

Seventh International Conference on the Pathogenesis of Mycobacterial Infections

Programme Book



June 26 – 29, 2008

Saltsjöbaden, Stockholm, Sweden

Programme

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Welcome

It is a pleasure to see you here at the Seventh International Conference on the Pathogenesis of Mycobacterial Infections at Saltsjöbaden. These now classical conferences have been held every third year since 1990 at the Grand Hotel, Saltsjöbaden in the Stockholm Archipelago. It is our sincere wish that this the Seventh Conference will again provide you with an informal and stimulating scientific environment where new contacts and networks are formed. The conference will also give you an updated review of the rapid progress in the knowledge in the field of mycobacterial infections, their pathogenesis, treatment and prevention.



Gunilla Källenius



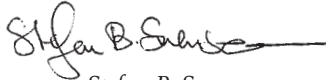
Sven Hoffner



Mark Maeurer



Andrzej Pawlowski



Stefan B. Svenson

Organising committee

- Gunilla Källenius
- Sven Hoffner
- Mark Maeurer
- Andrzej Pawlowski
- Stefan B. Svenson

Scientific advisory board

- Patrick Brennan
- Stewart Cole
- Paul van Helden
- Glyn Hewinson
- Kris Huygen
- Stefan Kaufmann
- Douglas Young

General Information

Venue

Grand Hotel Saltsjöbaden
SE-133 83 Saltsjöbaden
Sweden

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Conference Secretariat

During the conference:
Congrex Sweden AB
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Opening Hours:

The Conference Secretariat will be open for registration and queries during the following hours:

Thursday June, 26	15.00-19.30
Friday June, 27	08.00-18.00
Saturday June, 28	08.30-18.00
Sunday June, 29	08.30-15.00

Language

The official language of the conference is English. No simultaneous translation will be provided.

Name Badge

Each participant will receive a name badge upon registration. Your name badge is your entrance ticket to the scientific sessions and the social events. Please always wear your name badge.

Meals

Coffee and lunch is included in the registration fee.

The Welcome Reception, Dinner at the Nordic Museum and Gala Dinner at the Grand Hôtel Saltsjöbaden is only guaranteed if selected upon your online registration to attend the different evenings.

Public Transportation

The commuter train from Saltsjöbaden goes to "Slussen" in Stockholm City, where it accesses to the underground. The commuter train leaves every 30 minutes from Saltsjöbaden. Please contact the hotel reception for exact departure times. From "Slussen", most parts of Stockholm can be reached by underground.

Bus transfer

There will be bus transfers from Grand Hotel Saltsjöbaden to the City Terminal on Sunday June 29. The buses will leave the hotel from 15.15.

Airport coaches leave the City Terminal in central Stockholm every 5-10 minutes for Arlanda airport (Stockholm's international airport) The bus ride takes approximately 35 minutes and costs SEK 99 (February, 2008).

Arlanda Express, an express train service, takes you to Arlanda Airport in 20 minutes. A one-way ticket costs SEK 220 (February, 2008).

Disclaimer

The Organising Committee and Congrex Sweden AB accept no liability for any injuries/losses incurred by participants and/or accompanying persons, nor loss of, or damage to, any luggage and/or personal belongings.

Official Conference Organiser



PROFESSIONAL CONFERENCE
ORGANISER

Congrex Sweden AB has been appointed official Congress organiser for this event. The Congrex Group works internationally with offices in Sweden, The Netherlands, United Kingdom and Latin America, offering integrated solutions for the association services industry and corporate and governmental meetings. For more information, please visit www.congrex.com.

Social Programme

For participants and registered accompanying persons

Welcome Reception, June 26

19.00 The Welcome Reception will be held at Grand Hotel Saltsjöbaden.
A light buffet will be served.

Cruise in the Stockholm Archipelago and Dinner at Nordic Museum, June 27

18.30 At sharp 18.30 boats will leave the bridge at Grand Hotel Saltsjöbaden,
welcome drink will be served onboard the boat
20.00 Dinner at the Nordic Museum, Djurgården
23.00 Buses will depart for Grand Hotel Saltsjöbaden

Resembling an extravagant Renaissance castle, the Nordic Museum portrays
everyday life in Sweden from 1520s to the present day.

Gala Dinner at Grand Hotel Saltsjöbaden, June 28

19.30 Dinner will be served in the dining rooms
21.15 Cheese and snacks will be served in the Poster Exhibition area

Scientific Programme

THURSDAY

20.30 TB: Paradigm shifts, past, present and future *Paul van Helden*

FRIDAY

09.00-09.20 Welcome and Introduction

09.20-09.55 From genome to vaccine and drug development *Stewart Cole*

09.55-10.10 O1 Identification and characterization of the cellular target for benzothiazinones, a new potential antitubercular drug class
Giulia Manina ; Vadim Makarov ; Maria Rosalia Pasca ; Olga Ryabova ; Silvia Bironi ; Edda De Rossi ; Anna Milano ; Ute Moellmann ; Jana Kordulakova ; Katarina Mikusova ; Giovanna Riccardi ; Stewart T Cole

10.10-10.25 O2 Potential of Mycobacterium tuberculosis resuscitation promoting factors as antigens in novel TB sub-unit vaccines
Marta Romano ; Ehsan Ahryan ; Hannelie Korf ; Cees, L.M.C. Franken ; Tom, H.M. Ottenhoff ; Kris Huygen

10.25-11.10 POSTERS/COFFEE

11.10-11.25 O3 Deciphering the role of phoP on M.tuberculosis and its potential use for the construction of a new generation vaccines against TB
Jesús Gonzalo-Asensio ; Carlos Y. Soto ; Ainhoa Arbués ; Carmen Menéndez ; Javier Sancho ; Maria J. García ; Brigitte Gicquel ; Carlos Martín

11.25-11.40 O4 PtpA dephosphorylation of Human Vacuolar Protein Sorting 33B mediates Mycobacterium tuberculosis survival within macrophages
Horacio Bach ; Dennis Wong ; Papavinasasundaram Kadamba ; Zakaris Hmama ; Yossef Av-Gay

11.40-12.15 Genome evolution in mycobacteria *Sebastian Gagneux*

12.15-12.30 O5 Teaching old bones new tricks; molecular analysis of archaeological Mycobacterium leprae DNA
Claire Watson ; Elizabeth Popescu ; Jesper Boldsen ; Mario Slaus ; Diana Lockwood

12.30-13.30	POSTERS/LUNCH	
13.30-14.05	ESAT-6 secretion, novel insights into attenuation and pathogenicity	<i>Roland Brosch</i>
14.05-14.40	Protein-protein interactions and virulence	<i>Adrie Steyn</i>
14.40-14.55	O6 Hypervirulence through gene deletion in <i>Mycobacterium tuberculosis</i>	<i>Annemieke ten Bokum ; Farahnaz Movahedzadeh ; Rosangela Frita ; Debbie Smith ; Gregory Bancroft ; Neil Stoker</i>
14.55-15.55	POSTERS/COFFEE	
15.55-16.10	O7 Mycobacterial cell envelope models: Some coherence after 25 years of speculative development?	<i>David Minnikin ; Luke Alderwick ; Gurdayal Besra ; Motoko Watanabe</i>
16.10-16.25	O8 Challenging the current cell envelope models of mycobacteria and corynebacteria	<i>Benoit Zuber ; Mohamed Chami ; Christine Houssin ; Jacques Dubochet ; Gareth Griffiths ; Mamadou Daffé</i>
16.25-17.00	Inside the phagosome	<i>Gareth Griffiths</i>
17.00-17.35	Outside the phagosome	<i>Peter Peters</i>
18.30	Boat trip to central Stockholm, Dinner at Nordiska Museum	
SATURDAY		
09.00-09.35	Host genetics	<i>Eileen Hoal</i>
09.35-10.10	Innate immunity	<i>Lalita Ramakrishnan</i>
10.10-10.25	O9 Incorporation of <i>Mycobacterium tuberculosis</i> lipoarabinomannan into macrophage membrane rafts is a prerequisite for the phagosomal maturation block	<i>Amanda Welin ; Martin E. Winberg ; Hana Abdalla ; Eva Sämdahl ; Birgitta Rasmusson ; Olle Stendahl</i>
10.25-11.10	POSTERS/COFFEE	
11.10-11.25	O10 LXR-dependent pathways contribute to the protective immune response against <i>Mycobacterium tuberculosis</i>	<i>Hannelie Korf ; Seppie Vander Beken ; Marta Romano ; Knut Steffensen ; Jan-Ake Gustafsson ; Johan Grooten ; Kris Huygen</i>

11.25-11.40	O11	Mycolactone of <i>Mycobacterium ulcerans</i> induces T cell anergy by modulating the activity of Lck	<i>Caroline Demangel ; Sheerazed Boulkroun ; Maria-Isabel Thoulouze ; Hui Hong ; Peter F Leadlay ; Tim Stinear ; Georges Bismuth ; Vincenzo Di Bartolo</i>
11.40-11.55	O12	IFN- β expression in BCG-infected dendritic cells is required to promote the expansion of IFN- γ -producing T cells	<i>Elena Giacomini ; Remoli Maria Elena ; Gafa Valérie ; Pardini Manuela ; Iona Elisabetta ; Coccia Eliana Marina</i>
11.55-12.10	O13	Pulmonary tuberculosis triggers a tissue dependent program of differentiation and acquisition of effector functions by circulating monocytes	<i>Markus Skold ; Samuel M Behar</i>
12.10-12.25		Acquired immunity	<i>Anne O'Garra</i>
12.25-13.30		LUNCH	
13.30-13.45	O14	Immunomodulation with CC-3052 accelerates antibiotics efficacy in <i>M. tuberculosis</i> -infected mice	<i>Mi-Sun Koo ; Nackmoon Sung ; Claudia Manca ; Liana Tsenova ; Gilla Kaplan</i>
13.45-14.20		Inflammatory T cells	<i>Andrea Cooper</i>
14.20-14.35	O15	The presence of multifunctional, high-cytokine-producing Th1 cells in the lung but not spleen, correlates with protection against <i>Mycobacterium tuberculosis</i> aerosol challenge in mice	<i>Emily Forbes ; Clare Sander ; Edward Roman ; Helen McShane ; Adrian Hill ; Peter Beverley ; Elma Tchilian</i>
14.35-16.00		POSTERS/COFFEE	
16.00-16.15	O16	Differential effects of TNF blockade on TB-induced genes: A systems biology approach	<i>RS Wallis</i>
16.15-16.50		CD1-restricted T cells	<i>Branch Moody</i>
16.50-17.05	O17	Deciphering the role of the mouse DC-SIGN locus in <i>Mycobacterium tuberculosis</i> infection	<i>Antoine Tanne ; Frédéric Boudou ; Kurt Drickamer ; Edgar Badell ; Nathalie Winter ; Andrew J McKenzie ; Martin Wild ; Marie Marcinko ; Peter Sobieszczuk ; Lauren Stewart ; Daniel Lebus ; Bo Ma ; Brigitte Gicquel ; Olivier Neyrolles</i>

17.05-17.40	Mucosal immunity	<i>Per Brandtzaeg</i>
19.30	GALA DINNER at Saltsjöbaden	
21.15	POSTERS/CHEESE AND WINE	

SUNDAY

09.15-09.50	Pathology	<i>Randy Basaraba</i>
09.50-10.25	Imaging of clinical TB	<i>Cliff Barry</i>
10.25-11.10	COFFEE	
11.10-11.45	Live imaging of <i>M. tuberculosis</i>	<i>John McKinney</i>
11.45-12.00	O18 Real time biophotonic imaging of mycobacterial dissemination <i>in vivo</i>	<i>Frank Heuts ; Berit Carow ; Martin Rottenberg</i>
12.00-13.00	LUNCH	
13.00-13.35	TB/HIV IRIS	<i>Robert Wilkinson</i>
13.35-13.50	O19 HIV-infection dramatically impairs BCG-induced immune responses in infants during the first year of life	<i>Thomas Scriba ; Nazma Mansoor ; Brian Abel ; Alana Keyser ; Michelle Tameris ; Marwou de Kock ; Francesca Little ; Silvia Mlenjeni ; Lea Denation ; Anthony Hawkridge ; Henry Boom ; Gilla Kaplan ; Gregory Hussey ; Willem Hanekom</i>
13.50-14.05	O20 Koch like reaction associates with an increased number of IL-17 producing T cells	<i>Andrea Cruz ; Alexandra G. Fraga ; Egidio Torrado ; Daniela Pereira ; Jorge Pedrosa ; Jeffrey Fountain ; Andrea M. Cooper ; António G. Castro</i>
	Closing session	
14.05-14.45	Concluding remarks and future research priorities	<i>Douglas Young</i>

- P1 **Evaluation of the nutrient starvation response of *Mycobacterium tuberculosis* by DIGE proteome analysis**
 Ida Rosenkrands ; Jakob Albrethsen ; Jeppe Agner ; Karin Weldingh ; Peter Andersen
 Statens Serum Institut, Department of Infectious Disease Immunology, Copenhagen, Denmark
- P2 **CD14+ cells from human spleen express high levels of co-stimulatory molecules and are specifically modulated by *Mycobacterium tuberculosis* antigens**
Mauricio A. Arias¹ ; Gabriela Jaramillo² ; Sara C. Paris² ; Adelis E. Pantoja² ; Robin J. Shattock¹ ; George E. Griffin¹ ; Luis F. Garcia³
¹St George's University of London, Cellular and Molecular Medicine, London, United Kingdom; ²Facultad de Medicina, Universidad de Antioquia, Grupo de Inmunología Celular e Inmunogenética, Medellín, Colombia; ³Facultad de Medicina, Universidad de Antioquia, Grupo de Inmunología Celular e Inmunogenética, Medellín, Colombia
- P3 **Immunodiagnosis of mycobacterial infection: Increased levels of immunological markers in the respiratory tract but not in serum correlate with active pulmonary infection in mice**
John Arko-Mensah¹ ; Muhammad J Rahman¹ ; Esther Julián² ; Gudrun Horne¹ ; Carmen Fernández¹ ; Mahavir Singh³
¹Wenner-Gren Institute, Department of Immunology, Stockholm University, Sweden; ²Universitat Autònoma de Barcelona, Dept. de Genètica i de Microbiologia, Barcelona, Spain; ³Lionex Diagnostics and Therapeutics GmbH, Braunschweig, Germany
- P5 **Identification of *Mycobacterium tuberculosis* (MTB) and HIV peptide binding to A*0201 and A*2402 using recombinant MHC class I molecules**
R. Axelsson ; A. Boberg ; B. Wahren ; M. Maeurer
 Karolinska Institute, Dept of Microbiology, Tumor and Cell Biology, Stockholm, Sweden
- P6 ***In vitro* modelling of TB latency**
Joanna Bacon ; Kim Hatch ; Jon Alnutt ; Eleanor Shaw ; Yper Hall ; Simon Clark ; Ann Williams ; Susan Gray ; Philip Marsh
 Health Protection Agency, TB Research, CEPR, Salisbury, United Kingdom
- P7 **Elucidating the role of DNA repair in genome maintenance of *Mycobacterium tuberculosis***
Seetha Balasingham¹ ; Stephan Frye¹ ; Tonje Davidsen² ; Ingrid Olsen³ ; Tønjum Tone²
¹Centre for Molecular Biology and Neuroscience, Institute of Microbiology, Rikshospitalet, Oslo, Norway; ²Centre for Molecular Biology and Neuroscience, University of Oslo, Rikshospitalet, Oslo, Norway; ³National Veterinary Institute, Oslo, Norway
- P8 **Gene regulation mediated by TetR transcription factors in *Mycobacterium tuberculosis***
Ricardo Balhana ; Sharon Kendall ; Neil Stoker
 Royal Veterinary College, Pathology and Infectious Diseases, London, United Kingdom
- P9 **Survival of the fittest: Lipid body formation and antibiotic tolerance in *Mycobacterium tuberculosis***
 Anna Sherratt ; Natalie Garton ; Mike Barer
 University of Leicester, Infection, Immunity and Inflammation, Leicester, United Kingdom

- P10 Neutrophils aid detection of mycobacteria-specific cd8+ t lymphocyte responses in humans**
*Natalie Beveridge*¹; *Helen Fletcher*¹; *Jane Hughes*²; *Ansar Pathan*¹; *Thomas Scriba*²; *Angela Minassian*¹; *Clare Sander*¹; *Willem Hanekom*²; *Peter Beverley*¹; *Adrian Hill*¹; *Helen McShane*¹
¹University of Oxford, Oxford, United Kingdom; ²University of Cape Town, Cape Town, South Africa
- P11 Mycolic acid biosynthesis in mycobacteria**
Apoorva Bhatt; *Alistair K Brown*; *Albel Singh*; *Gurdial S Besra*
University of Birmingham, School of Biosciences, Birmingham, United Kingdom
- P12 Characterization of the ESX-5 secretion system: PPE and PE_PGRS proteins are secreted via ESX-5 and ESX-5 substrates are involved in immune modulation**
*Abdallah Abdallah*¹; *Theo Verboom*¹; *Nigel Savage*²; *Tom Ottenhoff*²; *Nico Gey van Pittius*³; *Marcela Parra*⁴; *Michael Brennan*⁴; *Ben Appelmelk*¹; *Wilbert Bitter*¹
¹VU university medical centre, Amsterdam, Netherlands; ²LU medical centre, Leiden, Netherlands; ³Stellenbosch University, Stellenbosch, Netherlands; ⁴Food and Drug Administration, Bethesda, United States
- P13 Tuberculosis burden in an urban cohort; a cross sectional tuberculosis survey from Guinea Bissau, West Africa**
*Morten Bjerregaard-Andersen*¹; *Zacharias da Silva*²; *Pernille Ravn*³; *Morten Ruhwald*³; *Paul Andersen*¹; *Morten Sodemann*⁴; *Per Gustafson*⁵; *Peter Aaby*²; *Christian Wejse*¹
¹Aarhus University Hospital Skejby, Department of Infectious Diseases, Aarhus, Denmark; ²Bandim Health Project, Bissau, Guinea-Bissau; ³Copenhagen University Hospital Hvidovre, Department of Infectious Diseases, Copenhagen, Denmark; ⁴Odense University Hospital, Odense, Department of Infectious Disease, Odense, Denmark; ⁵Lund University Malmö, Department of Clinical Sciences, Malmö, Sweden
- P14 A reverse inducible system for conditional gene expression in mycobacteria**
Francesca Boldrin; *Stefano Casonato*; *Riccardo Manganeli*
University of Padua, Dept of Histology, Microbiology and Medical Biotec, Padua, Italy
- P15 Construction and characterisation of *Mycobacterium tuberculosis* mutant strains for Rv1782-Rv1784 and Rv1798 genes of ESX-5 secretion system.**
Daria Bottai; *Mariagrazia Di Luca*; *Giovanna Batoni*; *Franca Lisa Brancatisano*; *Gisepantonio Maisetta*; *Walter Florio*; *Claudio Counoupas*; *Mario Campa*; *Semih Esin*
University of Pisa, Dipartimento di Patologia Sperimentale, B.M.I.E., Pisa, Italy
- P16 Comparison of six methods for detection of multi drug resistant tuberculosis in Kampala, Uganda**
*Freddie Bwanga*¹; *Moses Joloba*¹; *Melles Haile*²; *Sven Hoffner*²
¹Makerere University Medical School, Medical Microbiology, Kampala, Uganda; ²Swedish Institute for Infectious Diseases, Bacteriology, Stockholm, Sweden

- P17 **Mycobacterium tuberculosis DNA detection in the urine from pulmonary tuberculosis patients**
Angela Cannas; Ludovica Calvo; Teresa Chiacchio; Gilda Cuzzi; Roberto Urso; Filippo Noto; Susanna Grisetti; Massimo Di Marco; Alessandra Gualano; Delia Goletti; Enrico Girardi
 INMI, Rome, Italy
- P18 **The dynamic hypothesis offers a new rationale to develop future therapeutic strategies against latent tuberculosis infection, like a short-term chemotherapy plus vaccination with RUTI**
 Olga Gil¹; Neus Caceres¹; Evelyn Guirado¹; Gustavo Tapia²; Cristina Vilaplana¹; Pere-Joan Cardona¹
¹Institut Germans Trias i Pujol, Unitat de Tuberculosis Experimental, Badalona, Catalonia, Spain; ²Hospital Germans Trias i Pujol, Pathology Department, Badalona, Catalonia, Spain
- P19 **Characterization and functional dissection of the PE domain of PE_PGRS33**
Alessandro Cascioferro¹; Giovanni Delogu²; Marisa Colone³; Michela Sali²; Annarita Stringaro³; Giuseppe Arancia³; Riccardo Manganelli¹
¹University of Padua, Dept of Histology, Microbiology and Medical Biotech, Padua, Italy; ²Catholic University of Sacred Heart, Institute of Microbiology, Rome, Italy; ³National Institute of Health, Department of Technology and Health, Rome, Italy
- P20 **Characterization of two putative regulator of cell cycle in *Mycobacterium tuberculosis***
Stefano Casonato; Riccardo Manganelli
 University of Padua, Dept. Histology, Microbiology and Medical Biotech, Padua, Italy
- P21 **Convergence of a ser/thr protein kinase and two component system in *Mycobacterium tuberculosis***
Joseph Chao¹; KG Papavinasasundaram²; Yossef Av-Gay²
¹University of British Columbia, Microbiology and Immunology, Vancouver, Canada; ²Division of Infectious Diseases, Department of Medicine, Vancouver, Canada
- P22 **Invasive *Escherichia coli* as delivery system for vaccination against tuberculosis**
Elisa Dainese¹; Antonella Zumbo²; Paola Brun¹; Ignazio Castagliuolo¹; Giovanni Delogu²; Michela Sali²; Chaterine Grillot-Courvalin³; Valentina Marzotto¹; Riccardo Manganelli¹
¹University of Padua, Dept. Histology Microbiology and Medical Biotech, Padua, Italy; ²Catholic University of Sacred Heart, Institute of Microbiology, Rome, Italy; ³Institut Pasteur, Unité des Agents Antibactériens, Paris, France
- P23 **Superior virulence of *Mycobacterium bovis* over *Mycobacterium tuberculosis* in mice correlates with hyper-expression of the hbbA gene in the lung tissue**
Giovanni Delogu¹; Michela Sali¹; Maurizio Sanguinetti¹; Alessandra Bua²; Stefano Rocca³; Sandra Clarizio¹; Stefania Zanetti²; Giovanni Fadda¹
¹Università Cattolica del Sacro Cuore, Istituto di Microbiologia, Roma, Italy; ²Università di Sassari, Dipartimento di Scienze Biomediche, Sassari, Italy; ³Università di Sassari, Istituto di Patologia Generale, Sassari, Italy

- P24 **Validating divergent ORF annotation in M. tuberculosis datasets using a LTQ-Orbitrap**
Gustavo de Souza¹; Hiwa Målen¹; Tina Søftland¹; Gisle Sælesminde²; Swati Prasad²; Inge Jonassen²; Harald Wiker¹
¹Gades Institute, Section for Microbiology and Immunology, Bergen, Norway; ²HiB, University of Bergen, Dept of Informatics, Bergen, Norway
- P25 **Characterization of an exported monoglyceride lipase from Mycobacterium tuberculosis and from Mycobacterium smegmatis**
Rabeb Dhouib; Jean Claude Bakala N'Goma; Damien Maurin; Mathieu Schuë; Benjamin Bellot; Carole Serveau; Frédéric Carrière; Stéphane Canaan
 EIPL CNRS UPR9025, SDV, Marseille, France
- P26 **Disruption of *esxM* and *ppe25-pe19* genes in ESX-5 system affects the intracellular growth of Mycobacterium tuberculosis**
Mariagrazia Di Luca; Daria Bottai; Giovanna Batoni; Franca Lisa Brancatisano; Giuseppantonio Maisetta; Walter Florio; Claudio Counoupas; Mario Campa; Semih Esin
 University of Pisa, Dipartimento di Patologia Sperimentale, B.M.I.E., Pisa, Italy
- P27 **Evidence of complex transcriptional and translational regulation of the ECF sigma factor SigE in Mycobacterium tuberculosis**
Valentina Dona; Elisa Dainese; Riccardo Manganeli; Roberta Provvedi
 University of Padua, Dept. Histology, Microbiology and Medical Biotech., Padua, Italy
- P28 **IFN-γ response to Mycobacterium tuberculosis recombinant antigens compared to the corresponding synthetic peptides in whole blood and PBMC cultures**
Nelita Du Plessis; Gerhard Walzl; Tom H.M. Ottenhoff; Karin Weldingh; Gillian F. Black
 University of Stellenbosch, Division of Biomedical Sciences, Stellenbosch, South Africa
- P29 **Acanthamoeba polyphaga: a potential environmental host of Mycobacterium ulcerans**
Miriam Eddyani¹; Johan De Jonckheere²; Humberto Guerra³; Herwig Leirs⁴; Manuel T. Silva⁵; Françoise Portaels¹
¹Institute of Tropical Medicine, Microbiology Department, Mycobacteriology Unit, Antwerpen, Belgium; ²Christian de Duve Institute of Cellular Pathology, Research Unit for Tropical Diseases, Brussels, Belgium; ³Universidad Peruana Cayetano Heredia, Instituto d Medicina Tropical Alexander v Humboldt, Lima, Peru; ⁴University of Antwerp, Department of Biology, Antwerp, Belgium; ⁵Institute for Molecular and Cell Biology, Porto, Portugal
- P30 **Natural cytotoxicity receptor NKp44 is involved in direct binding of human NK cells to mycobacteria surface**
Semih Esin¹; Giovanna Batoni¹; Claudio Counoupas¹; Stringaro Annarita²; Franca Lisa Brancatisano¹; Marisa Colone²; Daria Bottai¹; Mariagrazia Di Luca¹; Giuseppantonio Maisetta¹; Walter Florio¹; Giuseppe Arancia²; Mario Campa¹
¹University of Pisa, Dipartimento di Patologia Sperimentale, B.M.I.E., Pisa, Italy; ²Istituto Superiore di Sanita, Dipartimento di Tecnologie e Salute, Rome, Italy

- P31 The role of fibrinolytic system in *Mycobacterium tuberculosis* infection**
*Eden Rodriguez*¹; *Jaime Campuzano*²; *Wendy Xolalpa*¹; *Rogelio Hernandez-Pando*³; *Clara Espitia*¹
¹*Instituto de Investigaciones Biomedicas, Immunology, Mexico D.F, Mexico*; ²*Instituto de Investigaciones Biomedicas, Immunology, Mexico, Mexico*; ³*Instituto Nacional de Ciencias Medicas y de la Nut, Mexico, Mexico*
- P32 Stat-1 nuclear translocation is independent of macrophage response against *Mycobacterium tuberculosis***
*Hugo Esquivel-Solis*¹; *Francisco Quiñones-Falconi*²; *Rosa I Amieva-Fernández*¹; *Angel Zarain-Herzberg*³; *Yolanda López-Vidal*¹
¹*Faculty of Medicine, UNAM, Microbiology and Parasitology, Mexico City, Mexico*; ²*National Institute of Respiratory Diseases, Clinical Microbiology, Mexico City, Mexico*; ³*Faculty of Medicine, UNAM, Biochemistry, Mexico City, Mexico*
- P33 *Mycobacterium ulcerans* induces massive apoptosis in the draining lymph nodes of infected mice**
Alexandra G. Fraga; *Egidio Torrado*; *Sara Campos*; *António G. Castro*; *Jorge Pedrosa*
ICVS-School of Health Sciences - Minho University, Microbiology and Infection Domain, Braga, Portugal
- P34 Natural lysophospholipids promote antimycobacterial activity in type II alveolar epithelial cells**
*Emanuela Greco*¹; *Michela Sali*²; *Marilyna B. Santucci*¹; *Francesca Rigotti De Angelis*¹; *Giovanni Delogu*²; *Marco De Spirito*³; *Stefano Rocca*⁴; *Giuseppe Arcovito*³; *Giovanni Fadda*²; *Vittorio Colizzi*¹; *Maurizio Fraziano*¹
¹*University of Rome "Tor Vergata", Department of Biology, Rome, Italy*; ²*Catholic University of the Sacred Heart, Institute of Microbiology, Rome, Italy*; ³*Catholic University of the Sacred Heart, Institute of Physics, Rome, Italy*; ⁴*University of Sassari, Institute of General Pathology, Sassari, Italy*
- P35 Dominant negative TNF protects from *M. bovis* BCG and endotoxin-induced liver injury without compromising host immunity to *M. tuberculosis* and BCG infections**
*Irene Garcia-Gabay*¹; *Maria L. Olleros*¹; *Dominique Vesin*¹; *Agathe F. Lambou*¹; *Jean-Paul Janssens*²; *Bernhard Ryffel*³; *Valérie F. Quesniaux*³; *David E. Szymkowski*⁴
¹*University of Geneva, Department of Pathology and Immunology, Geneva, Switzerland*; ²*University of Geneva, Division of Pneumology, Geneva, Switzerland*; ³*University of Orleans and CNRS, Molecular Immunology and Embryology, Orleans, France*; ⁴*Xencor, Inc., Monrovia, CA, United States*
- P36 Profiling of *Mycobacterium tuberculosis* epitope recognition in serum using peptide microarrays allows differentiation in TB+ / TB- subjects**
*Simani Gaseitsiwe*¹; *Shahnaz Mahdaviifar*¹; *Davide Valentini*²; *Yen Ngo*²; *Marie Reilly*²; *Markus Maeurer*¹
¹*Karolinska Institute & Smittskyddsinstitutet (SMI), Stockholm, Sweden*; ²*Karolinska Institute, Department of Medical Epidemiology & Biostatistics, Stockholm, Sweden*

- P37 **Chest radiographic patterns of smear positive tuberculosis in relation to HIV**
Assefa Getachew¹; Jonna Idh²; Samuel G/Sillasi¹; Meseret Senbeto¹; Thomas Schon²; Olle Stendahl²; Sven Britton³
¹College of Medicine and Health Sciences, Department of Internal Medicine, Gondar, Ethiopia; ²Faculty of Health Sciences, Department of Medical Microbiology, Linköping, Sweden; ³Karolinska University Hospital, Department of Infectious Diseases, Stockholm, Sweden
- P38 ***Mycobacterium tuberculosis* PE and PPE gene family genetic polymorphisms: antigenic variation or evolution?**
Chris R.E. McEvoy; Ruben I.A. Cloete; Nico C. Gey van Pittius
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- P39 **Therapeutic effect of RUTI inoculation against Latent Tuberculous Infection. New insights crosswise the minipig experimental model**
Olga Gil¹; Ivan Diaz²; Evelyn Guirado¹; Neus Cáceres¹; Mariano Domingo²; Leigh Corner³; Pere-Joan Cardona¹
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- P40 **Mycolic acids are scaffolds for mycobacterial lipidic antigens stimulating CD1b-restricted T cells**
Emilie Layre¹; Anthony Collmann²; Max Bastian³; Lucia Mori²; Steffen Stenger³; Gennaro De Libero²; Germain Puzo¹; Martine Gilleron¹
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- P41 **Characterization of two *in vivo*-expressed methyltransferases of the *Mycobacterium tuberculosis* complex: antigenicity and genetic regulation**
Paul Golby¹; Javier Nunez¹; Paul Cockle¹; Katie Ewer¹; Karen Logan¹; Philip Hogarth¹; Martin Vordermeier¹; Jason Hinds²; Hewinson Glyn¹; Stephen Gordon³
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- P42 **Memory response to RD1 antigens in TST+ subjects: a better tool to detect LTBI?**
Stefania Carrara¹; Ornella Butera¹; Valentina Vanini¹; Teresa Chiacchio¹; Rita Casetti¹; Francesco Lauria¹; Patrizia Laurenti²; Enrico Girardi¹; Delia Goletti¹
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- P43 **Role of Heme Oxygenase-1 in the infection with *Mycobacterium avium***
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- P44 **Evidence for a novel mycobacterial heme uptake system**
*Nicholas Chim*¹; *Lisa McMath*¹; *Michael Tullius*²; *Julian Whitelegge*²; *David Eisenberg*²; *Marcus Horwitz*²; *Celia Goulding*¹
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- P45 **The rat model of Tuberculosis infection: A promising alternative for testing novel drug candidates**
*Damian Guang Wei Foo*¹; *Hui Chien Tay*¹; *Maxime Hervé*¹; *El Moukhtar Aliouat*¹; *Mahesh Nanjundappa*¹; *Luis Camacho*¹; *Thomas Dick*¹; *Pablo Bifani*²; *Véronique Dartois*¹
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- P46 **Expressional analysis of candidate genes involved in mycobacterial nitrogen metabolism**
Carrie Haper; *Don Hayward*; *Ian Wiid*; *Paul van Helden*
Stellenbosch University, Department of Biomedical Sciences, Tygerberg, Cape Town, South Africa
- P47 **Mycobacterial antigen ESAT6-induced IFN γ responses cannot discriminate between patients and controls in an endemic region but are reduced in tuberculous meningitis**
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The Aga Khan University, Pathology and Microbiology, Karachi, Pakistan
- P48 ***Mycobacterium tuberculosis* Central Asian Strain1 (CAS1) prevalent in Pakistan has a higher frequency of RD deletions than other spoligotypes**
Zahra Hasan; *Akbar Kanji*; *Mahnaz Tanveer*; *Rumina Hasan*
The Aga Khan University, Pathology and Microbiology, Karachi, Pakistan
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Asho Ali; *Zahra Hasan*; *Mahnaz Tanveer*; *Rumina Hasan*
The Aga Khan University, Pathology and Microbiology, Karachi, Pakistan
- P50 **Comparison of the transcriptional responses of *Mycobacterium tuberculosis* and *Mycobacterium bovis* to nutrient starvation**
*Morad Hassani*¹; *William R. Jacobs, Jr.*²
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- P51 ***Mycobacterium tuberculosis* glutamine synthetase is not secreted, but exported by *M. smegmatis***
Don Hayward; *Ian Wiid*; *Paul van Helden*
Stellenbosch University, Department of Biomedical Sciences, Tygerberg, Cape Town, South Africa

- P52 **Multicentre evaluation of QuantiFERON-TB Gold in tube assay in children with clinical tuberculosis disease and tuberculosis infection before and during treatment**
Jean-Louis Herrmann¹; Nancy Simonney²; Raphael Porcher³; Philippe Lagrange¹
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- P53 **Consolidation of tuberculosis candidate gene studies in a South African population**
 Erika Truter; Paul van Helden; Eileen Hoal
 Stellenbosch University, Molecular Biology and Human Genetics, Tygerberg, South Africa
- P54 **BCG vaccination induces polyfunctional CD4+ T cells in both the spleen and lung during active immunity to a *Mycobacterium bovis* challenge**
 Daryan A. Kaveh; R. Glyn Hewinson; Philip J. Hogarth
 Veterinary Laboratories Agency-Weybridge, TB Research, Addlestone, United Kingdom
- P55 **Role of *msrA* and *tpX* in resistance of *Mycobacterium tuberculosis* to oxidative burst**
 Sarah Horst; Franz-Christoph Bange
 Medical School Hannover, Institute f. Medical Microbiology, Hannover, Germany
- P56 **The role of the RD1 region in the escape of *M. tuberculosis***
 Diane Houben¹; Caroline Demangel²; Daria Bottai²; Roland Brosch²; Tridia van der Laan³; Dick van Soolingen³; Nicole van der Wel¹; Peter Peters¹
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- P57 **Impact of a structural modification of major lipid virulence factors on the biology and pathogenicity of *Mycobacterium tuberculosis* Beijing strains**
 Gaëlle Huet; Patricia Constant; Wladimir Malaga; Mamadou Daffé; Christophe Guillhot
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- P58 **In vitro characterization of a novel Diarylquinoline - a new anti-tubercular drug candidate**
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- P59 **Kinetics of interferon-gamma during anti-tuberculosis treatment**
 Jonna Idh¹; Thomas Schon¹; Anna Westman²; Olle Stendahl¹; Sven Britton²
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- P60 Characterization of the Mycobacterium tuberculosis-specific serine/threonine kinase PknJ**
*Jichan Jang*¹; *Frédéric Boudou*¹; *Christine Laurent-Winter*²; *Abdelkader Namane*²; *Brigitte Gicquel*¹; *Olivier Neyrolles*³
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- P61 Early treatment outcome in TB patients evaluated by a clinical scoring system**
*Meseret Senbeto*¹; *Helena Janols*²; *Jonna Idh*³; *Thomas Schön*³; *Sven Britton*⁴
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- P62 Cytokine response of human PBMC to environmental bacteria**
Bodil Jönsson; *Malin Ridell*; *Agnes Wold*
 Institute of Biomedicine, Göteborg, Sweden
- P64 A transcriptomic approach for studying the activation of dendritic cells in response to mycobacterial infection**
*Nitya Krishnan*¹; *Steve Coade*²; *Min Yang*²; *Ricardo Tascon*²; *Douglas Young*¹
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- P65 ManLAM modulates bystander macrophage apoptosis in *M.bovis* BCG infection**
Malgorzata Krzyzowska; *Beston Hamasur*; *Andrzej Pawlowski*
 Swedish Institute for Infectious Disease Control, Department of Bacteriology, Stockholm, Sweden
- P66 Investigation of HsaD from Mycobacterium tuberculosis**
*Nathan Lack*¹; *Edward Lowe*²; *Emyr Llyod-Evans*¹; *Joey Deng*³; *Lindsey Eltis*⁴; *Fran Platt*¹; *William Jacobs*³; *Sim Edith*¹
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*Jacqueline Larracilla-Camacho*¹; *Francisco Quiñones-Falconi*²; *Yolanda López-Vidal*¹
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- P68 Mycobacterium tuberculosis escapes into the cytoplasm of primary human macrophages**
Amanda Welin; *Hana Abdalla*; *Olle Stendahl*; *Maria Lerm*
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- P69 Evaluation of signal peptide prediction algorithms using sequence data from proteomic methods**
Nils Anders Leversen; *Gustavo A. de Souza*; *Hiwa Maalen*; *Harald G. Wiker*
 University of Bergen, The Gade Institute, Bergen, Norway

- P70 The mycobacterial DNA-binding protein 1 (MDP1) regulates various growth characteristics from *Mycobacterium bovis* BCG
Astrid Lewin¹; Daniela Baus²; Elisabeth Kamal¹; Fabienne Bon³; Ralph Kunisch¹; Sven Maurischat¹; Michaela Adonopoulou⁴; Katharina Eich¹
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- P72 Performances of different formats of T-cell interferon-gamma release assays for the diagnosis of latent tuberculosis infection among immunosuppressed contacts
Monica Losi¹; Paolo Spagnolo¹; Roberto Piro¹; Fabrizio Luppi¹; Roberto D'Amico²; Riccardo Fantini¹; Stefania Cerri¹; Pietro Roversi¹; Marisa Meacci³; Barbara Meccugni³; Fabio Rumpianesi³; Leonardo Fabbri¹; Luca Richeldi¹
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Ainhoa Lucia; Carlos Martin; Jose A. Ainsa
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- P74 Immunogenicity of prime - boost regimens using TB vaccine candidates in nonhuman primates
Isabelle Magalhaes¹; Raija K. Ahmed¹; Donata R. Sizemore²; Stefanie Mueller²; Yasir Skeiky²; Mats Spångberg¹; Hans Gaines¹; Sharon Kuhlmann¹; Rigmor Thorstensson¹; Giulia Schirru³; Maria Grazia Pau³; Jaap Goudsmit³; Jerry Sadoff²; Markus Maeurer¹
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- P75 Phenotypic and functional characterization of Rhesus monkeys immune compartment by high-content flow cytometric analysis
Isabelle Magalhaes¹; Nalini K Vudattu¹; Raija K. Ahmed²; Lena Wehlin²; Mats Spångberg²; Sharon Kuhlmann²; Rigmor Thorstensson²; Markus Maeurer¹
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