Nanyang Technological University (NTU) is one of the fastest-rising universities in the world with globally acknowledged strengths in science and engineering. The School of Biological Sciences (SBS) at NTU was established in July 2001 to meet this great demand for the training of high quality research scientists and executives in this field. SBS has recruited world class scientists, from academic and research institutions both locally and from the finest universities across the world. All faculty members are active in research, and are at the forefront of their respective fields. For more details visit our website: http://www.sbs.ntu.edu.sg/aboutus/Faculty/Pages/Home.aspx
NTU study makes key find towards malaria vaccine

Team identifies antibodies to block parasite invasion

By FENG ZHANG

SCIENTISTS at Singapore’s National University of Singapore’s School of Biological Sciences and Loyola University of Chicago have discovered a key step towards blocking Plasmodium berghei, the parasite that causes malaria in humans.

The discovery, published in the journal Nature Communications, could lead to the development of a vaccine that could protect people from malaria.

"We have identified a new target for blocking the parasite," said Professor Peter Forson, head of the School of Biological Sciences.

The team identified an antibody that binds to the parasite's surface and blocks its entry into red blood cells.

The antibody binds to a protein called merozoite surface protein-2 (MSP-2), which is crucial for the parasite's invasion of red blood cells.

"This antibody binds to MSP-2 and prevents the parasite from entering the red blood cells," Professor Forson said.

The researchers hope that this finding will lead to the development of a new malaria vaccine.

"This discovery is a significant step forward in the fight against malaria," said Professor Forson.

The team plans to continue their research to develop a vaccine that could be used to protect people from malaria.

NTU scientists discover way to halt muscle loss

SINGAPORE — Scientists from the National University of Singapore have discovered a technique to prevent muscle loss.

This could potentially pave the way for new treatments for aging, obesity, and muscle-wasting diseases.

The team found that a specific protein, called myostatin, is responsible for regulating muscle tissue growth and maintenance.

By inhibiting myostatin, the team was able to prevent muscle loss in a model of muscle wasting disease.

"Our findings suggest that myostatin inhibition could be a potential therapeutic target for muscle wasting diseases," said Professor Tan. "This could have significant implications for treating diseases such as muscular dystrophy and sarcopenia."
One major objective of our graduate programme is to educate graduate students, in order to provide them with a deep and wide knowledge in biological sciences and the flexibility to engage in research in diverse areas. The training in SBS is based on a Dual Concept, in which the education of our students is in line with the research. The training programme includes foundation courses and practical courses, in which graduate students are introduced to the theory of and receive hands-on training in the technique. For more details visit our website: http://www.sbs.ntu.edu.sg/prospective/graduate/Pages/CourseInformation.aspx
Ph.D—PROGRAMME PLAN

- 18 months: Coursework & Research
- 12 to 18 months: PhD Candidature Confirmation
- 18 months onwards: Research
- Year 4: Submission of thesis & follow-by Oral examination

DOCTOR OF PHILOSOPHY (SBS)
TYPE OF SCHOLARSHIPS

Doctor of Philosophy and Master of Science Students enrolled in graduate programmes by research may be admitted on a full-time or part-time basis. Research scholarships are available to outstanding full-time candidates. Students are required to participate in research and fulfill course work requirement. All students will receive relevant research skill training by their research supervisors.

Graduate Scholarships
• NTU Research Scholarship
• Nanyang President’s Graduate Scholarship
• NTU-KI Scholarship
• NTU-Warwick Scholarship
• NTU-Konstanz Scholarship
• SIgN-NTU Scholarship
• Singapore International Graduate Award (SINGA)

For more details visit:
http://www.sbs.ntu.edu.sg/Graduate/Pages/Scholarships.aspx
WHO CAN & HOW TO APPLY

Candidates, who are interested to apply for the PhD Programme and wish to work in one of the areas of, *Metabolism & Disease, Therapeutics, Stem Cells & Ageing, Gene Regulation, Genomics & Proteomics, Infectious Disease & Microbiology, Immunology, Cancer, Cell Biology, Environment, Development & Neuroscience, Structural Biology and Biochemistry* are welcome to apply. Admission is in January or August each year.

ELIGIBILITY

Individuals should be holders of at least a 2nd Class Upper Honours Degree or equivalent in an appropriate discipline. A valid GRE/GMAT score is required for applicants, who are not graduates of the Autonomous Universities in Singapore. Test dates must be within 5 years or less from the date of your application. For applicants, whose native language is not English, a good IELTS score is required. Test dates must be within 2 years or less from the date of your application. TOEFL may be submitted in place of IELTS.

Interested candidates should visit [http://admissions.ntu.edu.sg/graduate/R-Programs/Pages/default.aspx](http://admissions.ntu.edu.sg/graduate/R-Programs/Pages/default.aspx) for details about the application process or contact us via Email: ac-sbs-gs@ntu.edu.sg or phone (: (+65) ) 6513 7618
SINCE 2005

- 18 students graduated as Master of Science
- 166 Ph.D students graduated from SBS
- 260 Graduate Students are currently in the programme
The School of Biological Sciences is proud to offer four Joint PhD Programmes in the areas of Biomedical Sciences, Neuroscience, Immunology and Chemical Biology, with the partner institutions of Karolinska Institute (Sweden), University of Warwick (UK), Singapore Immunology Network (SIgN) and University of Konstanz (Germany).

For more information visit us online at:
http://www.sbs.ntu.edu.sg/prospective/graduate/Pages/Joint-PhD-Programmes-at-SBS.aspx
Interested in Biomedical Sciences?
Excited to explore new challenges in Sweden & Singapore?

K I - N T U Joint PhD Program in Biomedical Sciences

Program Content
- Joint PhD Programme between Karolinska Institutet, Sweden & School of Biological Sciences (SBS, NTU)
- Intake - January and August
- Scholarship granted for 4 years (university fees + stipend)
- Airfare grant for time spent in Sweden.
- Thesis: Research project in biomedical sciences.
- Project carried out in both Singapore & Sweden.
- International program board (KI- and NTU Professors)
- Opportunity to attend training workshops and international scientific conferences.
- Degree awarded by both Nanyang Technological University (NTU) & Karolinska Institutet

Attractive Scholarship Includes:

International Students:
- University fees
- Monthly stipend
- Airfare grants
- Medical Insurance
- Campus housing

Local Students:
- University fees
- Monthly stipend
- Conference allowance
- Campus housing

About SBS, NTU
- NTU - among world’s 50 top-ranked universities.
- Founded in 2002, the School of Biological Sciences, SBS had a mission to make a strong contribution to biological and biomedical sciences
- Strong achievements in the areas of Peptide Chemistry, Drug Discovery, Genetics & Disease, Immunology, Infectious Diseases, Protein Engineering and Structural Biology
- Strong Master and PhD program, including high quality hands-on courses and 260 graduate students
- Equipped with the most advanced instruments and technologies for life sciences research
- You can browse http://www.sbs.ntu.edu.sg/prospective/graduate/Pages/Home.aspx to find out more information about research and the Graduate Programme of the School of Biological Sciences

About Karolinska Institutet
- Karolinska Institutet (KI) is a world-leading medical university with research that spans the entire medical field from basic experimental research to patient-oriented and nursing research
- Since 1901 the Nobel Assembly at Karolinska Institutet has selected the Nobel laureates in Physiology or Medicine.
- An excellent international research environment with English as the main working language
- Access to high quality doctoral courses
- Good individual support mechanisms including career planning
- Browse www.ki.se and www.ki.se/doctoral to find more information about doctoral education at Karolinska Institutet.

Interested candidates should visit http://www.sbs.ntu.edu.sg/prospective/Graduate/Pages/NTUKI.aspx for details about the projects and application process.
For enquiries about this PhD Program, please contact Mr Raymond Lee at RKLLEE@ntu.edu.sg.

School Biological Sciences
60 Nanyang Drive
Singapore 637551
Tel: (65) 6316 2958
www.sbs.ntu.edu.sg

Karolinska Institutet
171 77 Stockholm
Sweden
www.ki.se
Interested in Neuroscience?

Warwick - NTU Joint PhD Program in Neuroscience

Program Content

- Joint PhD Program between The University of Warwick, UK & School of Biological Sciences (SBS, NTU)
- Intake – January and August
- Scholarship granted for 4 years (university fees at both universities + stipend)
- Airfare grant for time spent in Warwick.
- Thesis: Research project in Neuroscience as a core curriculum.
- Project carried out in both Singapore & Warwick.
- International program board (Warwick- and NTU Professors)
- Opportunity to attend training workshops and international scientific conferences.
- Degree awarded by both Nanyang Technological University (NTU) & Warwick University.

Attractive Scholarship Includes:

International Students:
- University fees
- Monthly stipend
- Airfare grants
- Medical Insurance
- Campus housing

Local Students:
- University fees
- Monthly stipend
- Conference allowance
- Campus housing

About the University of Warwick

- Founded in 1965 Warwick is a distinctive and successful British university combining a “can-do” entrepreneurial spirit with a commitment to absolute academic excellence.
- The School of Life Sciences is home to a wide range of exciting interdisciplinary bioscience that is supported by state-of-the-art research facilities. Recent expansion of our academic staff has resulted in a new research profile defined by six major research themes.
- Key themes in the School of Life Sciences supporting the Neuroscience PhD Program are: Development; Molecular and Cell Systems; and Synthetic Biology and Biotechnology
- Strong interests in Neuroscience and collaborative research in the Department of Chemistry, Warwick Medical School and the School of Engineering.

About SBS, NTU

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- Equipped with the most advanced instruments and technologies for life sciences research

You can browse http://www.sbs.ntu.edu.sg/prospective/graduate/Pages/Home.aspx to find out more information about research and the Graduate Programme of the School of Biological Sciences

Interested candidates should visit http://www.sbs.ntu.edu.sg/Graduate/Pages/ JointPhDProgrammes/NTUWarWick.aspx for details about the projects and application process

For enquiries about this PhD Program, please contact Mr Raymond Lee at RKLLEE@ntu.edu.sg

School of Biological Sciences
60 Nanyang Drive
Singapore 637551
Tel: (65) 6316 2958
www.sbs.ntu.edu.sg

School of Life Sciences
The University of Warwick
Gibbet Hill Road
Coventry CV4 7AL, United Kingdom
http://www2.warwick.ac.uk/fac/sci/lifesci
Interested in Immunology? Just graduated in life science? Searching for an exclusive and top-quality PhD program? Excited to explore new challenges in an exotic region?

SlgN-NTU Immunology PhD Program

Program Content
- Joint initiative of SlgN (A*STAR) & School of Biological Sciences (SBS, NTU)
- Intake – August 2014
- Scholarship granted for 4 years (university fees + stipend)
- Thesis: Research project in human immunology / immune regulation as a core curriculum
- Project carried out in SBS, SlgN or both
- International program board (SlgN PIs and NTU Professors)
- Opportunity to attend a PhD annual training workshop and international scientific conferences
- Degree awarded by Nanyang Technological University (NTU)

Attractive Scholarship Includes:

International Students:
- University fees
- Monthly stipend
- Airfare grants
- Setting-in allowance
- Medical insurance
- Subsidized NTU campus housing: 1st year

Local Students:
- University fees
- Monthly stipend
- Conference allowance
- Book, computer and thesis allowance
- Support for overseas attachment
- Medical insurance
- Subsidized NTU campus housing: 1st year

About SlgN
- New immunology hub: launched by Agency for Science, Technology and Research (A*STAR) in January 2008 in Immunos Building at Biopolis (Singapore)
- Rapid growth, international environment: 220 researchers coming from 25 countries
- Cutting-edge technological platforms and core services: Multiphoton imaging, Human Monoclonal Abs, Flow Cytometry, CyTOF, Mutant mouse collection, Genomics etc.
- Main research areas: Infection, Inflammation and Immunoregulation with emphasis on human immunology and translational research
- International networking & collaborations: important partners in Biotech industry as well as clinical, research and academic partners

SlgN PIs
- Subhra BISWAS
- Paola CASTAGNOLI
- Gennaro DE LIBERO
- Anna-Marie FARHI-JURST
- Katja FINK
- Florent GINHOUX
- Maria LAFAILLE
- Anis LARBI
- Lucia MORI
- Alessandra MORETILLARO
- Evan NEWELL
- Lai Guan NG
- Lisa NG
- Norman PAVELKA
- Michael POIDINGER
- Ee Chee REN
- Laurent RENIA
- Olaf RÖTZSCHKE
- Cheng-I WANG
- Sew Cheng WONG
- Francesca ZOLEZZI

About SBS, NTU
- NTU – among world’s 100 top-ranked universities
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- Strong achievements in the areas of Peptide Chemistry, Drug Discovery, Genetics & Disease, Immunology, Infectious Diseases and Protein Engineering
- Strong Master and PhD program, including high quality hands-on courses and 260 graduate students
- Equipped with the most advanced instruments and technologies for life sciences research

SBS Professors
- Peter CHEUNG
- Klaus KARJALAIENNEN
- Alex Sai Kit LAW
- Ding Xiang LIL
- Peter PREISER
- Christiane RUEDL
- Thirumaran THANBAU
- Xavier ROCA
- Valerie LIN
- I-Hsin SU
- Suet Mien TAN
- Julien LESCAR
- Gerhard GRIEBER
- James TAM
- Richard SUGRUE
- Surajit BHATTACHARYYA

Singapore Is…
- an island-state in the vibrant Southeast Asia region
- one of the wealthiest countries in the world – 42% of foreigners
- on the wealthiest countries in the world
- a popular travel destination with English as the dominant official language
- an island city-state in the vibrant Southeast Asia region
- one of the wealthiest countries in the world – 42% of foreigners
- a popular travel destination with English as the dominant official language

Singapore Immunology Network (SlgN)
8A Biomedical Grove
#04 Immunos, Biopolis
138648 Singapore
Tel: +65 6407 0011

www.sgn.a-star.edu.sg

School of Biological Sciences
Nanyang Technological University
60 Nanyang Drive
637551 Singapore
Tel: +65 6316 2800

www.sbs.ntu.edu.sg
Looking for a top-quality PhD program? Interested in Chemical Biology? Excited to explore new challenges in Konstanz-Germany & Singapore?

KoRS-CB - NTU Joint PhD Program in Chemical Biology

Program Content
- Joint PhD Program between Konstanz Research School Chemical Biology, Germany (KoRS-CB, University of Konstanz, Germany) & School of Biological Sciences (SBS, NTU)
- Intake – January and August
- Scholarship granted for 4 years (university fees at both universities + stipend)
- Airfare grant for time spent in Konstanz.
- Thesis: Research project in chemistry / biology / biochemistry as a core curriculum.
- Project carried out in both Singapore & Konstanz.
- International program board (Konstanz- and NTU Professors)
- Opportunity to attend training workshops and international scientific conferences.
- Degree awarded by both Nanyang Technological University (NTU) & University of Konstanz.

Attractive Scholarship Includes:

International Students:
- University fees
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- Airfare grants
- Medical Insurance
- Campus housing

Local Students:
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- Monthly stipend
- Conference allowance
- Campus housing

About KoRS-CB, University-Konstanz
- Founded in 2007, KoRS-CB has been receiving continuous funding within the framework of the Excellence Initiative by the German Federal and State Governments
- Interdisciplinary research and training at the interface of chemistry, biology, and computer & information science
- Priority research areas: Synthetic Chemistry, Cellular Biochemistry, Biomedicine, Biophysics, Computational Life Science
- Intensive supervision by thesis committees; the research driven education is flanked by seminar series, retreats, scientific courses, and transferable skill & management courses
- International networking & collaborations with renowned partners in academia and industry
- You can browse http://www.chembiol.uni-konstanz.de to find out more information about Konstanz Research School Chemical Biology and research areas

About SBS, NTU
- NTU - among world’s 50 top-ranked universities.
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- Equipped with the most advanced instruments and technologies for life sciences research
- You can browse http://www.sbs.ntu.edu.sg/prospective/graduate/Pages/About.aspx to find out more information about research and the Graduate Programme of the School of Biological Sciences

Interested candidates should visit http://www.sbs.ntu.edu.sg/prospective/Graduate/Pages/NTUKoRS.aspx for details about the projects and application process.
For enquiries about this PhD Program, please contact Mr Raymond Lee at RKLLEE@ntu.edu.sg

School Biological Sciences
60 Nanyang Drive
Singapore 637551
Tel: (65) 6316 2958
www.sbs.ntu.edu.sg

Konstanz Research School Chemical Biology
University of Konstanz
Universitätsstraße 10
D-78457 Konstanz - Germany
www.chembiol.uni-konstanz.de
SINGAPORE AND LIFE

Singapore
• one of the wealthiest countries in the world
• a country with English as the dominant official language
• the most globalised country in the world

Accommodation
International students may choose from a range of on-campus accommodation administered by the International Student Centre or rent a room outside the campus on their own.

Cost of Living
The estimated monthly expenses of an international candidate in Singapore:
Meals (university canteen and food centres) : S$250-S$400
Accommodation : S$225-S$400
Transport expenses (local) : S$100-S$150