



CTVD

The Collaboration for TB Vaccine Discovery

CTVD CIRCULAR 3 – February 2016

We care about TB and making a TB vaccine. We love the environment too! CTVD Circular has decided to turn over a new leaf and save some trees by going paperless (PDF-less).

CTVD News

- [Early Career Scientist Awardee](#)
- [Visiting Scientist Program](#)
- [Research Communities](#)
- [Virtual Forum](#)
- [2nd Annual Meeting in Seattle](#)
- [New Members](#)

TB News

- [TB mortality has nearly halved since 1990 BUT...](#)
- [46th Union World Conference on Lung Health](#)

TB Vaccine News

- [TBVI/TBVAC 2020 meeting in Les Diablerets](#)

Publications of Interest

We welcome your contributions for the 4th CTVD Circular (May 2016). Information about vaccine projects you are involved in or other scientific information (e.g. a TB vaccine, host-pathogen biology, or immunology publication of interest) you wish to share for the benefit of other CTVD members. Please do not hesitate to send comments and suggestions to: [Melvin Sanicas](#) or [Willem Hanekom](#)

CTVD News

Early Career Scientist Awardee

Nacho Aguilo, PhD

Dr Nacho Aguilo is a postdoc working with Prof Carlos Martin at the University of Zaragoza. Over the years Nacho has made significant contributions to research in TB host-pathogen biology, immunology, and vaccinology. His main research activities are related in the host pathogen in Mycobacterium tuberculosis, studying the mechanisms of virulence of M. tuberculosis and pulmonary vaccination. Dr Aguilo has been working in the study of apoptosis induction as a key mechanism of virulence of M. tuberculosis, mediated by ESAT-6. Dr Aguilo has contributed to the characterization of MTBVAC vaccine candidate and demonstrated the safety and efficacy of MTBVAC in a mice neonatal model.

Visiting Scientist Program

The program is designed for a personnel from a CTVD member institution who has a scholarly and intellectual interest in the state-of-the-art techniques, instruments, and innovations available in another CTVD member institution that can strengthen the capacity of the visiting scientist's institute for TB research. Through this program, scientists from CTVD member institutions from around the world are invited to spend from 1 week to a maximum of 4 weeks and participate in established research studies in a laboratory of a CTVD member institution of their choice. More information [here](#).

What are you waiting for? Apply now!

Research Communities

Research communities aim to address specific areas critical for TB vaccine discovery and development. They are led by persons from outside the foundation and will meet to discuss scientific issues at hand and devise priority areas that have to be addressed. We hope that individuals within these communities would initiate funding applications to major funders, including the foundation, to address priorities. Anyone can take part in these communities – if interested, please contact the appropriate leader.

Aerosol vaccination: [Aurelio Bonavia](#) | [Steffen Stenger](#)

DURTs: [Dave Lewinsohn](#) | [Branch Moody](#)

NHPs: [Mario Roederer](#) | [Bob Seder](#)

Whole cell vaccines: [Olivier Neyrolles](#) | [Tom Scriba](#)

NEW communities:

Conventional T cells: [Helen Fletcher](#) | [Kevin Urdahl](#)

B-cells and Antibodies: [Bryan Charleston](#) | [Richard Frothingham](#) | [Elma Tchilian](#)

Last but not the least, we have the **CTVD Funders' Community** – we are bringing together representatives of the **NIH, Wellcome Trust, DFID, DGIS, British MRC and EU**, to meet in person in April 2016 to **discuss the outputs of the research communities – priorities for funding in their specific area**. As such, we may be able to co-leverage funding for priorities or at least discuss possibilities for co-funding.

Virtual Forum

Whole-cell vaccine strategies against TB based on the attenuation of Mycobacterium tuberculosis

Presenter: Dr Nacho Aguilo, University of Zaragoza

Date: Monday, February 22, 2016

Time: 8h00 PST | 11h00 EST | 16h00 UTC

How to join the Virtual Forum:

1. Go to: [WebEx Meeting](#)
2. Enter your first name, last name, and email address
3. Enter the event password: **CTVD123**

Any ideas for topics / speakers for the next virtual forum? Send them our way!

2nd Annual CTVD Meeting

The 2nd Annual CTVD Meeting in Seattle will be on the **23rd and 24th of June**.

Don't you just love Seattle in summer?



New Members

To date, 26 institutions have agreed to the wordings and signed the Data and Materials Sharing Agreement (DMSA). Let's welcome our new members:

[IMEX CONICET- Academia Nacional de Medicina, Argentina](#)

[Institut Pasteur of Shanghai, China](#)

[Tulane National Primate Research Center, US](#)



中国科学院上海巴斯德研究所
INSTITUT PASTEUR OF SHANGHAI
CHINESE ACADEMY OF SCIENCES



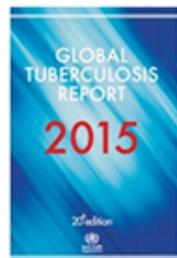
I M E X
CONICET
A N M

Tuberculosis mortality has nearly halved since 1990

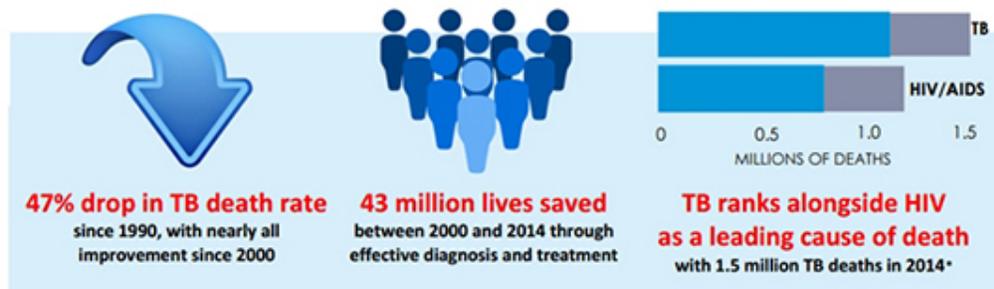
... but TB beats HIV as a leading infectious disease cause of death worldwide!

[WHO Global TB Report](#)

TUBERCULOSIS



WHO Global Tuberculosis Report 2015



Key themes from the report:

- In 2014, TB for the first time surpassed HIV in total deaths per year with 1.5 million people dying from TB in 2014 (with 400,000 of those HIV positive) and 1.2 million per year dying from HIV.
- New national prevalence data in Indonesia have resulted in an increase in their TB cases estimates from 460,000 to 1 million, which puts Indonesia above China as the country with the second most cases, after India.
- The increased estimates in Indonesia drove an increase in global estimates for new TB cases to 9.6 million per year. This is the second year in a row where improved national data (last year was Nigeria) lead to an increase in the overall estimate of cases. The important message is that TB is not on the rise. The large number of cases is mainly due to improvements in recent years in the way many countries are conducting prevalence surveys which have unearthed more cases which were previously unaccounted for.
- Continued slow progress on TB with global incidence falling 1.5% per year since 2000.

The Stop TB Partnership's global goal for 2030 has been revised to an incidence of <math><20/100,000</math>, an 80% reduction from 2015. This goal is not currently achievable, even when the best current tools are implemented optimally. A vaccine that is able to interrupt transmission is likely to be the most impactful tool in efforts to control TB disease.

46th Union World Conference on Lung Health



The conference theme was "A New Agenda: Lung Health Beyond 2015". The theme reflects the changing landscape of global public health. When the World Conference convened in Cape Town, the Millennium Development Goals era will be ending as a new development agenda takes hold, guided by the Sustainable Development Goals. The World Health Organization's new Global TB Strategy will be entering its first year of implementation, while the Stop TB Partnership's Global Plan to Stop TB will shift into its next phase. The scientific programme addressed how these new agendas will influence the inter-related fights against tuberculosis, HIV, lung disease and non-communicable diseases, as well as the global campaign for tobacco control.

TB Vaccine News

TBVI/TBVAC 2020 meeting in Les Diablerets



The annual TBVI/TBVAC 2020 meeting had 167 participants from research institutions, industry, funding agencies, and technical agencies worldwide. In addition to meeting the objective of knowledge sharing and exchange – through the TBVAC 2020 meetings and the TBVI Symposium, the meeting was an opportunity for extensive networking. TBVI's main focus for 2016 is to continue to provide and strengthen essential services to the TBVAC 2020 consortium partners including: technical support by the Product and Clinical Development team; resource mobilization; opportunities for knowledge sharing and networking; and project identification, development, management and coordination. The presentations made during the symposium can be found [here](#).

Publications of Interest

Thank you Carlos Martin, Ian Orme, Deepak Kaushal, Stefan Kaufmann for pointing us to these publications.

[Mucosal vaccination with attenuated Mycobacterium tuberculosis induces strong central memory responses and protects against tuberculosis.](#)

Kaushal D, Foreman TW, Gautam US.
Nature Communications. Oct 2015

[Effect of bacillus Calmette-Guerin vaccination on CD4+Foxp3+ T cells during acquired immune response to Mycobacterium tuberculosis infection](#)

Henao-Tamayo MI, Obregon-Henao A, Arnett K, Shanley CA, Podell B, Orme IM, Ordway DJ.
Journal of Leukocyte Biology. October 2015

[Safety of human immunisation with a live-attenuated Mycobacterium tuberculosis vaccine: a randomised, double-blind, controlled phase I trial.](#)

Spertini F, Audran R, Chakour R, Karoui O, Steiner-Monard V, Thierry AC, Mayor CE, Rettby N, Jatou K, Vallotton L, Lazor-Blanchet C, Doce J, Puentes E, Marinova D, Aguilo N, Martin C
Lancet Respiratory Med. Dec 2015

[Mycobacterial pan-genome analysis suggests important role of plasmids in the radiation of type VII secretion systems.](#)

Dumas E, Boritsch EC, Vandenbogaert M, Rodríguez de la Vega RC, Thiberge JM, Caro V, Gaillard JL, Heym B, Girard-Misguich F, Brosch R, Sapriel G.
Genome Biol Evol January 2016

[Reprogramming the T Cell Response to Tuberculosis](#)

Joshua S. Woodworth, Peter Andersen

Cell February 2016

[Inflammation and the coagulation system in tuberculosis: Tissue Factor leads the dance.](#)

Caccamo N, Dieli F.

Eur J Immunol February 2016

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