



Micro- biologist &

Mark Esser,
MedImmune

Both working in

“I received my Ph.D. in microbiology and immunology in Charlottesville, Virginia, U.S. I worked at the U.S. National Institutes of Health before moving into pharmaceutical product development, first at Merck & Co. I worked on pediatric vaccines, HIV vaccines, an HPV vaccine and a *Staphylococcus aureus* vaccine. So when I joined MedImmune in 2010, I had learned a lot about vaccines and global health.”

Daily activities

“At MedImmune, which is the global biologics research and development arm of AstraZeneca, I direct translational medicine for vaccines and infectious diseases. I oversee our biomarker, diagnostic and precision medicine strategy in the area of infectious diseases. This includes candidate vaccines and antibodies

for serious bacterial infections. In COMBACTE-NET, I have co-led LAB-Net, which creates a European laboratory network. For three COMBACTE-trials that involve MedImmune candidate antibody products, I oversee work on diagnostics and biomarkers. For me, COMBACTE is a critical endeavor.”

Enthusiastic

“I find these studies incredibly exciting because by using antibodies, we really hope to develop a new approach in preventing or treating *S. aureus* and *Pseudomonas* diseases. We hope to move away from the traditional ‘treat first and ask questions later’ antibiotics approach. With the advance of real-time diagnostics, we may be able to identify infected patients early in the infectious process and treat them with pathogen specific antibodies. That could not only prevent

full-blown pneumonias, it could also prevent us from harming the gut’s microbiome or building resistance. ‘Pre-emptive treatment’ is what we like to call it. For me it’s also really exciting and beneficial to partner with public research. Industry has expertise in developing a medicine, but working with some of the leading minds in academic research really made us be more creative. They challenged us, for example, to use the latest technologies for diagnostic testing, and to assess a patient’s immune response by looking at hundreds of targets and not just one or two antigens.”

Personal drive

“Both my parents died pretty young from cancer, so I am passionate about using the very best of public biomedical research to prevent and treat disease. We in indus-

try know how to develop compounds, run big clinical trials and put together regulatory filings, but being able to combine that with the creativity and insight from some of the best minds in academia in Europe is a game-changer and will ensure that we can deliver new medicines to patients. Some people in academia may hesitate about working with industry, but I think getting together, spending time and working together, as we have done in COMBACTE, can really build collegiality and trust, and produce urgently needed new medicines.”

Micro- biologist

Christine Lammens,
University of Antwerp

COMBACTE

“I was trained as an analyst, but I also have a B.Sc. in Chemistry. I manage the Laboratory of Medical Microbiology of the University of Antwerp, Belgium.”

Daily activities

“We are a research lab, we do not provide routine services like a hospital lab typically does. There are about thirty of us in the lab, twelve at the bench, others doing administrative work for COMBACTE or resistance in general. I myself oversee the work plans, the protocols, the data analyzes, things like that. Antimicrobial resistance is our main theme. We know all about resistance genes and profiles and how to detect them. Our role in COMBACTE-NET is to set up and support the pan-European network of hospital, central and research laboratories. As a coordina-

tor I am on the road at least twice a month, visiting team members and labs all over Europe, for example to explain study protocols. We’ve also done three workshops in Eastern Europe, where we train people in techniques used in COMBACTE trials.”

Enthusiastic

“COMBACTE is a bit different from earlier European projects in which we participated. Here we also cooperate and share with pharmaceutical companies. I think the two worlds can definitely complement each other and help drug development and clinical studies along. In industry, people work a bit differently than in academia. By working together, we can learn from each other, make both our work better. I find that people really look forward to joining the network, learning new things. Their enthusiasm is what I get in return.”

Personal drive

“I really enjoy coming to places different from mine, and I like helping people make progress. It is also very important to see how some labs have to work in very different settings. Our first COMBACTE-NET workshop was in Kosovo, Albania, and for me that was really special. It suddenly hit me that things can be quite simple in Antwerp but very complicated elsewhere. When my lab needs some new reagent, I will just go online and in two days it will be delivered. In other places, procurement procedures for the same reagent can take up to six months. I was also struck by seeing equipment that was no longer used because the lab couldn’t afford the consumables after an international project had ended. Our biggest challenge may be to keep our network operational after COMBACTE-NET

has ended. Support will then have to come from companies seeing the advantage. I’m optimistic, because I’ve already been called for more information. That shows you that there is real demand for our work.”

