will fly in a brand new Boeing 777. During the flights diner and breakfast will be served.

Our expected arrival time at Kuala Lumpur Airport is April, 11 at 09:40 in the morning. The hostel's bus service will pick us up from the airport and take us to the place where we will stay for a week. After we have arrived at

the hostel you will have the opportunity to explore the city at your own leisure.

Some things to keep in mind for our flights:

- » Hand luggage maximum weight is **5 kg!**
- » Checked luggage maximum weight is **20 kg!**
- » Fluids in your hand luggage *must be in a transparent, sealed bag*, and must be in containers smaller than 100 mL.
- » Don't put sharp or other hazardous objects in your cabin luggage.

# April, 12: Tour of Kuala Lumpur

Kuala Lumpur was founded in the 1850s by Chinese prospectors looking for new tin mines. During that time, the local sultans hired proxies to keep the unruly prospectors in check. At the time Kuala Lumpur was founded, Yap Ah Loy was this so-called Kapitan China. He is therefore considered the founding father of Kuala Lumpur and was also the one to give this city its name, which literally means 'muddy confluence'.



Yap Ah Loy barely established the city when it fell prey to the Malay Civil War and burnt down in 1881, paving the way for British colonists to establish the local capital there. In 1896 Kuala Lumpur became the capital of the Federated Malay States and remained the capital after Malaysia declared its independence in 1957 on Merdeka Square (Independence square).

After its independence, the Malaysian government has worked real hard to turn Kuala Lumpur in a modern and prosperous city, with the Petronas Towers as its tallest landmark. Much of its old heritage has been demolished to make way for the new Kuala Lumpur, but fortunately, still a lot of its old heritage remains to tell the history of this metropolis.

During our walking tour through the old centre we will visit Merdeka Square, where the Malaysian independence was announced and both the oldest mosque, Masjid Jamek, and the very modern national mosque: Masjid Negara.



We will sample some of the British colonial architecture, for some reason inspired by Moorish and Arab design, by visiting the Old Railway Station and Railway Administration office and experience the local Chinese influences by visiting the Chen Si Yuen Temple and the Sze Ya Temple, which is the oldest Chinese temple in Kuala Lumpur. A taste of Hinduism at the Sri Maha Mariamman Temple will be a prelude to our visit to Batu Caves later this week.

The tour will end at the Central Market, where we are free to buy authentic souvenirs.

# April, 13: Pharmaniaga

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Pharmaniaga Berhad is the largest integrated local healthcare company in Malaysia. As a leading Malaysian healthcare company, Pharmaniaga is driven by its core businesses namely, generic pharmaceuticals manufacturing and R&D, warehousing and distribution of pharmaceutical and medical products, sales & marketing as well as hospital equipping. Pharmaniaga has also created a niche in healthcare IT solutions which forms the backbone of its operations.



As a leading manufacturer of generic pharmaceuticals, Pharmaniaga places great emphasis on product research & development to ensure that the products they produce are innovative, cost-effective and of high quality.

# April, 14: University of Malaya

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The University of Malaya (UM) is the oldest university of Malaysia. In 1905 the Medical school was founded and renamed to King Edward VII College of Medicine in 1913. It was merged with Raffles college in 1949 to form the University of Malaya. In the sixties this University was split into the University of Malaya and the University of Singapore, predecessor of the National University of Singapore.

Nowadays, UM is the foremost and premier Research University in Malaysia. It is a multidisciplinary university that has more than 27,000 students and 1,700 staff members with 17 faculties and research centres that covers the whole spectrum of learning from Arts, Sciences and Humanities.

UM has three campuses, two of them located in Kuala Lumpur and the other located in Kelantan. The main campus is located in the suburb of Lembah Pantai, southwest of Kuala Lumpur. It has an area of 3 km<sup>2</sup> and is the original campus. The city campus is located in Bukit Persekutuan.

One of the oldest faculties of UM is the Faculty of Science. It was founded in 1959 with four departments, amongst others the Department of Chemistry. Currently, the Faculty of Science is the largest Faculty in UM with a total number of 4002 degree students, 586 postgraduate students, 220 academic staffs and 250 support staffs.

# April, 15: FRIM and Batu Caves

## Forestry Research Institute of Malaysia

Located in Kepong, a town near Kuala Lumpur, is the Forest Research Institute of Malaysia. FRIM is a government agency that promotes sustainable management and optimal use of forest resources in Malaysia. It does this by gaining knowledge about tropical forests through research and developing technology for application in tropical forestry.

FRIM does this research in a 600-hectare jungle park that is part of the Bukit Lagong Forest Reserve. The park displays some different types of jungle habitat that can be visited along the walking trails through the park. FRIM's biggest attraction is the Canopy Walkway, a 200 metre long walkway hanging 30 metres above the ground. From here, you can even catch a view of the size of Kuala Lumpur, only 16 kilometres away.



## Batu Caves

After lunch we will continue to the Batu Caves. These caves have been discovered 120 years ago and have housed a small Hindu shrine ever since. On the outside there is a big golden statue of Sri Maha Mariamman, to whom the caves are dedicated and a flight of 272 steps leading up to the Temple Cave. If you are not too distracted by the monkeys inhabiting the cliffs on each side of the stairs, you can visit the caves beyond it. These caves are beautiful displays of nature and contain sculptures of various Hindu gods.

The Batu Caves are an important place for Hindus, as each year around the end of January the three day festival of Thaipusam takes place here. During Thaipusam devotees subject themselves to seemingly masochistic acts as fulfillment for answered prayers. The ritual originates from Tamil Nadu – a region of India – but is now banned there.

# April, 16: Melaka

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Melaka is the capital of the likewise named state and is even more a multi-cultural mix than most of Malaysia. For this reason, it is also one of the country's most-visited tourist destinations.

Due to its strategic position on the Strait of Melaka, the city was the greatest trading port in Southeast Asia by the 15th century, attracting the attention of conquering Europeans, each controlling the city for some time in history and leaving their architectural mark.

Due to this turbulent history, Melaka is a mix of Chinese, Islamic, Indian, Dutch, Portuguese and Victorian culture. The cityscape is characterized by Peranakan (Chinese) shophouses, European colonial architecture, Buddhist, Taoist and Indian temples and Islamic Mosques. This unique personality has earned it a place on the UNESCO World Heritage List. During our visit to Melaka, we will get a taste of all these different cultures by visiting different historical sights that represent these different influences.

Cheng Hoon Teng Temple is the local Chinatown's temple and is most famous for its carved woodwork.

Porta the Santiago was once the main gate of the Portuguese fortress A'Famosa, constructed in 1512.

Now, it is all that remains of this fortress. It was also part of the fort the Dutch used after their takeover in 1670 and therefore bears the coat of arms of the VOC. Also built in 1512 by the Portuguese and later used by the Dutch is St Paul's Church, a perfect testament to Catholicism in East Asia. However, it fell into disuse after the Dutch built their own church. It has been used by the British for gunpowder storage for a short while, but now only a – very beautiful – ruin remains.

The Dutch also built the Stadthuys on the Town Square during their rule of Melaka. This building, built between 1641 and 1660 is typical for Dutch colonial Architecture, with its solid doors and louvred windows and is believed to be the oldest Dutch building in the East.

After a lunch at the Bei Zahn Chinese Restaurant, we will leave Melaka for Port Dickson. And there is only one thing this place is famous for: its beach. Unfortunately a lot of people know this, so the town is full of hotels and resorts, but that doesn't prevent us from taking a quick dip and a bit of sun. So bring your towel, swimwear and most importantly: sunblock.



# April, 17 - 19: Singapore

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After Sir Stamford Raffles established a trading post on the island of Singapore in 1819, the place turned from a quiet Malay fishing village into one of the biggest centres of commercial and military power of the British Empire, which it remained until 1963 – only interrupted by a short occupation by Japan during World War II – when it was merged with Malay, Sabah and Sarawak to form the new country of Malaysia.

However, already within two years, on August 5 1965 Singapore became an independent republic that joined the United Nations on September 21st that same year.

Since its independence, Singapore's economy and the standard of living of its inhabitants have risen dramatically. It is currently the fifth wealthiest country in the world in terms of GDP per capita. This sudden rise of power is caused by foreign investments and government-driven industrialisation based on plans made by the Dutch economist Albert Winsemius, resulting in a modern economy based on industry, education and urban planning.

The almost 5 million inhabitants of the island share its 710.2 km<sup>2</sup>, four official languages – English, Malay, Tamil and Mandarin – and a wide variety of cultures and backgrounds. The Chinese majority only slightly outnumbers the Malay, Indian and other minorities.

On April, 17 we leave Kuala Lumpur in the early morning for Singapore. We will travel by train, which will take about six and a half hours, through a beautiful landscape, so staying awake is highly worth your while.



During this train ride we advise you to bring some extra food and drinks and stretch you legs once in a while.



On the Singapore city tour on April, 18 we will learn how this city turned from a third world to a first world state in such a short time and how this affected the lives of the Chinese population of the island, as well as that of its other inhabitants.

We will get a short view of the colonial past of Singapore, expressed in the architectural landmarks of this time in the

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Civic District, as well as a view into the lives and culture of Singapore's Chinese population in the Chinatown Heritage Centre and the Thian Hock Kheng Temple; one of the oldest temples on the island.

There are many different people from all over Asia that are represented in Singapore's population. At the Asian Civilizations Museum we will get an overview of all the different cultural backgrounds of these people.

At the end of the tour our walk along the Riverfront, the trade artery of Singapore, will end in an authentic pub that serves locally crafted beer.

On Sunday, April 19 we will visit the Singapore Zoo, also known as the Singapore Zoological Zoo and by locals as Mandai Zoo. The zoo is built according to the "open concept"; this means that the animals live in resorts like their natural habitats. The animals separate the visitors by rocks, vegetation or water. The zoo includes an area of 28 hectares and is neighbored by the Jurong Birdpark and the Nightpark. The night park is opened every day from 19.30h and is habited by night active animals from Southeast Asia.

Three thousand animals belonging to 290 different species habit the Singapore Zoo. Some of those animals are very special for example the White Tiger, which is threatened by extinction, and the Polar Bears.

The Singapore Zoo is the only zoo this close to the equator, which has these bears, and it has a world premiere because for the first time a polar bear was born in a tropic climate.

There are various ways of seeing the park. The park has several walking paths but it also has the possibility to go by boat or by tram against a small fee.



# April, 20: ICES & AkzoNobel

## Institute of Chemical and Engineering Sciences (ICES)

The Institute of Chemical and Engineering Sciences (ICES) is one of Singapore's newest Research Institutes, funded by the Agency for Science, Technology and Research (A\*STAR). Starting from a small centre in the National University of Singapore (NUS), ICES was established on October 1<sup>st</sup>, 2002. The research institute's mission is to develop scientific knowledge, R&D manpower and technological capabilities to address major global issues in the chemical, pharmaceutical and process engineering industries, focusing on Singapore and the region. ICES is equipped with world-class facilities to conduct high quality R&D work spanning the research spectrum, from fundamental to applied research.



The fields ICES performs research in are:

- » Applied Catalysis
- » Chemical Synthesis Laboratory @ Biopolis
- » Crystallisation and Particle Science
- » Industrial Biotechnology
- » New Synthesis Techniques and Applications
- » Process Science and Modelling

## AkzoNobel

After visiting the ICES on Monday the 20th we'll head over to another location on Jurong Island. AkzoNobels' Quat Plant is located on this secured home of petrochemical giants. Unfortunately, this plant seems shrouded in mystery, or at least Google doesn't know anything at all about what is going on at this plant. So let's find out what it is exactly that AkzoNobel has arranged for us!



To contrast with this industry-oriented visit, we'll then transport ourselves to Singapore's Science Park by bus. Here we will enjoy a visit to the AkzoNobel Surfactant Group labs.

AkzoNobel anticipated already in the early 21<sup>st</sup> century the rising demand for special surfactants and ammonium compounds used by local chemical industry. With Singapore and Southeast Asia's increasing welfare and technology level, there has been a move from bulk chemicals to more specialised applications.

# April, 21: Temasek & NUS

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## **Temasek Life Sciences Laboratory**

Temasek Life Sciences Laboratory (TLL) is a non-profit organisation established in 2002 to undertake cutting edge research in molecular biology and genetics utilising a broad range of model organisms. TLL is affiliated to the National University of Singapore and Nanyang Technological University. It is located within the campus of the National University of Singapore together with other research institutes and academic departments of the university. TLL has a current research staff of about 190 scientists.

Current research interests in TLL include cell biology, developmental biology, neuroscience, pathogenesis and bioinformatics. Utilising a range of molecular and cell biology approaches and computational data mining, TLL focuses primarily on understanding the cellular mechanisms that underlie the development and physiology of plants, fungi and animals. This research provides new understanding of how organisms function, and also provides the foundation for biotechnological innovation.

The research carried out at TLL is aimed at addressing both the immediate and long-term needs of the life sciences industry. Some of these projects enjoy a high level of collaboration with world-class research institutes, universities, and multinational and regional commercial corporations.

## **National University of Singapore**

The National University of Singapore (NUS) is the leading university in Singapore and Southeast Asia. The university was founded in 1905 as “The Straits Settlements and Federated Malay States Government Medical School” which was later renamed to the King Edward VII College of Medicine in 1921. In 1949 it merged with Raffles College, which resulted into the formation of the University of Malaya. In 1962 the Singapore branch of this university became the independent University of Singapore. Starting in 1969 a new campus was built in Kent Ridge, which was completed in 1986. In 1980 the university merged with the Chinese Nanyang University, resulting in today’s National University of Singapore.

The university consists of 14 faculties and schools, with the Department of Chemistry located in the Faculty of Science. The department offers three chemical majors: Chemistry, Applied Chemistry and Food Science & Technology. It has a wide range of chemical research groups ranging from Computation, Modeling & Spectroscopy to Medicinal Chemistry.

During our visit we will get a look at both the research and education in chemistry at the National University of Singapore.

# April, 23: Biopolis

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## **Bioprocessing Technology Institute**

The Bioprocessing Technology Institute (BTI) is a national institute funded by the Agency for Science, Technology and Research (A\*STAR) through its Biomedical Research Council. BTI spearheads bioprocess science and engineering research by combining molecular biology, biochemistry, proteomic and genomic sciences, to understand how to enhance the productivity of cells, develop better cell culture, fermentation and separation processes to manufacture important molecules such as antibodies, recombinant DNA and proteins that target a myriad of diseases. Creating a vibrant technology base while training a cadre of resourceful talents, BTI also engages in research collaborations leading to proprietary technologies with local and overseas companies and universities. Current strategic areas of research are:



- » Expression Engineering
- » Animal Cell Technology
- » Microbial Fermentation
- » Stem Cell Research
- » Downstream Processing & Analytics
- » Microarray and Proteomics Laboratories

This Biocentury has seen the maturation of biology and engineering resulting in the commercialisation of biopharmaceuticals such as monoclonal antibodies, growth factors and recombinant vaccines by major pharmaceutical companies. With the continuously increasing number of biologics in preclinical and clinical development, particularly monoclonal antibodies, biopharmaceuticals manufacturing will outgrow pharmaceuticals in the years to come.

## **Institute of Bioengineering and Nanotechnology (IBN)**

Just like BTI, the Institute of Bioengineering and Nanotechnology which we will visit today has been established with help from the A\*STAR funding project. A\*STAR's biomedical science institute also incorporates IBN, a leading national programme focused on creating knowledge for new and growing industries.

As will follow from the tour programme, IBN is a multidisciplinary institute, focussing on diverse biomedical areas like drug delivery, tissue engineering, biosensors and biodevices.

# April, 24: Shell

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Royal Dutch Shell plc is The Netherland's best known oil company and is also an important player in the Asian market. Shell began operations in Singapore in 1891, which has now grown into one of Singapore's largest foreign investors, employing over 2000 people. The first Shell refinery in Singapore was built in 1961 on Bukom Island, a small island just south of Singapore. Today it is the single largest refinery operated by Shell in the world, with a capacity of 500,000 barrels of oil a day. Furthermore Shell also operates many petrochemical plants.



During our visit, we will hear about Shell's operation in Singapore and also have the opportunity to see the Bukom refinery up-close.

## April, 24-26: Travel Back

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The last two days we will spend travelling back home. On Friday night at 22:00 we will travel back to Kuala Lumpur by train. For the train ride we have booked beds so it's possible to get some sleep the way back.

We will arrive at Kuala Lumpur Sentral at about 06:30 and we'll take the LTR to Kuala Lumpur Airport right away. At the airport you have some time to fresh yourselves up. Here again, be aware of the weight of your hand luggage and suitcase and the fluids your hand luggage contains. At 11:30 our plane leaves for Bahrein Airport.

In Bahrein we have to wait about twelve hours for the connecting flight to Frankfurt. It's possible to buy a visum for a day and see some of Bahrein's city. The plane to Frankfurt Airport leaves at 01:20, so be back at the airport on time! We will arrive in Frankfurt Airport at 06:40. In Frankfurt a bus will pick us up and drive us back, home sweet home. We will arrive in Utrecht around 14:00.

# Suggestions for Free Play

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During our trip there are some opportunities to explore the city by yourself. Fortunately, there are a lot of things to do in Singapore and Kuala Lumpur. Below we've listed some interesting places for you to go in your free time.

## Kuala Lumpur

The *Jalan Bukit Bintang* district is one Kuala Lumpur's well-known shopping districts. Here you can shop until you drop! This district is also most famous for its foot/body massages and spas. Not far away from Bukit Bintang is *Jalan Imbi*. Here you can go to Kuala Lumpur biggest *Indoor theme park*.



If you want to know more about Kuala Lumpur's culture the *Central market* is then the place to be. The Central Market shows how Kuala Lumpur's multi-racial culture lives in peace and perfect harmony. At this market you can see, buy and eat many Malaysian products. There are also demonstrations and performances offered here including batik painting, dance classes, shadow puppet plays etc. For a more architectural sightseeing you could go to the Petronas Twin Towers. These towers are the tallest twin buildings in the world with 88 floors.

## Singapore

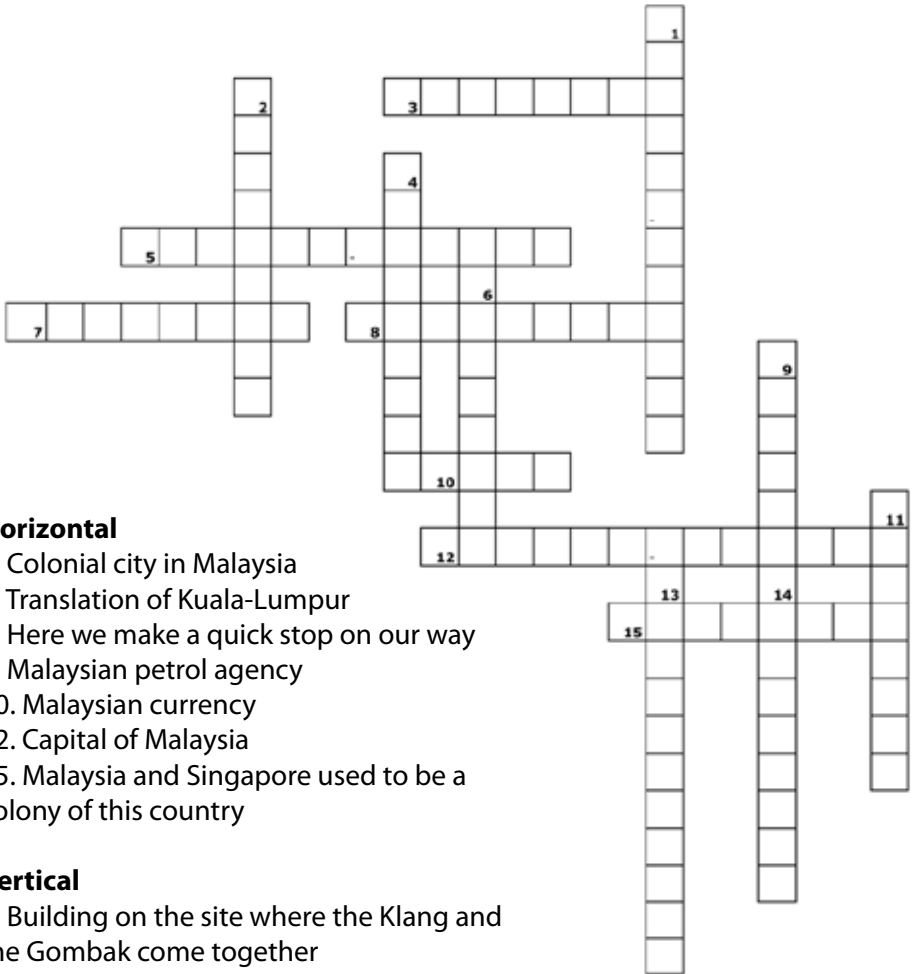
The *Orchard Road* shopping district is one of Singapore's most well-known and popular attractions. In this district there are loads of shopping malls where you can entertain yourself for days (again)! If your looking for something more cultural you could go to the *National Museum*, this is Singapore's biggest and oldest museum. In this museum you can see exhibitions and artefacts of Singapore's beautiful culture and heritage. A funny museum where you can also go to is the MINT museum of toys. This museum is the world's first purpose-built museum for toys.



If you want to eat more of the Singapore cuisine you could go to *Serangoon Gardens*, also known as Chomp Chomp. Chomp Chomp gives you the most authentic local food experiences in Singapore. The vibe there is decidedly local and the mood laid-back and friendly, you can sit yourself close to the locals.

# Puzzle

With all the travelling we will be doing, you might get slightly bored at some point. For those moments, we have included this puzzle!



## Horizontal

3. Colonial city in Malaysia
5. Translation of Kuala-Lumpur
7. Here we make a quick stop on our way
8. Malaysian petrol agency
10. Malaysian currency
12. Capital of Malaysia
15. Malaysia and Singapore used to be a colony of this country

## Vertical

1. Building on the site where the Klang and the Gombak come together
2. Main religion in Singapore
4. Climate at our destination
6. Name of Singapore in the 14th century
9. Main religion in Malaysia
10. Abbreviation of the currency used in Singapore
13. Malaysian currency
14. Neighbouring country of Malaysia

# Malay

To really get into the swing of things and get friendly with the locals, you may want to learn some words and phrases in Malay, which is the official language in Malaysia. Note that many people may also speak English, Chinese or Tamil. In Singapore all four are considered official languages. Here's the pronunciations of the letters in Malay:

<b>a (1)</b>	<i>as the 'u' in 'up'</i>
<b>a (2)</b>	<i>at the end of words, as the 'e' in butter</i>
<b>o</b>	<i>as in 'note'</i>
<b>u</b>	<i>as in 'flute'</i>
<b>ai</b>	<i>as in 'aisle'</i>
<b>au</b>	<i>as the 'o' in 'cow'</i>
<b>c</b>	<i>as the 'ch' in 'chair'</i>
<b>g</b>	<i>as in 'go'</i>
<b>ng</b>	<i>as in 'singer'</i>
<b>ngg</b>	<i>as in 'anger'</i>
<b>j</b>	<i>as in 'join'</i>

Here are some useful words and phrases:

Hello	Hello / Hai
Goodbye (when leaving)	Selamat tinggal
Goodbye (when staying)	Selamat jalan
Bye (informal)	Bai
Yes	Ya
No	Tidak
Maybe	Mungkin
Thank you (very much)	Terima kasi (banyak)
You're welcome	Sama-sama
Excuse me	Maaf
I'm sorry	Maafkan saya
How are you?	Apa khabar?
Fine, thanks	Khabar baik

Help!	Tolong!
Look out!	Hati-hati!
One, two, three, four, five, six, seven, eight, nine, ten	Kosong / sifar, satu, dua, tiga, empat, lima, enam, tujuh, delapan / lapan, sembilan, sepuluh
How do you say ... in Malay?	Macam mana cakap ... dalam Bahasa Melayu?
Can you show me (on the map)?	Tolong tunjukkan (di peta)?
How can I get to ... ?	Bagaimana saya pergi ke ... ?
Where is an ATM?	Di mana ada ATM?
I'm looking for a/the ...	Saya nak cari ...
(Public) toilet, pharmacy, police station, shopping centre	Tandas (awam), farmasi, stesen polis, pusat membeli-belah
Can I look at the menu?	Bolehkah saya liha menu?
What is in this dish?	Ini termasuk apa?
I don't want any meat at all.	Saya tak mau daging.
I would like ...	Saya mau ...
I do not want ...	Saya tidak mahu ...
Chicken, black coffee, tea, beer, water, noodles, rice, nuts, fish, stamps	Ayam, kopi-o, teh, bir, air, mee, nasi, kacang, ikan, setem
Do you serve alcohol?	Anda juga emnyajikan alcohol?
Can I have another one?	Saya mahu satu lagi?
No entry	Dilarang masuk
Entrance	Masuk
Danger	Behaya
Exit	Keluar
Open	Buka
Closed	Tutup
Prohibited	Dilarang
Men, women	Lelaki, perempuan
Hot, cold	Panas, sejuk

# Essentials

## Serai Inn & Hostel

Second floor, #62  
Jalan Hang Lekiu  
50100 Kuala Lumpur, Malaysia  
Tel. +60 320 704 728

## Dutch Embassy

7th Floor, South Block  
The Ampwalk  
218, Jalan Ampang  
50480 Kuala Lumpur  
Tel. +60 321 686 200

**Emergency number:** 112

## PI Committee *(In case of emergency):*

- » Jeroen: +31 6 244 64 221
- » Robin: +31 6 498 50 223
- » Arjan: +31 6 152 20 609
- » Christine: +31 6 432 65 927
- » Sonja: +31 6 165 30 060
- » Remi: +31 6 422 86 382
- » Sabine: +31 6 542 42 462
- » Joost: +31 6 411 92 498

## Tresor Tavern

243 Jalan Besar  
Singapore 208916  
Tel. +65 629 36 005

## Dutch Embassy

541 Orchard Road #13-01  
Liat Towers  
Singapore 238881  
Tel. +65 673 71 155

## Flight Numbers

- » **GF0016:** Frankfurt - Bahrein
- » **GF0280:** Bahrein - Kuala Lumpur
- » **GF0281:** Kuala Lumpur - Bahrein
- » **GF0017:** Bahrein - Frankfurt

*(advertisement)*



## AkzoNobel

Tomorrow's Answers Today